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

#### PETITION NO. /TL/2024

#### IN THE MATTER OF:

Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 for grant of Transmission Licence with respect to the transmission system to be implemented by Khavda IV C Power Transmission Limited.

#### AND

#### IN THE MATTER OF:

Khavda IV C Power Transmission Limited

... Petitioner

#### VERSUS

Central Transmission Utility of India Limited & Ors.

... Respondents

#### MASTER INDEX

S. No.	No. Particulars				
1	Vol-I				
L	Index	1-2			
2	Memo of Parties	3-6			
3,	<ol> <li>Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 for grant of Transmission Licence along with supporting affidavit</li> </ol>				
4.	ANNEXURE - 1 (Colly): Copies of the minutes of the 47th meeting of the WRPC held on 15 June 2023 and the 14th meeting of the NCT	20-200			
5.	ANNEXURE - 2: A copy of the MOP Notification dated 04 September 2023				
6.	ANNEXURE – 3: A copy of the Certificate of Incorporation of the Petitioner company	255			
7.	ANNEXURE - 4 (Colly.): Copy of the Memorandum of Association along with the Articles of Association of the Petitioner company	256-285			
_	Vol-II				
8,	ANNEXURE - 5 (Colly): A copy of the RFP dated 28 November 2023 along with all the clarifications and amendments issued thereto along with the amendments for extension of bid submission (Coutd)	286-560			
	Vol-III				



9.	ANNEXURE - 5 (Colly): A copy of the RFP dated 28 November 2023 along with all the clarifications and amendments issued thereto along with the amendments for extension of bid submission	561-776
10.	ANNEXURE - 6 (Colly): A copy of the letter dated 28 November 2023 issued by the BPC intimating this Hon'ble Commission along with the RFP Notification published in newspapers	777-783
11,	ANNEXURE - 7: A copy of the BEC Certificate dated 05 August 2024	784
12.	ANNEXURE - 8: A copy of the LOI dated 19 August 2024	785-792
13.	ANNEXURE - 9: copy of the letter dated 23 August 2024	793-795
14.	ANNEXURE - 10: A copy of the letter dated 28 August 2024	796-797
15.	<ol> <li>ANNEXURE – 11 (Colly.): A copy of the letter dated 30 August 2024 along with the CPG</li> </ol>	
16.	ANNEXURE - 12: Copy of letter dated 30 August 2024	803
17.	17. ANNEXURE - 13: Copy of the SPA dated 30 August 2024 executed between the BPC, the Petitioner and SGL 38	
18.	ANNEXURE - 14 (Colly.): Copies of the prescribed Form-I and the resolution passed by the Board of Directors of the Petitioner company.	824-827
19,	Vakalatnama	828
19.	Vakatathoma	- 33

OWER Tran Û EN Byy + po PETITIONER

THROUGH

Gaurav Dudeja, Partner PHOENIX LEGAL Advocates for the Petitioner Phoenix House, 254, Okhla Industrial Estate, Phase III, New Delhi – 110020 Email: <u>gaurav.dudeja/@phoenixlegal.in</u> Mob: +91 9818833778

Place: New Delhi Date: 06.09.2024

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

PETITION NO. /TL/2024

#### IN THE MATTER OF:

Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for grant of transmission license to Khavda IV C Power Transmission Limited

AND

#### IN THE MATTER OF:

Khavda IV C Power Transmission Limited

VERSUS

Central Transmission Utility of India Limited & Ors.

... Respondents

....Petitioner

#### MEMO OF PARTIES

#### Khavda IV C Power Transmission Limited Having its office at: DLF Cyber Park, Tower B, 9th Floor, Udyog Vihar Phase-III Road, Sector 20, Gurugram, Haryana- 122008

... Petitioner

#### VERSUS

- Central Transmission Utility of India Limited Saudamini, Plot No.2, Sector-29, Gurgaon-122 001
- REC Power Development and Consulting Limited REC Corporate Head Quarter, D Block, Plot No. I – 4, Sector 29 Gurugram - 122 001
- Chhattisgarh State Power Distribution Company Limited P.O. Sunder Nagar, Dangania, Raipur- 492013, Chhattisgarh
- 4. Goa Electricity Department-WR



Goa Electricity DeptCurti, Ponda-403401

- Gujarat Urja Vikas Nigam Limited Vidhyut Bhavan, Race Course, Vadodara-390007
- Heavy Water Board O Floor, Vikram Sarabhai Bhavan, Trombay, Anushaktinagar, Mumbai- 400094, Maharashtra
- HVDC Bhadrawati, PGCIL PGCIL RHQ, WR-I, Sampriti Nagar, Off National Highway No. 8, Taluka: Kamrej, PO: Uppalwadi, Nagpur-440026, Maharashtra.
- HVDC Vindhyachal, PGCIL PGCIL RHQ, WR-I, Sampriti Nagar, Off National Highway No. 8, Taluka: Kamrej, PO: Uppalwadi, Nagpur-440026, Maharashtra
- M.P. Power Management Company Limited 14, Shakti Bhawan, Rampur, Jabalpur- 482008
- Maharashtra State Electricity Distribution Company Limited Prakashgad, 4th Floor, Bandra (East), Mumbai-400051
- ACB India Limited 7th Floor, Corporate Tower, Ambience Mall, NH-8, Gurgaon-122 001(Haryana)
- Torrent Power Limited Naranpura Zonal Office, Sola Road, Ahmedabad-380013
- West Bengal State Electricity Distribution Company Limited 6th Floor Vidyut Bhawan, Karunamoyee, Salt Lake, Kolkata-700091, West Bengal
- Thermal Powertech Corporation India 6-3-1090, Clock C, Level 2, TSR, Towers, Raj Bhavan Road, Somajiguda, Hyderabad- 500082, Telangana



- Bhabha Atomic Research Centre Anushakti Nagar, Mumbai – 400085, Maharashtra
- GMR Warora Energy Limited Plot B-1, Mohabala MIDC Growth Centre, Post – Warora, District– Chandrapur-442907, Maharashtra
- HVDC Champa PGCIL RHQ, WR-I, Sampriti Nagar, Off National Highway No. 8, Taluka, Kamrej, PO: Uppalwadi, Nagpur- 440026, Maharashtra
- West Central Railway Head Office General Manager's Office, Electrical Branch, Jabalpur-482 001
- Western Railway Office of Chief Electrical Engineer, Mumbai
- East Central Railway, CEDE Office of Chief Electrical Engineer, ECR, Zonal Head Quarter, Dighikala-844101, Bibar
- DB Power Limited Untied Opp Dena Bank, C-31, G- Block, Mumbai, Maharashtra
- 22. Chhattisgarh State Power Trading Company Limited 2nd Floor, Vidyut Sewa Bhawan, Raipur
- TRN Energy Private Ltd-Untied 7th Floor, Ambience Office Block, Gurugram
- 24. Adani Power (Mundra) Limited Adani Corporate House, Shantigram, Near Vaishnavdevi Circle, S G Road, Ahmedabad – 382421
- Raigarb HVDC Station RPT HVDC Office, Hebbal, Bangalore-560094
- 26. Arcelor Mittal Nippon Steel India Limited



27, AMNS House, 2th KM Surat Hazira Road, Hazira-394270, Gujarat, Maharashtra.

- Central Railway, Pcee's office 2nd Floor, Parcle Building, CSMT Mumbai-400001
- 28. Dadra and Nagar Haveli and Daman and Power Distribution Corporation Ltd. 1st & 2nd Floor, Vidyut Bhavan, NexSilvassa & Daman
- MPSEZ Utilities Limited 3rd Floor, Adani Corporate House, Ahmedabad, Gujarat
- Gujarat State Electricity Corporation Limited Vidyut Bhavan, Race Course, Vadodara, Gujarat
- Gujarat Industries Power Company Limited General Manager (RE Projects & IT), PO, Ranoli, Distt-Vadodara, Gujarat
- 32. NTPC Renewable Energy Limited NETRA Building, E-3, Ecotech-II, Udyog Vihar, Greater Noida, Gautam Budh Nagar - 201306, UP

.Respondents Wer Trans PETITIONER

6

THROUGH

Gaurav Dudeja, Partner PHOENIX LEGAL Advocates for the Petitioner Phoenix House, 254, Okhla Industrial Estate, Phase III, New Delhi – 110020 Email: <u>Gaurav.dudeja@phoenixlegal.in</u> Mob: +91 9818833778

Place: New Delhi Date: 06.09.2024

# BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI PETITION NO. /TL/2024

#### IN THE MATTER OF:

Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for grant of transmission license to Khavda IV C Power Transmission Limited

AND

#### IN THE MATTER OF:

Khavda IV C Power Transmission Limited ....Petitioner

VERSUS

Central Transmission Utility of India Limited & Ors. ....Respondents

# PETITION UNDER SECTION 14, 15 AND 79(1)(e) OF THE ELECTRICITY ACT, 2003 FOR GRANT OF TRANSMISSION LICENCE

#### MOST RESPECTFULLY SHEWETH:

#### I. BACKGROUND

1. The present Petition is being filed by the Petitioner, Khavda IV C Power Transmission Limited ("KPTL 4C"), under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 ("the Act") read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 ("Transmission License Regulations") for grant of transmission license for the establishment of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" ("Project") on build, own, operate and transfer basis and to provide transmission. The details of the Project are as follows:



<u>energ</u> S. No.	Name of Transmission Element Schedule in month the E	
I.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors.	
	<ul> <li>(2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition)</li> <li>765/400 kV, 1500 MVA ICT: 4 Nos. (13x500 MVA single phase units including one spare unit)</li> </ul>	
	<ul> <li>400/220 kV, 500 MVA ICT: 2 Nos.</li> <li>765 kV ICT bays: 4 Nos.</li> <li>400 kV ICT bays: 6 Nos. (2 Nos. on Bus Section Land 4 Nos on Bus Section-II)</li> </ul>	
	<ul> <li>400 kV Bus Sectionaliser: 1 set</li> <li>220 kV ICT bays: 2 Nos.</li> <li>220 kV BC bay: 1 No.</li> </ul>	
	<ul> <li>330 MVAR, 765 kV bus reactor: 2 Nos.</li> <li>125 MVAR, 420 kV bus reactor: 2 Nos.</li> <li>765 kV reactor bays: 2 Nos.</li> <li>765 kV line bays: 6 Nos.</li> </ul>	
	<ul> <li>400 kV reactor bays: 2 Nos. (one on each bus section)</li> <li>400 kV line bay: 6 Nos. (4 Nos. on bus</li> </ul>	
	<ul> <li>Section-I and 2 Nos. on bus Section-II)</li> <li>110 MVAR, 765 kV, 1-ph reactor (spare unit for line/bus reactor): 1 No.</li> </ul>	
	<ul> <li>Future Provisions:</li> <li>765/400 kV ICT along with bays: 2 No.</li> <li>765 kV line bays along with switchable line reactors: 8 Nos.</li> </ul>	
	<ul> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 set</li> <li>400 kV line bays along with switchable line reactor: 8 Nos.</li> </ul>	
1	<ul> <li>400/220 kV ICT along with bays: 6 Nos.</li> <li>420 kV Bus Reactor along with bay: 2 No.</li> <li>220 kV line bays: 12 Nos.</li> </ul>	24 Months



	<ul> <li>220 kV Sectionalization bay: 1 set</li> <li>220 kV BC: 1 No.</li> </ul>
	South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line
	2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line • 765 kV line bays (GIS) - 2 Nos. (for South Olpad end)
ŧ.	<ul> <li>240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>240 MVAR, 765 kV switchable line reactor-4 [2 for Boisar-II (GIS) and 2 for South Olpad (GIS)]</li> <li>Switching equipment for 765 kV line reactor-4 (2 for Boisar-II (GIS) and 2 for South Olpad (GIS))</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor- 1 No. (for Boisar-II end)</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor proposed for Ahmedabad - South Olpad (GIS) 765 kV line (under Khavda Ph-IV Part B scheme) at South Olpad (GIS) S/s to be used as spare</li> </ul>
24	LILO of Navsari (New) - Padghe (PG) 765 kV D/c line at Boisar-II
2	Boisar-II (Sec-II) - Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line
7.	<ol> <li>Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II - Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> <li>400 kV line bays (GIS): 2 Nos. [for Velgaon (MH) end]</li> </ol>
8.	LILO of Babhaleswar - Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage.
9.	<ul> <li>80 MVAR switchable line reactors at Boisar-II end of Boisar-II - Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO</li> <li>80 MVAR, 420 kV switchable line reactor including switching equipment: 2 Nos.</li> </ul>
10.	±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-1 of Boisar- II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II



	<ul> <li>±200 MVAR STATCOM (with MSC/MSR) on 400 kV Section-I</li> </ul>	
	<ul> <li>400 kV bay - I No. on Section-I</li> </ul>	
	<ul> <li>±200 MVAR STATCOM (with MSC/MSR) on 400 kV section-II</li> </ul>	
	<ul> <li>400 kV bay - 1 No. on Section-II</li> </ul>	
11.	± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	
	<ul> <li>±300 MVAR STATCOM (with MSC/MSR)</li> <li>400 kV bay: 1 No.</li> </ul>	

#### Note:

- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- ii. MSETCL shall carry out reconductoring of the balance portion of Padghe (M) – Boisar-II 400 kV D/c line (i.e., from LILO point up to Padghe(M)) and shall also carry out corresponding upgradation of 400 kV bays at Padghe (M) as may be required in matching time-frame of the LILO line, MSETCL has confirmed the maximum capacity of the line which can be achieved after reconductoring considering clearances in existing towers of Babhaleswar – Padghe (M) 400 kV D/c line as 1700 MVA per ckt.
- MSETCL shall implement the LILO of both circuits of Boisar-II Velgaon 220 kV D/c line at Boisar-II (ISTS) S/s along with 4 Nos. 220 kV GIS bays at Boisar-II in matching time-frame of Boisar-II (ISTS) S/s.
- iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4.
- MSETCL shall provide space for the work envisaged at Sl. No. 7 at Velgaon S/s.
- vi. TSP of the subject scheme shall implement Inter-tripping scheme on South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (for tripping of the switchable line reactor at either end along with the main line breaker).
- vii. The implementation timeframe: 24 months from date of SPV acquisition.

#### II. DESCRIPTION OF PARTIES

- It is submitted that the KPTL 4C i.e., the Petitioner is a Special Purpose Vehicle ("SPV") established to implement the Project under Section 63 of the Act.
- The Respondent No. 1 is the Central Transmission Utility of India Limited ("CTUIL") established under Section 38 of the Act for planning and co-ordination of transmission systems.



- The Respondent No. 2 is REC Power Development and Consultancy Limited ("REC") which has been appointed as the Bid Process Co-ordinator for the tariff based competent bidding process.
- The Respondent No. 3 to Respondent No. 32 are the beneficiary of the Western Region.

### III. DESCRIPTION OF EVENTS

- 6. The need for implementation of the Project was discussed in the 47<sup>th</sup> meeting of the Western Regional Power Committee ("WRPC") held on 15 June 2023 and the Project was approved by the National Committee for Transmission ("NCT") during its 14<sup>th</sup> meeting dated 09 June 2023. The copies of the minutes of the 47<sup>th</sup> meeting of the WRPC held on 15 June 2023 and the 14<sup>th</sup> meeting of the NCT are annexed herewith and marked as ANNEXURE - 1 (Colly).
- 7. It is submitted that subsequently, the Ministry of Power ("MOP") issued the "Tariff Based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" dated 10 August 2021 under Section 63 of the Act ("TBCB Guidelines"). Further, vide its Gazette Notification No. F. No. 15/3/2018- Trans-Part (1) dated 04 September 2023 ("MOP Notification"), in exercise of the powers conferred by paragraph 3.2 of the said TBCB Guidelines, the MOP appointed REC Power Development and Consultancy Limited ("REC") as the Bid Process Coordinator ("BPC") for conducting the bid process for selection of the Transmission Service Provider ("TSP") for establishment of the Project. The copy of the MOP Notification dated 04 September 2023 is annexed herewith and marked as ANNEXURE - 2.
- 8. On 27 September 2023, the BPC incorporated the Petitioner company under the Companies Act, 2013, as its wholly owned subsidiary, to initiate various activities for execution of the Project and to subsequently act as the TSP. A copy of the Certificate of Incorporation of the Petitioner company is annexed herewith and marked as ANNEXURE - 3 and a copy of the Memorandum of Association along



with the Articles of Association of the Petitioner company is annexed herewith and marked as ANNEXURE - 4 (Colly).

- 9. The REC initiated the TBCB process in accordance with the TBCB Guidelines. The RFP was issued on 28 November 2023. As per the RFP, the successful bidder was required to acquire 100% of the equity shares of the Petitioner company along with all its related assets and liabilities. A copy of the RFP dated 28 November 2023 along with all the clarifications and amendments issued thereto along with the amendment for extension of bid submission are annexed herewith and marked as ANNEXURE - 5 (Colly).
  - 10. The said RFP notification was duly published in six (6) national newspapers viz. Hindustan Times Gorakhpur (Hindi), Hindustan Times Kanpur (Hindi), Hindustan Times Varanasi (Hindi), Hindustan Times Delhi (English), Hindustan Times Mumbai (English) and Hindustan Times Pune (English) on 28 November 2023. The same have also been made available on the websites of (https://www.recpdel.in) and (www.recindia.nic.in). As per the requirements under the TBCB guidelines, the BPC had intimated this Hon'ble Commission, on 28 November 2023, regarding the initiation of the bid process and shared all the notices so published. A copy of the letter dated 28 November 2023 issued by the BPC intimating this Hon'ble Commission along with the RFP Notification published in newspapers are annexed herewith and marked as ANNEXURE – 6 (Colly).
  - 11. It is submitted that Sterlite Grid 38 Limited ("SGL 38") was one of the bidders who had submitted their bid for the Project. SGL 38 submitted its Technical and Financial Bid-Initial Offer, and after the conclusion of e-reverse auction process, SGL 38 emerged as the successful bidder having quoted the lowest levelized transmission charges of INR 13,148.08 million per annum.
  - 12. It is also highlighted that the Bid Evaluation Committee ("BEC") issued a certificate on 05 August 2024 ("BEC Certificate"), inter alia, declaring that the entire bidding process had been carried out in accordance with the TBCB



Guidelines. A copy of the BEC Certificate dated 05 August 2024 is annexed herewith and marked as ANNEXURE - 7.

- Thereafter, SGL 38 was issued a LOI on19 August 2024 by the BPC which was unconditionally accepted by the Petitioner *vide* letter dated 23 August 2024. A copy of the LOI dated 19 August 2024 is annexed herewith and marked as ANNEXURE – 8 and a copy of the letter dated 23 August 2024 is annexed herewith and marked as ANNEXURE - 9.
- 14. It is most respectfully submitted that the bidding was done on the basis of the existing Standard Bidding Documents ("SBD"). However, the transmission charges will be shared and recovered as per the mechanism devised by this Hon'ble Commission which is the Point of Connection ("PoC") mechanism. The transmission scheme would be included in National Transmission Pool for recovering transmission charges through PoC mechanism. The charges will be recovered from the designated inter-State Transmission Service customers and disbursed to the Petitioner as per the Revenue Sharing Agreement.
- Further, vide letter dated 28 August 2024, the BPC informed SGL 38 that the acquisition price for the Special Purpose Vehicle ("SPV") is INR 18,68,73,583/and requested SGL 38 to make the requisite payment. Copy of the letter dated 28 August 2024 is annexed herewith and marked as ANNEXURE – 10.
- 16. The BPC also requested for issuance of a Contract Performance Guarantee ("CPG") in favour of the Nodal Agency, i.e., the Central Transmission Utility of India Ltd. ("CTUIL"), the Respondent No. 1 in the LOI dated 19 August 2024. Therefore, by the letter dated 30 August 2024, SGL 38 furnished a CPG dated 29 August 2024 for an amount up to and not exceeding to INR 1,12,75,00,000/-, with the expiry date of the CPG being 31 December 2026, with claim expiry being 31 December 2027 by the Nodal Agency, i.e., the Respondent No. 1. Subsequently, an amount of INR 17,10,79,212/- (after deduction of TDS @ 10% amounting to INR 1,57,94,371/- was paid by SGL 38 to the BPC on 30 August 2024 vide transaction ID No. ICICR52024083000343828. A copy of the dated 30 August



2024 along with the CPG is attached herewith and marked as ANNEXURE - 11 (Colly).

- 17. It is submitted that Clause 2.7.2. and Clause 2.15.2 of the RFP provide for a timeline after issuance of the LOI, which require signing of the project documents under the RFP and acquisition of the SPV within 10 days of the issuance of the LOI. However, the same was extended by the BPC from 29 August 2024 to 06 September 2024 *vide* its letter dated 30 August 2024. Copy of the letter dated 30 August 2024 annexed herewith and marked as ANNEXURE 12.
- 18. After completing all procedural requirements as specified in the bid documents, the acquisition of the SPV was done and SGL 38 acquired 100% equity shareholding in the Petitioner Company on 30 August 2024 upon execution of the Share Purchase Agreement ("SPA"). Copy of the SPA dated 30 August 2024 executed between the BPC, the Petitioner and SGL 38 is annexed herewith and marked as ANNEXURE - 13.
- 19. It is submitted that the TSA has not been executed till date. However, the Petitioner undertakes to file the TSA and place the same on record before this Hon'ble Commission, as and when the same is executed between the parties.
- 20. It is humbly submitted that Section 14 of the Act provides that the Appropriate Commission may, on an application made under Section 15 of the Act, grant licence to any person to transmit electricity as a transmission licensee, in any area as may be specified in the licence. The word 'person' has been defined in Section 2(49) of the Act to include any company or body corporate or association or body of individuals, whether incorporated or not, or an artificial juridical person. Therefore, the Petitioner in accordance with the TSA and under Section 14 of the Act, is filing the present Petition, *inter-alia* seeking grant of a Transmission Licence for the Project explained above.
- 21. Further, it is most respectfully submitted that Section 15(1) of the Act provides that every application under Section 14 shall be made in such manner and in such form as may be specified by the Commission and shall be accompanied with such fees



as may be prescribed under Transmission Licence Regulations. As per Regulation 4 of the Transmission Licence Regulations, a person selected through the process under the guidelines for competitive bidding is eligible for grant of licence. It is submitted that the Petitioner company, incorporated under the Companies Act, 2013 is a wholly owned subsidiary of SGL 38 who has been selected through the TBCB process, in accordance with the TBCB Guidelines and thus, eligible for the issuance of a Transmission Licence.

- 22. It is submitted that the grant of transmission license is a requirement in law and under the TSA, without which, the Petitioner cannot proceed with the establishment of the Project.
- 23. It is submitted that this Hon'ble Commission, in the Transmission Licence Regulations, has prescribed Form-I and the fee for making filing application, seeking grant of a Transmission Licence. It is submitted the requisite fee for filing the present petition has been paid by the Petitioner and the prescribed Form-I along with the resolution passed by the Board of Directors of the Petitioner company, is annexed herewith and marked ANNEXURE - 14 (Colly).
- 24. Pursuant to the above, the Petitioner, in accordance with Regulation 5(3) of the Transmission Licence Regulation, has uploaded the complete application along with all the annexures and enclosures on the e-filing portal of this Hon'ble Commission, so that the same is served electronically to all the beneficiaries of the Project, registered on the e-filing portal. Further, the Petitioner has served the copy of the present application through email, on the beneficiaries, not registered on the e-filing portal of this Hon'ble Commission.
- 25. It is submitted that as per Regulation 5(4) of the Transmission Licence Regulations 2024, the copy of the complete application has been posted on the website of the Petitioner (www.sterlitepower.com), in English and in vernacular language and the application shall remain of the Petitioner's website, till the time the licence is issued to the Petitioner or the application is rejected by this Hon'ble Commission.



- 26. It is submitted that the Petitioner shall, in future, comply with all the other requirements from time to time, as stipulated under the Act and the Transmission Licence Regulations, passed by this Hon'ble Commission, and place a report of compliance of the same before this Hon'ble Commission.
- The Petitioner declares that the present Petition has been filed without any delay and within the period of limitation.
- It is submitted that simultaneously with the present Petition, the Petitioner has also filed another Petition before this Hon'ble Commission for adoption of the transmission charges.
- 29. In view of the above, it is submitted that the Petitioner satisfies all the conditions for the grant of an inter-State Transmission Licence under the Act and the Transmission Licence Regulations for the establishment of the Project. Therefore, the Petitioner humbly prays that the aforementioned be taken on record and its prayers be allowed.

#### PRAYERS

In view of the facts and circumstances stated above, the Petitioner respectfully pray that the Hon'ble Commission may be pleased to:

- a. Grant the Transmission Licence to the Petitioner;
- b. Allow sharing and recovery of Transmission Charges for Inter-State Transmission System for establishment of Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C as per Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2020 and any other amendments issued thereon from time to time by this Hon'ble Commission; and



- c. Condone any inadvertent errors omissions/ errors/ shortcomings and permit the Petitioner to add/change/modify/alter these filings and make further submissions as may be required at a future date;
- d. Pass such other order(s) as this Hon'ble Commission may deem fit and conter 1/2000

PITONER

THROUGH

GAURAV DUDEJA, PARTNER PHOENIX LEGAL Advocates for the Petitioner, Phoenix House, 254, Okhla Industrial Estate, Phase III, New Delhi – 110020 Email: gaurav.dudeja@phoenixlegal.in Mob: +91 9818833778

PLACE: New Delhi DATE: 06.09.2024

#### DECLARATON

The Petitioner(s) above named hereby solemnly declare(s) that nothing material has been concealed or suppressed and further declare(s) that the enclosures and typed set of material papers relied upon and filed herewith are true copies of original(s)/fair representation of the originals/true translation thereof.

Verified at New Delhi on the 6th day of September 2024

COUNSEL FOR PETITIONER



#### VERIFICATION

Verified at New Delhi on this 6th day of September , 2024, that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefrom Contents of the false and nothing material has been concealed therefore the false and nothing material has been concealed therefore the false and the false and nothing material has been concealed therefore the false and the false and nothing material has been concealed therefore the false and the false and nothing material has been concealed the false and the false and

Copress + pe PETLPIONER

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

### PETITION NO. /TL/2024

#### IN THE MATTER OF:

Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003 read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for grant of transmission license to Khavda IV C Power Transmission Limited.

#### AND

#### IN THE MATTER OF: Khavda IV C Power Transmission Limited VERSUS

Central Transmission Utility of India Limited & Ors.

...Petitioner

...Respondents

# Affidavit verifying the Petition

I, T. Amrendranath Reddy, S/o Late Shri T.S. Reddy, authorised representative of the Petitioner, Khavda IV C Power Transmission Limited having my office at DLF Cyber Park, Tower-B, 9th Floor, Udyog Vihar, Phase-III, Sector 20, Gurugram – 122008, presently at New Delhi, do hereby solemnly affirm and state as follows:-

- That the deponent is the authorized signatory of Petitioner/Applicant/Respondent, and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.
- That the accompanying Petition under Section 14, 15 and 79(1)(e) of the Electricity Act, 2003, has been filed by my authorised representative/nominated counsel under my instruction and the contents of the same are true and correct to the best of my knowledge and belief.
- 3. That the contents of Para 1 to 5 of the facts as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office and the contents of Para 1 to 29 of the Petition are believed to be true on the basis of the legal advice received.
- That the annexures annexed to the Petition are correct and true copies of the respective originals.

That the Deponent has not filed any other Petition or Appeal before any other

### VERIFICATION

# -: 6 SEF 2024

Verified at New Delhi on this \_\_\_\_\_ day of September, 2024, that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.



NOTARY PUBLIC DELHI (INDIA) - 6 SEF 2024

ENT Pa

# Annexure- 1 (Colly.)



Government of India ढेन्द्रीय विद्युत प्रक्रियाप Central Electricity Authority पश्चिम होत्रीय विद्युत लगिति Western Regional Power Committee एफ -3, एमआवसीयी क्षेत्र, अंधेरी (पूबी), पुंग्ई - 400 093 F-3, MIDC Area, Andheri (East), Mumbai - 400 093



আইদর/আইদর/সা 9001-2015 ISASO ; 9001-2015

दूरमात्र Phone: 022- 23221636; 28200194;195;196 Website : <u>www.wrpc.gov.in</u> रुंक्ल Fax : 022 - 28370193 E-mail : as-wrpc@nic.in

सं. : पक्षेविस/ 47वीं/ पक्षेविस बैठक/ सहा.स. /2023/ **8509** No. : WRPC/47<sup>th</sup>/ WRPC Mtg./A.S./2023/ दिनांक: 10.08.2023 Dated:

सेवा में/To,

(संलरन सूची के अनुसार/ As per enclosed list)

विषय ः पश्चिम क्षेत्रीय विदयुत समिति (पक्षेविसमिति) की 47 वीं बैठक का कार्यवृत। Sub : Minutes of 47<sup>th</sup> meeting of Western Regional Power Committee (WRPC).

महोदय/Sir,

इस पत्र के साथ दिनांक 15 जून, 2023 को रायपुर (रह.ग.) में आयोजित पश्चिम क्षेत्रीय विद्युत समिति की 47 वीं बैठक एवं इससे पहले दिनांक 14 जून, 2023 को आयोजित तकनीकी समन्वय समिति की बैठक का कार्यवृत आपकी सूचना एवं आवश्यक कर्धबाई हेतु संलग्न है ।

थर सक्षम प्राधिकारी के अनुमोदन से जारो किया जाता है :

Please find enclosed herewith the Minutes of the 47<sup>th</sup> meeting of Western Regional Power Committee held on 15<sup>th</sup> June, 2023 at Raipur (C.G.) preceded by Technical Coordination Committee meeting on 14<sup>th</sup> June 2023 for your kind information and necessary action.

This issues with the approval of Competent Authority.

धन्यबाद / Thanking you,

संलग्न. उपरोक्तानुसार/As above

भवदीय / Yours faithfully,

विकास मुर्ह्यात्म

(विकास मुण्डोतिया / Vikas Mundotia) सहायक सचिव / Assistant Secretary

Col

SI. No	Organisation	Details	Contact Details
1	Chairman WRPC	Shri Saniay Dubey	Tel 0755-2708031
·		Chairman WRPC &	
		Dringing Secretary (Energy) CoMD V/P	
		Philicipal Secretary(Energy), Golvie, VB-	Email. psenergyn@gmail.com
		2, Vallabh Bhawah Annex,	
		Mantralay,	
		Bhopal: 462 001 (M.P.)	
2	Chairman, TCC	Shri Raghuraj Rajendran,	Tel. 0761-2930909 (Jab.)
		Chairman -TCC &	0755-2423044 (Bhopal)
		Managing Director MPPMCI	Email: md@mppmcl.com
		Block No. 15. Shakti Bhawan	
		Viduut Neger, Bempur	
	o	Jabaipur: 482 008 (M.P.),	T 1 0// 00/0/0/T
3	Central Electricity	Shri B K Arya	Tel. 011-26104217
	Authority	Member (GO&D),	Fax. 011-26108834
		Central Electricity Authority,	Email: member.god@cea.nic.in
		Sewa Bhavan, R.K. Puram,	
		New Delhi-110 066	
4	Chhattisgarh	Smt. Ujjwala Baghel	Tel. 0771-4066899, 2574500
	Transco	Managing Director	Fax 0771-2262141
		CSPTCI	E-mail: mdtransco@csnc.co.in
		DOFTCL,	
		P.O.: Sunder Nagar, Danganiya, Raipur:	
<u> </u>		1492 013 (CG)	T 1 0774 0574400 0774 4000000
5	Chhattisgarh Genco	Shri Sanjiv Kumar Katiyar,	<u>1 el. 0//1-25/4400, 0771-4066962</u>
		Managing Director,	<u> +ax. 0771-2262741</u>
		CSPGCL,	E-mail: mdgenco@cspc.co.in
		P.O.Sunder Nagar, Danganiya, Raipur:	
		492 013 (CG)	
6	Chhattisgarh	Shri Manoi Khare.	Tel. 0771-4066902 0771-2574200-PA
ľ	Discom	Managing Director- CSPDCI	Eax 0771-4066566
	Discom	D O Sunder Neger, Dengenius	E mail mddiagam@gappa.co.in
			E-mail moulscom@cspc.co.in
′	Chnattisgarn SLDC	Shri K.S.MANUTHIYA,	
		E.D.(LD),	Fax. 0771-2574174
		SLDC Building,	E-mail:- celdcg@sldccg.com
		CSPTCL,	
		P.O.Sunder Nagar, Danganiya, Raipur:	
		492 013 (CG)	
8	Guiarat Genco	Shri Ravi Shankar, IAS	Tel No (0265) 2342491
ľ		Managing Director	$F_{22} N_0 : (0265) 2344734$
	(00000)	Quiarat State Electricity Corp. Ltd	E Mail : md good@gobmail.com
			E-Mail . Ind.gseci@gebinall.com
		Vidyut Bhavan, Race Course,	
		Vadodara: 390 007 (Guj.)	
9	Gujarat Transco	Shri Upendra Pande	Tel. 0265-2353085,
		MD, GETCO,	Fax 0265- 2338152, 2337918
		9th floor, Sardar Patel Vidyut Bhawan,	Email: md.getco@gebmail.com
		Race Course.	
		Vadodara: 390.007	
10	Guiarat Discom	Shri Yogesh Choudhary IAS	Tel
	(Dakehin Gui	Managing Director	Fax
	(Daksilli Guj		E mail md daval@ashmail.com
	notational)		E-mail. mu.ugvci@gebmall.com
		IDGVCL, Corp.Office, Surat	T 1 0005 0050474 0050400
11	Gujarat SLDC	Shri. A B Rathod	Tel. 0265 -23531/1 , 2352103
		Chief Engineer (LD),	⊢ax 0265 -2352019 , 2356469
		SLDC, Load Dispatch Centre,	E-mail: acesldc.getco@gebmail.com
		132 kV S/S Premises, Gotri, Vadodara:	
		390 021	
12	M.P. Transco	Shri Sunil Tiwari	Tel. 0761-2661234,
		Managing Director	Fax 0761-2664141
		M P Power Transmission Co. Ltd	Email:- md@mptransco.nic.in
		Shakti Bhayan	
		Drawn Jakalawr 400 000	
40	MDCares		
13	INI.P.Genco.	ISHIL MANJEET SINGH,	
		Managing Director,	<u>Fax 0761-2665661</u>
		M.P. Power Gen. Com. Ltd.	membergen@yahoo.com
		Shakti Bhavan, Viduyt Nagar,Rampur,	
		Jabalpur: 482 008	
14	MP Discom	Shri Anav Dwivedi, IAS	Tel. 2602033, 2602034, 2678377
	(MPPKV//CL -	Managing Director	Fax: 2589821
	Rotational)	M.P. Poorva Kebetra Vidvut Vitron	E-mail:-
		Compony Ltd	└⁻mall
		Company Ltd.,	
		BIOCK NO7, Shakti Bhavan	
		PO:- Vidyut Nagar, Rampur	
		Jabalpur - 482008 (M.P)	



15	M.P. SLDC	Shri S.S. Patel	Tel 0761-2702740
		Chief Engineer(LD)	Eox 0761 2070110 2664242
			Fax 0701-2970119,2004343
		State Load Dispatch Centre,	Email: ss.patel@mptransco.nic.in
		Nayagaon, Jabalpur: 482 008	
16	Maharashtra	Shri Dinesh Waghmare, IAS,	Tel. 022-26591253, 26598595
	Transco	CMD, MSETCL,	26598588
		Prakashganga Plot No C-19	Fax 022- 26598595
		E Block Bandra Kurla Complex Bandra	Email: md@mabatransco.in
		(Fast) Mumbri 400054	Cart Fax No 20010062
47	Mahanaaktina Oanaa	[(East), Mumbal - 400051.	FOIL FAX NO.220 10003
17	Manarashtra Genco	Dr. P. Anbalagan, IAS	<u>1el. 022-26476231</u>
		CMD,	Fax 022-26471060, 26581400
		MSPGCL, Prakashgad, 2nd Floor,	E-mail : md@mahagenco.in
		Plot No G-9, Bandra (East).	
		Mumbai: 400 051	
18	Maharashtra	Shri Vijav Singhal JAS	Tel 26474644
	Discom		Eax 26479672
	DISCOTT.		Fax 20470072
		MSEDCL.	Fort. Tel.22019499 Fax.22050741
		Prakashgad, 6th Floor,	Email: md@mahadiscom.in
		Plot No G-9, Bandra (East),	mdmsedcl@gmail.com
		Mumbai: 400 051	
19	Maharashtra SLDC	Shri Shashank Jewalikar	Tel. 27601931/2937(O)
		Executive Director	Fax 022-27601769
		Load Dispatch Contro	
		Kolwo Thono Polonie	
		Raiwa Thane Belapur Ro.,	
		P.O Airoli,	
		Navi Mumbai:400 708	
20	Goa	Shri Stephen Fernandes	Tel. 0832-2224680
		Chief Electrical Engineer,	Fax.0832-2426986
		Goa Electricity Department	E-mail: cee-elec.goa@nic.in
		Viduut Bhawan, 3rd floor	aeipm@vaboo.com
		Deneii Coe: 102 001	
- 21	LIT of Domon & Div	Pallali – Goa. 403 001.	Tel No. 0260 2406556 /
21		Shiri W. Chananya Prasau, IAS,	Tel. No.: 0200-24003507
		Secretary (Power), DNH & DD,	+91 260-2231800
		Secretariat C/o, 2nd Floor, Kachigam,	E-mail : chaitanya.prasad88@ias.nic.in
		Daman : 396 215.	& secretarypower2020@gmail.com
22	UT of Dadra &	Shri M. Chaitanya Prasad, IAS,	Tel. No.: 0260-2406556 /
	Nagar Haveli	Secretary (Power) DNH & DD	+91 260-2231800
	l'agai riaron	Secretariat C/o. 2nd Eloor, Kachigam	E mail : chaitanya prasad88@ias nic in
		Daman : 396 215.	& secretarypower2020@gmail.com
			T   044 04000404
23	Central Govt.	Shri Jaikumar Srinivasan	<u>1el. 011-24360461</u>
	Genco. (NTPC)	Director (Finance),	Email: df@ntpc.co.in
		National Thermal Power Corp. Ltd.,	
		NTPC Bhavan, SCOPE Complex, 7	
		Institutional Area I odhi Road	
		New Delbi 110.003	
24	Control Covit	Shri Choudhany Nitin Pamahandra	Tol. 022 25002220
24			<u>Tel. 022-23993330</u>
	Genco. (NPCIL)	Outstanding Scientist,ED (Commercial),	Fax 022- 25995352
		Nuclear Power Corp. of India Ltd.,	E-mail: dt@npcil.co.in
		12 N 24, 12th floor, North Wing,	
1		12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti	
		12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Naqar.	
		12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094	
25	СТИ	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P.C. Garo	pcgarg@powergrid in
25	C.T.U.	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg	pcgarg@powergrid.in
25	C.T.U.	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Diat Na 2, Sastan, 20	pcgarg@powergrid.in
25	C.T.U.	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29,	pcgarg@powergrid.in
25	C.T.U.	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk,	pcgarg@powergrid.in
25	C.T.U.	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u>	pcgarg@powergrid.in
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi	pcgarg@powergrid.in 
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations),	pcgarg@powergrid.in Tel. 0124-2571801 Fax 0124-2571802
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL. "Saudamini".	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> E-mail: tyagir@powergrid in
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No 2, Sector – 29	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u>
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Naar Iffco Chow/r	pcgarg@powergrid.in Tel. 0124-2571801 Fax 0124-2571802 E-mail: tyagir@powergrid.in
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Currane, 102 004 (Harvana).	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u>
25	C.T.U. Powergrid	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana).	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> Tel 044 26952529, 40024054
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u>
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u>
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> 011-268524525, 011-40234652 011-26852843 ,
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai.	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843 ,</u> <u>Fax 011-26536901</u>
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843, Fax 011-26536901</u> <u>Fax 011-26536901</u> E-mail: - cmd@posoco in
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843,</u> <u>Fax 011-26536901</u> <u>E-mail:- cmd@posoco.in</u>
25 26 27	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843,</u> <u>Fax 011-26536901</u> <u>E-mail: cmd@posoco.in</u> <u>Tel. 022-28202691</u>
25 26 27 28	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, <u>Mumbai: 400 094.</u> Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, <u>Gurgaon- 122 001 (Haryana).</u> Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843,</u> <u>Fax 011-26536901</u> <u>E-mail: cmd@posoco.in</u> <u>Tel. 022-28202691</u> <u>Fax 022-28202691</u> <u>Fax 022-28202691</u>
25 26 27 28	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016 Shri V. Balaji Executive Director (In-charge), POSOCO, WEL 20	pcgarg@powergrid.in <u>Tel. 0124-2571801</u> <u>Fax 0124-2571802</u> <u>E-mail: tyagir@powergrid.in</u> <u>Tel.011-26852583, 40234651</u> <u>011-26524525, 011-40234652</u> <u>011-26852843 ,</u> <u>Fax 011-26536901</u> <u>E-mail:- cmd@posoco.in</u> <u>Tel. 022-28202691</u> Fax 022-28202630 <u>Fax balsi@construction</u>
25 26 27 28	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016 Shri V. Balaji Executive Director (In-charge), POSOCO, WRLDC.	pcgarg@powergrid.in         Tel. 0124-2571801         Fax 0124-2571802         E-mail: tyagir@powergrid.in         Tel.011-26852583, 40234651         011-26524525, 011-40234652         011-2652843,         Fax 011-26536901         E-mail: cmd@posoco.in         Tel. 022-28202691         Fax 022-28202630         Email: vbalaji@posoco.in
25 26 27 28	C.T.U. Powergrid National LDC	12 N 24, 12th floor, North Wing, Vikram Sarabhai Bhawan,Anushakti Nagar, Mumbai: 400 094. Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Smt. R.K Tyagi Director (Operations), PGCIL, "Saudamini", Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Haryana). Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110 016 Shri V. Balaji Executive Director (In-charge), POSOCO, WRLDC. F-3, MIDC Area, Marol,	pcgarg@powergrid.in         Tel. 0124-2571801         Fax 0124-2571802         E-mail: tyagir@powergrid.in         Tel.011-26852583, 40234651         011-26524525, 011-40234652         011-2652843,         Fax 011-26536901         E-mail: cmd@posoco.in         Tel. 022-28202691         Fax 022-28202630         Email: vbalaji@posoco.in

29	Other Gencos-	Shri Vijay Namjoshi	Tel No. 022-6665 8282
	more than 1000MW	Chief Generation,	Fax No. 022 6665 8801
	(Trombay- TATA	TATA Power,	Email: vvnamjoshi@tatapower.com
	Power)	Bombay House,	
		24 Homi Modi Street,	
		Mumbai 400 001	
30	Other Gencos	Shri Sanjay Agrawal	Tel. 02359- 241073
	more than 1000	GM(O&M),	Fax
	MW (RGPPL)	Ratnagiri Gas & Power Pvt.Ltd , Jubilee	Email : sanjayagrawal@ntpc.co.in
		Tower, 5th Floor,	
		B35-B36 ,Sector -1,	
		Noida. 201 301(U.P)	
31	Other Gencos	Shri Vijay Kumar Sinha,	Landline- 0755-4030001
	more than 1000	MD	Fax:- 0755-4030003
	MW	NHDC Ltd.,	Email ID:- mdnhdc@nhdcl.com
	(NHDC)	NHDC Parisar, Shyamala Hills,	
	011 0	Bhopal – 462 013(M.P.)	T 1 00004 004405
32	Other Gencos-	Shri Jigish Menta	1el. 02621-261165
	more than 1000MW	Executive Director,	E-mail: jigishmehta@torrentpower.com
	(Torrent Power)	Torrent Power Gen. Ltd.,	
		Sugen Mega Power Project,	
		Off National Highway No.8, I aluka	
		Kamrej,	
- 22	Other Conces	Dist Surat – 394155 (Gujarat).	
33	more then 1000		Eax 070 25557176
	More than 1000	COO (OalVI)	Fax.079-2007176
		Adam Power (Mundra) Ltd,	E-mail: jayadeb.nanda@adani.com
		Adami Corporate House, Shantiaram	
		Adam Corporate House, Shantigram,	
		S.G.Highway,	
34	Other Gencos	Shri Satish Jindal	Tel 011-48178700
34	more than 1000MW	C E O (Power Trading)	Eax 011-48178740
	(ISW Energy Ltd)	M/s ISW/ Epergy Ltd	E mail: satish jindal@isw in
	(JSW Energy Ltd)	Ath Eloor NTH Complex	
		A-2 Shaheed leet Singh Marg	
		A-2, Shaheed Seet Singh Marg,	
		New Dolbi 110016	
35	Other Gencos-	Shri Chhavi Nath Singh	Tel 07767-302002
	more than 1000MW	ED & Plant Head	Fax 07767-281995
	(Jindal Power I td)	Jindal Power Limited	F-mail:- cn singh@iindalpower.com
		P O Tampar, District Baigarh	
		Chhattisgarh $-496107$	
36	Other Gencos-	Shri A N Ramesh	Tel No 02838-661101
	more than 1000MW	CEO	Fax No 02838-661181
	(CGPL)	Coastal Guiarat Power Ltd	E-mail:- aramesh@tatapower.com
		(A Tata Power Co.)	
		4000 MW UMPP At & Post · Tunda	
		Mundra Kutch Gujarat-370435	
37	Other Gencos-	Shri Gitesh Ambasta	E-mail: gitesh.ambasta@rattanindia.com
	More than 1000	VP & Station Head.	
	MW	RattanIndia Power Ltd.	
	(Rattan India	Plot No.D2 & D2.	
	Power Ltd)	Part Additional Industrial Area.	
		Nandgaonpeth. Amravati	
38	Other Gencos -	Shri Vinod Sharma	E-mail: vinod1.sharma@jalindia.co.in
	more than 1000MW	President & Plant Head,	
	(Jaypee Nigrie	Jaypee Nigrie Super Thermal Power	
	STPR)	Project, Village & PO: Nigrie, Tahsil:	
	,	Deosar, Distt:Singrauli (MP)-486889.	
39	Other Gencos.	Shri Kalyan Kumar Pande,	E-mail:- kalyan.pande@dppower.in
	More than 1000	Chief Operating Officer,	
	MW	D.B.Power Ltd.,	
	(D.B.Power Ltd)	Village : Badadhra,	
	·	Block & Tehsil : Dabhra,	
		Dist : Janjgir, Champa,	
		Chhattisgarh : 495695.	
40	Other Gencos.	Shri Jayadeb Nanda,	Tel.079-25558818
	More than 1000	COO (O&M)	Fax.079-25557176
	MW	Adani Power (Maharashtra) Ltd,	E-mail : jayadeb.nanda@adani.com
	(Adani Power	1st Floor, South Wing,	
	Maharashtra Ltd)	Adani Corporate House, Shantigram, S.G.	
		Highway,	
		Ahmedabad – 384 421	

23

41	Other Gencos. More than 1000	G P Rao Project Head, KSK Mahanadi Power	Tel. Fax.
	MW (KSK Mahanadi Rower Co Ltd.)	Co.Ltd.,Akaltara (Nariyara) TPP Dist:Bilaspur, Chattiggarh 405552	E-mail : gprao@ksk.co.in
42	Other Gencos. More than 1000	Shri Ravi Arya, President – Thermal, MB Power(Madhya Pradesh)Ltd	Tel.011-47624215 Fax.011-47624229 E-mail : ravi.arva@hpppl.in
	(MB Power (MP)Ltd)	239,Okhla Industrial Estate, Phase III, New Delhi -110020.	
43	Other Gencos. More than 1000 MW (Sasan UMPP)	Shri Sachin Mohapatra Project Head,Sasan UMPP, Sasan Power Ltd., Vill: Siddikhurd, P.O.Tiyra, The: Sasan, st:Waidhan,Singroli, Madhya Pradesh – 486 886	Tel: 78223 05035 Fax: 7822 - 3025087 E- mail:sachin.mohapatra@relianceada.co m
44	Other Gencos. More than 1000 MW (RKM POWER Gen.)	Shri P.M. Rajendran, Director & Plant Head, R.K.M. Powergen Pvt. Ltd., No.14, Dr. Giriappa Road, T. Nagar, Chennai 600 017	Tel. No.: 044-66291000 (Gen.No.) Fax : 044 -28158243 / 66291100 E-Mail: rajendran@rkmpowergen.in
45	Other Gencos Under 1000MW (Rotational)	M.D Gujrat Paguthan Energy Corporation Pvt Ltd. (GPECL) Palej Bharuch,(Near Videocon Comp Bharuch- 392220	Tel. No.: Fax No.: E-Mail :
46	Electricity Traders (Rotational)	Dr. Rajib Kumar Mishra CMD, PTC India LTD 2nd floor, NBCC Tower, 15 Bikaji Cama Place, New Delhi-110066	E-mail :rajiv.mishra@ptcindia.com
47	Discoms – Other than State Discoms (Rotational)	Shri Nitin Malkan, Vice President, Operation Torrent Power SEC Ltd Torrent House, Station Road Surat 395003(Guj)	Tel No. 079- 26628300 Fax No. E-Mail:
48	Private Transmission Licensee – (Rotational)	Shri. Satish Talmale CEO, BDTCL 101, Windsor, CST Road, Santacruz East, Mumbai 400098	Email- satish.talmale@indigrid.com
49	Member Secretary, WRPC	Shri Deepak Kumar, Member Secretary (I/c), WRPC, F-3, MIDC Area, Marol, Andheri(E), Mumbai -400093.	Tel. 022-28221636 Fax 022-28370193 Email : ms-wrpc@nic.in

SPECIAL INVITEE				
1	NPC-CEA	Smt. Rishika Sharan, Chief Engineer , National Power Committee(NPC), 3rd Floor, NRPC Building,CEA, 18-A, SJSS Marg, Katwaria Saria, New Delhi110 016	Tel.No.011-26562022 - E-mail : cenpccea@gmail.com; rishika_sh@yahoo.com	
2	GUVNL	K.P.Jangid, GM, Gujarat Urja Vikas Nigam Ltd, Sardar Patel Vidyut Bhawan, Race Course, Vadodara: 390 007.	<u>E-mail:- coacom@gebmail.com</u>	
3	MPPMCL	Director (Commercial), MPPMCL Shakti Bhawan, Rampur, Jabalpur	0761-2664749, 2661245 Email: rajeev_keskar@rediffmail.com	

Members of Technical Co-ordination Committee of WRPC (2023-24)
· · · · · ·

S.NO.	Organization	Name, Designation & Address of Member	Contact Details
1	Chairman TCC	Shri Raghuraj Rajendran, Chairman -TCC & Managing Director MPPMCL, Block No. 15, Shakti Bhawan, Vidyut Nagar, Rampur, Jabalpur: 482 (008 (M P.)	Tel. 0761-2930909 (Jab.) 0755-2423044 (Bhopal) Email: md@mppmcl.com
2	Central Electricity Authority	Shri Vivek Goal Chief Engineer (GM) , CEA, Sewa Bhavan, R.K. Puram, New Delhi-110 066	Tel. 011-26732652 Fax. 011-26109750 E-mail:cegmcea1@yahoo.com
3	Chhattisgarh Transco	Smt. Ujjwala Baghel Managing Director, CSPTCL, P.O.: Sunder Nagar, Danganiya, Raipur: 492 013 (CG)	Tel. 0771-4066899, 2574500 Fax. 0771-2262141 E-mail: <u>mdtransco@cspc.co.in</u>
4	Chhattisgarh Discom	Shri R.A. Pathak Chief Engineer (RA & PM) CSPDCL, 4th floor,Vidyut Sewa Bhawan, Danganiya, Raipur: 492 013 (CG)	Tel. 0771-2574441 Fax 0771-2574442 Email: ccomcseb@rediffmail.com
5	Chhattisgarh Genco	Shri N.K.Bizora, Executive Director (O&M Gen.), CSPGCL, Vidyut Sewa Bhawan,5th Floor, P.O.Sunder Nagar, Danganiya, Raipur: 492 013 (CG)	Tel.0771-2574421 Fax.0771-2574425 E-mail:- ceonm.gen@cspc.co.in
6	Chhattisgarh SLDC	Shri K.S.MANOTHIYA, E.D.(LD), SLDC Building, CSPTCL, P.O.Sunder Nagar, Danganiya, Raipur: 492 013 (CG)	Tel. 0771-2574172 Fax. 0771-2574174 E-mail:- celdcg@sldccg.com
7	Gujarat Genco - (GSECL)	Shri Ravi Shankar, IAS Managing Director, Gujarat State Electricity Corp. Ltd., Vidyut Bhavan, Race Course, Vadodara: 390 007 (Gui.)	Tel. 0265-6612101, 6612115(PA) Fax. 0265-2338848 ,2344734 E-mail : mdgsecl@gebmail.com
8	Gujarat Transco (GETCO)	A.C.E. (R. & C.), GETCO, Sardar Patel Vidyut Bhawan, Race Course, Vadodara: 390 007	E-mail:- acerc.getco@gebmail.com
9	Gujrat Discom (Rotational - Dakshin Guj)	Shri. H.R Shah C.E. (O&M) DGVCL, Corp.Office, Surat	Tel. Fax. E-mail: ceom.dgvcl@gebmail.com
10	Gujarat SLDC	Shri. A.B. Rathod Chief Engineer (LD), SLDC, Load Dispatch Centre, 132 kV S/S Premises, Gotri, Vadodara: 390 021	Tel. 0265 -2353171 , 2352103 Fax 0265 -2352019 , 2356469 Email: sldc@gebmail.com
11	M.P. Transco.	Shri Sunil Tiwari Managing Director, M.P.Power Transmission Co. Ltd. Shakti Bhavan, Rampur, Jabalour 482 008	Tel. 0761- 2661234, Fax 0761-2664141 Email:- md@mptransco.nic.in
12	M.P. Genco.	M.P. Power Gen. Com. Ltd. Shakti Bhavan, Viduyt Nagar, Rampur, Jabalpur: 482 008.	Tel. 0761-2661589, 2702602 Fax. 0761-2664572 E-mail:- edomg_mpeb@rediffmail.com
13	M.P.Discom (Rotational - MPPKVVCL)	Shri S.K. Bhagwatkar C.G.M.(Works), M.P. Poorva Kshetra Vidyut Vitran Company Ltd., Block No7, Shakti Bhavan PO:- Vidyut Nagar, Rampur Jabalpur - 482008 (M.P)	Tel. 2602033, 2602034, 2678377 Fax: 2589821 E-mail:-
14	M.P. SLDC	Shri. S.S. Patel Chief Engineer(LD), State Load Dispatch Centre, Nayagaon, Jabalpur: 482 008	Tel. 0761-2702740 Fax 0761-2970119,2664343 Email: ss.patel@mptransco.nic.in
15	Maharashtra Transco.	Shri. Sandeep Kalantri, Director (Operations), MSETCL, Prakashganga, Plot No.C-19, E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400051.	Tel. 022-26595404, 26595003, Fax. 022-26590383,26591254, Gen. 26598595, F. Tel.22621178, Fax. 22619699, E-mail-dirop@mahatransco.in

16	Maharashtra Genco	Shri Sanjay Marudkar Director (Operation) MSPGCL, Prakashgad, 2nd Floor,Plot No G-9, Bandra (E), Mumbai: 400.051	Tel. 022-26476909 Fax. 022-26474190 E-mail:-directorop@mahagenco.in
17	Maharashtra Discom.	Shri, Yogesh Madhukar Gadkari Director (Commercial) (I/C), MSEDCL, Prakashgad, 6th Floor, Plot No G-9, Bandra (East), Mumbai: 400 051	Tel. 022-26476743 Fax.26472976 Fort office Tel.022-22619277 Email:- directorcommsedcl@gmail.com
18	Maharashtra SLDC	Shri Shashank Jewalikar Executive Director, Load Dispatch Centre, Kalwa Thane Belapur Rd., P.Q Airoli, Navi Mumbai:400 708	Tel. 022-27601762 Fax 022-27601769 E-mail:- cesldc@mahasldc.in
19	Goa	Shri Shri Stephen Fernandes Chief Electrical Engineer, Goa Electricity Department, Vidyut Bhawan, 3rd floor, Panaii – Goa: 403 001.	Tel. 0832-2224680 Fax.0832-2426986 E-mail: cee-elec.goa@nic.in aeipm@yahoo.com
20	UT of Daman & Diu	Shri M.R. Ingle, Superintending Engineer, DD, Electricity Department, Power House, Vidyut Bhavan, Bldg.No.2, Nani Daman -396210	Tel. 0260-2254745, Fax. 0260-2250889 E-mail: <u>elec_dmn_dd@nic.in</u>
21	UT of Dadra & Nagar Haveli	Shri C.A. Parmar, Chief Engineer- DNHPDCL, Room No. 312, 3rd floor, Vidhyut Bhavan, 66 kV Road, Near Secretariat, Amali, Silvassa: 396 230	Tel. 0260-2406558 Email: caparmar1956@gmail.com
22	(a). Central Sector Genco. (NTPC WR-I)	Shri Prem Parkash Regional Executive Director (WR-I, HQ) NTPC LTD WR HQ-I, 2nd floor, Samrudhi Venture Park, Marol, Andheri(E), Mumbai-400093	Phon No. 022-28306326 Email Id :-premprakash@ntpc.co.in
23	(b). Central Sector Genco. (NTPC WR-II)	Shri Ashwini kumar Tripathy, Regional Executive Director (WR-I), NTPC Ltd., WR HQ-I, 2nd floor, Samrudhii Veneture Park, Marol, Andheri(E), Mumbai-400 093.	Tel. 022-28227762 Fax. 022-28259364 E-mail: aktripathy01@ntpc.co.in
24	Central Govt. Genco. (NPCIL)	Shri Sandeep Sarwate, ACE (E & T), Nuclear Power Corp. of India Ltd, 9-N-33,Vikram Sarabhai Bhavan, Anushakti Nagar, Mumbai:400 094	Tel. 022-25991902 Fax.022- 25557890 E-mail:- ssarwate@npcil.co.in.
25	C.T.U.	Shri P C Garg COO, CTUIL, Plot No.2, Sector – 29, Near Iffco Chowk, Gurgaon- 122 001 (Harvana).	pcgarg@powergrid.in
26	Powergrid WR-I	Shri Alok Executive Director, (WR-I), POWERGRID, Sampriti Nagar, Nari Ring Road, Nagpur -440026	Tel. 0712-2641470 Fax.0712-2641471 E-mail:- alok10103@powergrid.in
27	Powergrid WR-II	Shri Krishna Kumar T R Executive Director(WR-II) PGCIL, Regional Head Quarters, Plot No. 54, Opp- Ambe Vidhyalay,Sama Sawali Rd., Vadodara 390 008	Tel. 0265-2487594 Fax. 0265-2488564 trkrishnakumar@powergrid.in
28	National LDC	Shri S. C. Saxena Executive Director NLDC, Grid Controller of India Limited B-9, Qutab Industrial Area, Katwaria Sarai, New Delhi-110.016	Tel. 011-26852843 Fax 011-26536901 E-mail:- cmd@posoco.in
29	Regional LDC	Shri V.Balaji, Executive Director(in-charge), POSOCO, WRLDC. F-3, MIDC Area, Marol, Andheri (East), Mumbai: 400 093	Tel. 022-28202691 Fax 022-28202630 Email: vbalaji@posoco.in
30	Other Gencos more than 1000 MW (Tata Power-Trombay)	Shri Devanand Pallikuth Head - PSCC The Tata Power Company Ltd., Power System Control Centre, Trombay Thermal Power Station-A, Mahul Road, Chembur, Mumbai – 400 074.	Tel.67175371 Fax.67175385 E-mail: p.devanand <u>@tatapower.com</u>
31	Other Gencos more than 1000 MW (RGPPL)	Shri Sanjay Agrawal GM(O&M), Ratnagiri Gas & Power Pvt.Ltd , Jubilee Tower, 5th Floor, B35-B36 ,Sector -1, Noida. 201 301(U.P)	Tel. 02359- 241073 Fax Email : sanjayagrawal@ntpc.co.in

32	Other Gencos more than 1000	Sh. Anurag Seth	Tel.0755-4030188
	MW (NHDC)	General Manager (O & M),	Email: anuragsetb@nbdcl.com
		O&M Division, Corporate Office,	
		NHDC Parisar, Shyamala Hills,	
33	Other Gencos – more than	Bhopal – 462013(M.P.) Shri L. N. Lalwani	Tel 02621-661000
	1000MW	Executive Director (O&M), Torrent Power Ltd., Sugen	Fax.02621-661151
	(Torrent Power	Mega Power Project, Off National Highway	E-mail: Inlalwani@torrentpower.com
24	Surat)	No.8, Taluka -Kamrej, District : Surat – 394155	Tol 070, 25557400
34	1000MW	Asso. Vice President (Protection & Metering), Adani	Fax.079- 25557176
	(Adani Power Ltd.)	Power (Mundra) Ltd,	E-mail:- manoj.taunk@adani.com
		1st Floor, South Wing, Adani Corporate House	
		Ahmedabad – 382421(Guiarat).	
35	Other Gencos- more than	Shri Sharad Mahendra	Tel.022- 42862041, 42868128 Fax.
	1000MW (ISW Epergy Ltd.)	Director & COO, M/s_ISW/Epergy Ltd	022-4286 3000 Mobile
	(JOW Energy Ed.)	JSW Centre,Bandra Kurla Complex,	E-mail: sharadmahendra@jsw.in
		Bandra (E), Mumbai-400 051.	
36	Other Gencos- more than	Shri Ajit Kumar Rai, A V P –Power Control	Tel.07767-302112 E-mail:- aiitrai@iindalnower.com
	(Jindal Power Ltd.)	Jindal Power Limited,	
		P.O.Tamnar, District:Raigarh,	
37	Other Gencos- more than	Chhattisgarh – 496 107. Shri HBK Patnaik	Tel No 02838-661500
01	1000MW	Chief O&M	Fax No.02838-661181
	(CGPL)	Coastal Gujarat Power Ltd,	E-mail: hbkpatnaik@tatapower.com
		(A Tata Power Co.) 4000 MW UMPP, At & Post :	
38	Other Gencos- More than 1000	Shri Gitesh Ambasta	E-mail:
	MW	Executive Director & Station Head	gitesh.ambasta@rattanindia.com
	(Rattan India Power	RattanIndia Power Ltd.,	
		Additional Industrial Area, Nandgaonpeth,	
		Amravati -444 901.	
39	Other Gencos More than 1000	Shri Vinod Sharma	<u>E-mail: vinod1.sharma@jalindia.co.in</u>
	(Jaypee Nigrie)	Jaypee Nigrie Super Thermal Power Project, Village &	
		PO: Nigrie, Tahsil: Deosar, Distt:Singrauli (MP)-	
40	Other Gencos	486889. D B Power Ltd	kapildevdubev@dbpower.in
40	More than 1000 MW	Village : Badadhra,	kapidevddbey@dbpower.in
	(D.B.Power Ltd.)	Block & Tehsil : Dabadhra,	
		Dist : Janjgir, Champa, Chbattisgarh : 495695	
41	Other Gencos.	Shri Manoj K Taunk,	Tel.079- 25556900
	More than 1000 MW	Asso. Vice President (Protection & Metering), Adani	Fax.079- 25557155
	(Adani Power Maharashtra Ltd.)	Power (Maharashtra) Ltd, 1st Floor, South Wing Adani Corporate House	E-mail:- manoj.taunk@adani.com
		Shantigram,S.G.Highway,	
- 10		Ahmedabad – 382421(Gujarat).	
42	Other Gencos. More than 1000 MW	Shri G. P. Rao Project Head)	E-mail:- gprao@ksk.co.in
	(KSK Mahanadi Power Co.Ltd.)	KSK Mahanadi Power Co.Ltd.,	
		Akaltara (Nariyara) TPP Dist:Bilaspur,	
43	Other Gencos	Chhattisgarh – 495552. Shri Rabul S Sharma	Tel 011-47624100 Extn 496
	More than 1000 MW	GM - Business Development,	E-mail:- Sharma.rahul@hpppl.in
	(MB Power (MP)Ltd)	MB Power(Madhya Pradesh)Ltd	
		239,0knia Industrial Estate, Phase III. New Delhi -110020	
	<b>.</b>		
44	Other Gencos.	Shri Sunil Kumar Gupta	E-Mail: sunil.gupta@relianceada.com
	(Sasan UMPP.)	Sasan UMPP, Sasan Power Ltd.,	
		Vill: Siddikhurd, P.O.Tiyra,	
		The: Sasan, Dist:Waidhan,Singroli,	
45	Other Gencos.	Shri R.K. Pal	Tel. No.: 044-66291000 (Gen.No.)
	More than 1000 MW	Head Operations,	Fax : 044 -28158243 / 66291100
	(RKM Power Gen. Pvt. Ltd.)	R.K.M. Powergen Pvt. Ltd., No 14 Dr. Girianna Road T. Nagar, Chennai 600	E-Mail: rk.pal@rkmpowergen.in
		017	
46	Other Gencos		E-mail: PA to GM:
	Under 1000MW (Rotational - GPECL)	Gujrat Paguthan Energy Corporation Pvt Ltd. (GPECL)	
		Bharuch- 392220	
47	Electricity	Shri. Harish Saran	E-mail:- harishsaran@ptcindia.com
	Traders	E.D. (Comml and Oper),PTC India LTD	
	(Rotational)	2nd floor, NBCC Tower, 15 Bikaji Cama Place, New	

48	Discoms – Other than State	Shri Chandubhai Patel, Asst.	Tel No. : 079- 26628300
	Discoms	General Manager, EHV	
	(Rotational- Torrent)	Torrent Power SEC Ltd	E-Mail:
	, , , , , , , , , , , , , , , , , , ,	Torrent House, Station Road	
		Surat 395003(Guj)	
49	Private Transmission Licensee	Shri. Lokendra Singh Ranawat	Email Id :-
	– (Rotational)	Head- Regulatory, BDTCL	lokendra.ranawat@indigrid.com
		101, Windsor, CST Road, Santacruz East,	
		Mumbai 400098	
50	Mombor Socratory W/RPC	Shri Doonok Kumar	Tol 022 28221626
50	Weiliber Secretary, WKFC	Member Secretary (1/2)	Ter 022-26221050
		WEINDER Secretary (I/C),	Fax 022-26370193
		WRPC, F-3, MIDC Area, Maroi, Andheri(E), Mumbai -	Email: ms-wrpc@nic.in
		400093.	
SPEC			
		Smt. Rishika Sharan,	Tel.No.011-26562022
		Chief Engineer	
	NIDO	National Power Committee(NPC).	E-mail :
1	NPC	3rd Floor, NRPC Building CEA.	cenpccea@gmail.com:
		18-A. SJSS Marg. Katwaria Saria.	rishika sh@vahoo.com
		New Delhi -110 016	
		K.P.Jangid, GM,	
		Gujarat Urja Vikas Nigam Ltd,	E-mail:- coacom@gebmail.com
2	GUVNL	Sardar Patel Vidvut Bhawan.	
		Race Course.	
		Vadodara: 390 007.	
		Director (Commercial), MPPMCL	0761 0064740 0064045
3	MPPMCL	Shakti Bhawan, Rampur,	U/01-2004/49, 2001245
		Jabalpur.	Email: rajeev_keskar@redimmail.com
		Ms. Devjani Patra,	
		Member (Power),	
4	NCA	NCA,	Tel: 0731-2559888
		Narmada Sadan, Sector B, Scheme No 74, Vijay Nagar,	Email: mem.power.nca@nic.in
		Indore - 452010	
		Indore.	
	Comprehed Solar	513/A, 5th Floor, Koninoor City,	
5	Osmanabau Solai	Mumbai $_{-}$ 400070	
Copy t	0:		
			Tel: 033-24239652, 24239653
1	MS ERPC	Member Secretary, ERPC, Kolkata	Email: mserpc-power@nic.in
2	MS SRPC	Member Secretary SRPC Bendaluru	Tel: 080-22259343
Ľ_		member coordary, ord o, bengalara	Email: mssrpc@yahoo.com
3	MS NERPC	Member Secretary, NERPC, Shillong	Fax: 0364-2534040
	-	,, <u>,</u> , , , , , , , , , , , , , , , , ,	Email: ms-nerpc@gov.in
4	MS NRPC	Member Secretary, NRPC, New Delhi	Fax: 011-20808528, 20805200
L		• • • •	Email. msnipc r@yanoo.com



भारत सरकार Government of India

केन्द्रीय विद्युत प्राधिकरण Central Electricity Authority

# पश्चिम क्षेत्रीय विद्युत समिति, मुंबई Western Regional Power Committee, MUMBAI

तक.सम.स. / प. क्षे. वि. स.

की दिनांक 14 एवं 15 जून 2023 को रायपुर (छ.ग.) में आयोजित 47 वीं बैठक का कार्यवृत्त

# Minutes of 47<sup>th</sup> Meeting of TCC / WRPC

held on  $14^{\text{th}} \& 15^{\text{th}}$  June 2023

at Raipur (C.G.)

# Contents

Item	Description	Page No
1	Confirmation of the Minutes of 46 <sup>th</sup> meeting of WRP Committee	3
2	New ISTS proposals for views of WRPC	5
3	Scope of works for PLCC & FOTE for Package C of the Transmission Scheme WRSS-XIX & NERSS-IX being implemented by MUML and SCADA issues of Lakadia- Banaskantha Transmission Ltd.	9
4	Diversion of excessive power to Goa	11
5	Establishment of State-of-the-Art Unified Centralized Network Management System- U- NMS for Western Region ISTS and State Utility Communication Network	14
6	Commercial impact due to dismantled Conductor upon Reconductoring of 400kV Kolhapur-Kolhapur D/C Line	20
7	Pooling of tariff of 25 years plus thermal/gas generating stations-MPPMCL Agenda.	22
8	Timely Furnishing ECR Data by Generating Station having PPA under section 62/63 of the Act for DSM Calculation	26
9	Entitlement from CGPL under Section-11 direction issued by Ministry of Power, Govt. of India	27
10	Osmanabad Solar settlement of energy	33
11	Weighted Average Share Allocation forwarded to NLDC for providing approved withdrawal/approved injection of DICs for preparing RTA & RTDA Accounts	36
12	Relay setting data in WR	38
13	Updated status of New islanding schemes in WR	40
14	Hon'ble CERCs orders on the Grid disturbance of 30.07.2012 & 31.07.2012	41
15	OPGW replacement on Itarsi-Dhule Transmission Line	43
16	OPGW installation on 765/400kV Pune (PG) (GIS) – 400kV Parli (PG) line	46
17	Installation & integration of 10 nos. of PMUs at critical Locations in MMR Region (Mumbai Metropolitan Region) in the existing URTDSM System at Maharashtra SLDC (MSLDC)	49
18	Replacement of 63 MVAr Bus reactor with 125 MVAr Bus reactor at Jabalpur	50
19	Pending Establishment charges from WRPC members	51
20	Flexible operations of Thermal Power Stations	55

21	CERC Order dated 23.04.2023 in 06/SM/23 enhancing the scope of RRAS Regulations	<sup>5</sup> 81
22	Launch of Portal for Utilization of Surplus Power (PUSh-P) by MoP Govt. of India	58
23	Implementation of High Price Day Ahead Market (HP-DAM) in India	59
24	Replacement of faulty SEMs	61
25	Addition of new utilities and revision of drawal/injection formula due to addition of new transmission elements	64
26	Intra-State Transmission charges and SLDC Operating Charges for STOA bilateral transactions for FY 2023-24	63
27	Status of Letter of credit (LC) opening against Deviation charges liability for FY23-24	64
28	Status of Reconciliation of DSM, RRAS, SRAS (AGC), REC and Congestion Regulatory Pool account for the period up to Q4 of FY 2022-23	65
29	Status of Regulatory Accounts DSM Charges Payable to DSM Pool Account	66
30	Interest calculation statement of Regulatory Pool Account up to Q3 of FY 2022-23	67
31	Commissioning of Elements in WR-I and WR-II	68
32	New Regulations Notified	70
33	Share allocations issued	72
34	Accounts/Revisions Issued	71
35	Essar Mahan oscillations observed on 09.02.2023.	72
36	Reimbursement of Incidental charges in respect of WRPC Secretariat Background	73
37	Supplementary Agenda Items	
S.A.1	Changes in the process of funding of expenses of WRPC Secretariat and streamlining the process of fund utilization/ budgetary provisions for all RPCs.	73
1.1	The salient points in the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs as communicated by CEA are as follows	74
1.2	Proposal of WRPC Establishment Fund and its operation	75
S.A. 2	Amendment in WRPC (Conduct of Business Rules), 2022	77
S.A. 3	WRPC Annual Internal Budget for the Year 2023-24 and reimbursement of the actual expenditure for FY 2022-23	80
3(a)	Establishment Charges for the Year 2022-23	80
3(b)	Establishment Charges for the Year 2023-24	80
S.A. 4	Agenda for Development of transit office and Redevelopment of WRPC Building	83
<b>.</b>	Gel	

4.1	Renting of Office Premises	°32
4.2	Development of Transit office and Main office:	82
38	Incoming and Outgoing members of WRPC	85
39	Any other Item	85
39.1	Membership for RE Generators in RPC forum	85
39.2	Inclusion of holding company as member of RPC	86
39.3	Regarding timely restoration of 400 kV Pune GIS- Pune PG lines	86
40	Date and venue of 48th TCC/WRPC Meeting	87

# Minutes of 47<sup>th</sup> TCC/WRPC meeting held on 14<sup>th</sup> (5.30pm) / 15<sup>th</sup> (10.30am) June 2023 at Raipur

The TCC meeting was held on 14<sup>th</sup> June 2023 at Raipur and Chaired by TCC Chairperson Shri Raghuraj Rajendran, IAS, MD, MPPMCL. The WRPC meeting was held the following day on 15<sup>th</sup> June 2023 and Chaired by WRPC Chairperson Shri Sanjay Dubey, IAS, PS, Govt of MP. The list of participants is enclosed at Annex 1.

The meeting was hosted by Jindal Power Ltd, WRPC Member.

Shri Satyanarayan S, Member Secretary, WRPC informed that since April 2023, the state of Madhya Pradesh is Chairing the WRPC forum. In the last year the same was chaired by DD & DNH and Shri Chaitanya Prasad, IAS, Secretary (Energy), DD & DNH was WRPC Chairperson upto February 2023.

After his transfer, Shri Dinesh Waghmare, IAS and MD MSETCL was requested to hold charge of WRPC till new Chairperson from MP takes over. He thanked Shri Chaitanya Prasad sir and Shri Dinesh Waghmare sir for all the support extended to WRPC in the above period.

He welcomed WRPC Chairperson Shri Sanjay Dubey, IAS, PS, Govt of MP and TCC Chairperson Shri Raghuraj Rajendran, IAS, MD, MPPMCL and requested them to address the TCC and WRPC forums.

During the WRPC meeting address, Shri Sanjay Dubey, IAS, Chairman WRPC & Principal Secretary (Energy),GoMP welcomed all the delegates of WRPC. He thanked the hosts for making excellent arrangements for the meeting. He informed that the State of Madhya Pradesh holds the Chair for the year 2023-24 by the rotation policy and placed on record the contribution of Shri Chaitanya Prasad, IAS, Secretary (Energy) of DD&DNH who was the earlier WRPC Chairperson for FY-2022-23. He also placed on record the contribution of Sh. Dinesh Waghmare, IAS, CMD, MSETCL under whose chairmanship 46th WRPC meeting was held.

He informed that the last WRPC (Western Regional Power Committee) meeting was held on 3rd February 2023 at Udaipur. The schemes of CTU for Common Transmission System for about 25 MW at Fatehgarh-IV, Barmer-I, Neemuch, Rajgarh, Khavda were approved. Since the last WRPC meeting, several sub-committees of the WRPC, namely PCM, OCC, and CCM, special e-meetings to address specific matters have been conducted.

He informed that yesterday, the TCC discussed in detail the important issues *inter-alia* of CTU ISTS proposals, Pooling of tariff of 25 years plus thermal/gas generating stations; HP DAM regulation, and Establishment of State-of-the-Art Unified Centralized Network Management System- (U- NMS) for Western Region ISTS. settlement of Osmanabad Solar scheduled energy and Entitlement from CGPL under Section-11 direction issued by Ministry of Power, Govt. of India and all these issues will be taken up in this WRPC meeting for approval.

Earlier on 14<sup>th</sup> June 2023 in the TCC Meeting TCC Chairperson addressed the meeting.

Shri Raghuraj Rajendran, IAS, Chairman TCC and Managing Director MPPMCL welcomed all the delegates of TCC. He thanked the host for making excellent stay and meeting arrangements both physical and online mode.

He informed that the State of Madhya Pradesh holds the Chair for the year 2023-24 by the rotation policy and placed on record the contribution of 2022-23 under the UT of DD&DNH and Shri CA Parmar of DD&DNH who was the earlier TCC Chairperson. He informed the sub-committees had discussed many issues and certain important transmission schemes for approval were to be discussed in this meeting and recommendations to be put up to WRPC the following day.

He informed that the agenda has several items, some for noting and others for putting to WRPC for approval. These include inter-alia, CTU ISTS proposals, pooling of tariff of 25 years plus thermal/gas generating stations; HP DAM regulation, and Establishment of State-of-the-Art Unified Centralized Network Management System- (U- NMS) for Western Region ISTS. settlement of Osmanabad Solar scheduled energy and Entitlement from CGPL under Section-11 direction issued by Ministry of Power, Govt. of India. He requested all the participants to discuss carefully and put up their view points.

During WRPC meeting Shri Chhavi Nath Singh ED & HOP, Jindal Power Limited expressed thanks for giving the opportunity to host the meeting.

The minutes of the meeting are based on the discussions and decisions taken during the meeting.

### Item no. 1. Confirmation of the Minutes of 46th meeting of WRP Committee

### **Agenda Notes:**

The meeting of 46<sup>th</sup> meeting of WRP Committee was held on 02<sup>nd</sup> and 3<sup>rd</sup> February, 2023 at Udaipur and the Minutes of Meeting were forwarded to the members vide letter no. WRPC/46<sup>th</sup> WRPC Mtg./AS/2023/2286 dated 20.03.2023.

The following comments are received on the 46<sup>th</sup> WRPC MoM:

## i) MSEDCL vide email dated 29.03.2023 informed the following:

In item numbers 5, 10 and 14, inadvertently MSETCL has been referenced instead of MSEDCL. MSEDCL requested to change such reference to MSEDCL.

# ii) WRLDC vide email dated 19.04.2023 informed the following regarding item no.12:

Item no. 12. Enabling AGC at CGPL as per CERC order dated 29.08.2019 and Participation in SRAS as per CERC (Ancillary Services) Regulations 2022:

12.3. "46th TCC/WRPC Discussions

MS, WRPC informed the background of the item. WRLDC representative informed that CGPL has conveyed that as per clause 9.0, they have an option of not participation in SRAS. Since CGPL is the largest station in the Western Region, they should help the grid by participation in SRAS. She also informed that without the participation of CGPL, the SRAS reserve capacity of the region is reduced. Non participation of CGPL will create issues regarding the safety and security of the grid. <u>Further, she informed that as per SRAS, the compensation charge has to be declared by Section-63 generators, and therefore CGPL can declare any charge for participation under SRAS. Also, if the performance of CGPL is above 95%, they will also be entitled to additional incentive."</u>

It was requested to modify the underlined sentence to

"Further, she informed that as per SRAS, the compensation charge has to be declared by Section-63 generators, and therefore CGPL can declare the compensation charge for participation under SRAS".

- iii) **PGCIL under Any Other Item on ULDC :** PGCIL informed that Commercialisation of ULDC network was discussed but not minuted. The same needs to be done
- iv) PGCIL item on Proposal of integration of SEM data with SCADA (Item 5) of MoM:

PGCIL vide letter dated 05.06.2023 requested for corrigendum in the Minutes of the 46<sup>th</sup> WRPC. In the 47<sup>th</sup> WRPC meeting it was decided to discuss the corrigendum in the special SCADA meeting to be held subsequently.

Noting in the 46<sup>th</sup> WRPC Minutes:

"MS WRPC concluded that PGCIL should prepare a check list for station and implementation plan.".

PGCIL proposed that it should be MPPTCL and not PGCIL.

## 47th TCC/WRPC Discussions:

After discussions following were recommended.

### i) Regarding MSEDCL:

In item numbers 5, 10 and 14, as per indicated in their email attached at Annexure 1.1. The inadvertently referenced MSETCL has to be replaced by MSEDCL.

MS WRPC informed that this suggestion is in order with the discussions. **TCC agreed to the modification.** 

# ii) Regarding WRLDC:

In Item No. 12, WRLDC requested to amend the following line

"Further, she informed that as per SRAS, the compensation charge has to be declared by Section-63 generators, and therefore CGPL can declare any charge for participation under SRAS."

The above line is to be replaced as

"Further, she informed that as per SRAS, the compensation charge has to be declared by Section-63 generators, and therefore CGPL can declare the compensation charge for participation under SRAS".

MS WRPC informed that this suggestion is in order with the discussions. **TCC agreed to the modification** 

**iii) PGCIL under Any Other Item on ULDC :** MS WRPC suggested that following will be incorporated in the Item No 48: Any other item under S.A.2 in the 46<sup>th</sup> WRPC Minutes as follows.

"S.A.2: Commercialisation of ULDC network of PGCIL

"PGCIL informed that the matter regarding commercialisation of the ULDC network maybe relooked as per the discussion in 2013. It was decided that Power Grid and M/s Adani may discuss in detail the commercial and technical aspects and then submit to the SCADA committee for further deliberation and thereafter to WRPC"

iv) PGCIL item on Proposal of integration of SEM data with SCADA (Item 5) of MoM:
"MS WRPC concluded that PGCIL should prepare a check list for station and implementation plan. ...." PGCIL proposed that it should be MPPTCL and not PGCIL.

The above modification could not be concluded in the WRPC meeting and it was decided that the stakeholders may discuss separately and suitably frame the amended MoM, if agreeable to all stakeholders. After deliberations in the special SCADA meeting the following is the amended noting in the 46<sup>th</sup> WRPC minutes under Item No 5, as it was agreed by all stakeholders.

The sentence in Item No 5

"MS WRPC concluded that PGCIL should prepare a check list for station and implementation plan. ...."

may be replaced with:

"MS WRPC concluded that MP and PGCIL to coordinate to carry out the integration of Meters for ISTS lines in Substation of PGCIL. MS WRPC also requested PGCIL to give an estimate to MP towards carrying out the modification for lines at their Substation. In this regard MP may provide the necessary inputs to PGCIL at the earliest."

Rest of the item is retained with no change.

TCC/WRPC agreed for amendments as detailed above.

#### Item no. 2. New ISTS proposals for the views of WRPC

**Agenda Notes:** CTU vide email dated 6<sup>th</sup> June 2023 informed that the following network expansion scheme for implementation under ISTS and costing more than Rs. 500 Crores was deliberated and agreed in the 16th Consultation Meeting for Evolving Transmission Schemes in Western Region held on 27.02.2023:

S1.	Name of Scheme	State(s)	Tentative Cost* (Rs. Crore)
1	Network Expansion scheme in Gujarat for drawl of about 3.6 GW load under phase-I in Jamnagar area	Gujarat	3747

	3

3747

\*Approx. cost at Sep-22 Price level

Details of the above scheme are given at Annexure-2.1.

In line with MoP office order no. 15/3/2018-Trans-Pt(5) dated 28.10.2021 regarding reconstitution of NCT, views of RPC are required for proposals costing more than Rs. 500 Crores before consideration by National Committee on Transmission. Further, Para 6 (3A) & Para 11 of MoP Gazette dated 03.12.2021 on resolution for establishment of WRPC stipulates the following:

"3A- To provide views on the inter-state transmission system planned by CTU within 45 days of receipt of the proposal by the concerned RPC. The views of RPC will be considered by National Committee on Transmission for sending their recommendation to Ministry of Power for approval of new inter-state transmission system."

In consideration of above, it is requested that WRPC may forward their views at the earliest in respect of the scheme as per Annexure-I at the earliest, so as to enable us to take the scheme for approval in the ensuing NCT meeting along with the views of WRPC.

Further, it may be noted that Transmission Systems for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7GW) and Phase-V (8GW) along with Provision of Dynamic Reactive Compensation at KPS1, KPS3 & Navsari(New) Substations were approved in the 46th WRPC meeting held on 03.02.2023. Subsequently, the schemes were discussed in the 12th NCT meeting held on 24.03.2023 wherein Provision of Dynamic Reactive Compensation at KPS1 & KPS3 substations were agreed. However, regarding Khavda Phase-IV scheme, GRID-INDIA observed that large quantum of power is getting pooled at Navsari S/s (about 14,000 MW). Accordingly, it was decided to study the Khavda Phase-IV & Navsari STATCOM scheme again considering possibility of 2nd S/s near Navsari including measures to relieve high injection of power at Navsari. Regarding Khavda Phase-V scheme, GRID-INDIA had pointed out that VSC based HVDC(s) may also be explored in place of a single +/-800 kV LCC HVDC considering its inherent advantages such as reliable operation in low system strength areas, Reactive Power Support, Black-start capability etc. Accordingly, the Phase-V scheme was also agreed to be reviewed.

In order to review the above schemes, joint study meetings were held amongst CEA, CTUIL and GRID-INDIA on 20.04.2023 and 09.05.2023 and the Khavda Phase-IV and Phase-V schemes were agreed to be modified. The salient modifications agreed in the meetings are given below:

Phase-IV scheme:

To enhance redundancy and reliability of power supply to Navsari(New) S/s and further upto Boisar-II S/s, it was agreed to establish South Olpad 765/400/220kV (GIS) S/s and change the termination of the earlier proposed Vadodara – Navsari(New) and Navsari(New) – Boisar-II 765kV D/c lines from Navsari(New) to South Olpad S/s so as to form Vadodara –South Olpad and South Olpad – Boisar-II 765kV D/c lines. To enhance infeeds into South Olpad S/s, Ahmedabad – South Olpad(GIS) (220km.) 765kV D/c line was also agreed. To provide anchoring at 400kV level, LILO of Gandhar – Hazira 400kV D/c line is also planned at South Olpad (GIS) S/s.

400kV bus of Boisar-II S/s has been planned to be split into two sections for fault level control at Boisar-II/Velgaon(MH) substations and  $\pm 200$ MVAr STATCOM with 2x125 MVAr MSC, 1x125 MVAr MSR has been proposed at each section. Further,  $\pm$  300 MVAr STATCOM with 3x125 MVAr MSC, 1x125 MVAr MSR planned earlier at Navsari(New) S/s has been made part of Phase-IV scheme.

765/400kV ICT Augmentation at KPS2 & KPS3 has been suitably modified to suit the requirements of RE injection at the Pooling Stations and 400kV line bays for RE interconnection have been proposed for implementation at KPS2 (Bus sections I & II) and KPS3 (Bus section-II) along with the ICT augmentation scope.

Phase-V scheme

Instead of 8000MW, ±800 kV HVDC Bipole link (LCC) between KPS2 and Akola-III, following has been agreed:

6000MW, ±800 kV HVDC Bipole link (LCC) between KPS2 and Nagpur

2400 MW,  $\pm$  525 kV HVDC Bipole link (VSC) between KPS3(HVDC) and South Olpad

Augmentation of transformation capacity at KPS3(GIS) by 1x1500MVA, 765/400 kV ICT on Bus section-II (8th) (i.e. last 765/400kV ICT at KPS3) has been added to Phase-V scheme whose implementation is proposed to be taken up as per evacuation requirement at KPS3.

WRPC is requested to take note of the revised scheme (detailed scope & load flow given at Annexure-2.2) and offer views, if any, within 10 days, as the Khavda Ph-IV & Ph-V schemes are proposed to be deliberated in the ensuing NCT meeting to be held at the end of May.

CTU vide email date 07.06.2023 informed that the scope of work w.r.t. Khavda Phase-IV and Phase-V schemes has been slightly modified and the revised Annexure-II is to be read with our letter dated 12.05.2023 (enclosed along with word copy). The same has also been sent to NCT for deliberations in the ensuing NCT meeting. subsequently the scheme has been discussed and agreed in the 19th CMETS-WR meeting held on 30.05.2023.

#### 47th TCC Discussions:

MS, WRPC informed in brief the background of the procedure of recommending of the Transmission projects through the CMETS and then to the WRPC for its views and finally to the approval by NCT forum. He requested CTU to explain the schemes in this proposal and enquired whether these schemes have been agreed to, by State STUs.

#### 1. <u>Regarding Jamnagar Scheme</u>

Sh. M. Dhoke, MP STU enquired regarding the applications received for the quantum of GNA.

MS queried whether the scheme is planed with the GNA requests or in anticipation of likely applications that will come in future.

Gujarat STU raised the issue as to whether ATC/TTC of Gujarat will get affected because of these schemes. He further informed that the scheme is agreeable to them technically as changes suggested by Gujarat have been considered in CMETS except the clarification on the effect of the scheme on Gujarat's ATC/TTC.

Chattisgarh, DNHDD and Goa representatives informed that the scheme is agreeable to them.

Sh. P.S. Das, CTU informed that request of 1900 MW for the above scheme has already been received under GNA. He informed that for the Jam-Khambliya bus, the bus strengthening is required for processing the 1900 MW GNA applications. As regards to Gujarat's ATC/TTC of Gujarat he informed that ATC/TTC of Gujarat will not get affected due to these schemes. TCC agreed to the above.

#### 2. <u>Regarding Phase IV & V</u>.

MS, WRPC enquired whether the modification under these schemes have been discussed with the States and whether approval is required from WRPC for modification.

Sh. P.S. Das, informed that the scheme was agreed by WRPC in the 46<sup>th</sup> WRPC meeting. However, the scheme was modified in the subsequent NCT meeting. Therefore the modified scheme was put up to NCT in the next meeting and was <u>approved</u> by NCT. The scheme has been brought to WRPC to only inform about this modification in the original scheme, on 12<sup>th</sup> May and <u>not for its views</u>.

MS, WRPC queried when a scheme is modified by NCT whether it should have been brought back to CMETS of WRPC and WRPC for further discussions before placing it directly in the next NCT meeting.

CTU representative informed that the all schemes are brought to RPCs for their views only after approval in the CMETS. He further, suggested that as per the TOR, 45 days were recommended for the first time discussions of the RPC and for second time modifications, no timelines are prescribed. He further informed that the modified proposal was moved to WRPC for views on 12<sup>th</sup> May 2023.

TCC, Chairperson suggested that since the NCT has already approved the scheme then if any State has any counter view, they may be taken on record. Further, he suggested that in such cases the views of RPC are required immediately, in future, a single point meeting may be held and comments, if any, from constituents may be obtained in the meeting, within the stipulated time. This scheme thus may be taken as for noting and any separate counter comments may be communicated to CTU/NCT through WRPC, if required.

### TCC agreed to TCC Chairperson's suggestions.

### 47th WRPC Discussions:

MS, WRPC informed in brief the discussions of the TCC meeting and the procedure of approval of the projects. He informed that as stated by CTU, the Jamnagar Phase one is for views of WRPC and the same was agreed. As regards to Khavda Phase 4 and 5 modifications, it was stated by CTU that the above schemes were only for information and not WRPC views.

### WRPC noted.

Item no. 3. Scope of works for PLCC & FOTE for Package C of the Transmission Scheme WRSS-XIX & NERSS-IX being implemented by MUML and SCADA issues of Lakadia- Banaskantha Transmission Ltd.

### Agenda Notes:

CTU vide email dated 07.06.23 informed that following:

• It is to mention that a meeting was held on 1st June 2023 under the chairmanship of Member Planning (Power System CEA) in this regard. The MoM of this meeting is attached at Annexure-3.

# 1.1 Revised scope of MUML for PLCC & FOTE for package-C of the Transmission Scheme WRSS-XIX & NERSS-IX.

On account of space constraints to implement 1 channel through analog PLCC at Vikhroli and Khargar S/s, the revised scope with regard to communication element to be provided by M/s MUML in place of PLCC was agreed and has been tabulated in detail in the above said MoM.

# 1.2 OPGW communication path for 220kv links from Navi Mumbai (PG) to Apta, Kalwa and Taloja substation of MSETCL

MSETCL confirmed that they had laid OPGW on their 220kV line however implementation of FOTE at their substation is yet to be planned. MUML was advised to provide the necessary FOTE at these substations of MSETCL and MSETCL was asked to exclude FOTE for these directions from their scope during planning. However, MSEDCL, the lead LTTC agreed In- principle for revision / addition of the FOTE but assured to revert within a week from the issuance of the Minutes after seeking concurrence of the LTTCs concerned.

# **1.3** Communication related issues being faced by M/s Lakadia - Banaskantha Transmission Limited (LBTL), subsidiary of Adani Transmission Limited, in real time data reporting to WRLDC.

**1.3.1** During the meeting, it was decided that Trial Run Certificates for LBTL connected with the existing NARI gateway of POWERGRID may be released. This issue may also be deliberated in general for the upcoming similar scope of works.

**1.3.2** During the meeting, it was also decided to constitute a study group comprising of members from WRPC, CEA, CTU, POWERGRID, WRLDC, LBTL and OEM under the chairmanship of MS WRPC to carry out the Root Cause Analysis of the issue of late reporting of BCU data at WRLDC and suggest corrective measures to resolve the same.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed that a meeting chaired by Member Power, CEA to discuss Communication related issues pertaining to TBCB projects being implemented by M/s Mumbai Urja Marg limited (MUML) and M/s Lakadia- Banskantha Transmission Limited LBTL) was held on 01.06.2023 various directions were issued regarding point 1.1,1.2 and 1.3.

1.1 item is for noting and regarding 1.2 i.e OPGW communication path for 220kv links from Navi Mumbai (PG) to Apta, Kalwa and Taloja substation of MSETCL, MSEDCL being the lead LTTC agreed in principle with the operational requirement and requested for one week's time to seek the concurrence of the concerned LTTCs.

MSEDCL representative informed that MUML has conveyed the cost of the project as Rs Three Cr and which is agreed by MSEDCL.

He further informed regarding Lakadia- Banaskantha there were issues in real time data reporting to WRLDC .The matter was discussed under Member Power system and as per the directions a group is to be formed comprising of members from WRPC, CEA, CTU, LBTL, PGCIL,WRLDC and OEM under the chairmanship of MS,WRPC to carry out the root cause analysis and suggest corrective measures.

WRLDC representative informed that as per the CEA instruction they have issued trial run certificate of the all the elements.

#### TCC/WRPC approved noted above.

#### Item no. 4. Diversion of excessive power to Goa

#### **Agenda Notes:**

Goa vide email dated 05.05.2023 informed the following:

- Goa's share allocation from the Ramagundam Super Thermal Power Station (RSTPS) generating units is 92 MW. Goa's drawl through its Southern Region(SR) network is in the order of 100-105 MW and above. There is a shortfall of 10-15 MW in the Goa's SR demand even when the schedule of RSTPS units are full at 85-90 MW. This shortfall is increased to the range between 50-55 MW when some units of RSTPS go down on planned and/or forced outage. Goa thus has to mitigate this shortfall in its SR control area by purchasing costly power from the Energy Exchange market.
- On the other hand, Goa has surplus power available at its periphery in the WR network during most of the time blocks during the day hours due to bilateral contracts on account

of meeting its Renewable Power Obligations (RPO). This quantum of surplus power available is in the range of 30-60 MW. After Goa's demand in its WR network is met, Goa sells its surplus power through DAM/RTM in the WR control area.

• As there is surplus power in the WR Network, and to meet its demand on its SR network, Goa intends to divert this excess power whenever available on to its SR network so as to meet its SR demand.

As cost of power in the energy market is on the upward trend, Goa SLDC requested to consider the following proposal for approval of the committee:

• Diversion of excessive power available in the WR system to the SR system, and permit the same to be delivered through the 220 kV Ambewadi-Xeldem and 220 kV Ambewadi-Ponda ckts at Xeldem and Ponda EHV substations respectively.

#### 88th CCM Discussions:

In the 88<sup>th</sup> CCM it was informed that Goa State falls under 2 different control areas (i.e. Goa-WR & Goa-SR) and the surplus power is flowing from WR region to SR region. In the 83<sup>rd</sup> CCM it was concluded that Goa will approach WRLDC and SRLDC so that they can operate as single entity. For PoC charges, Goa can consult with their management. However there is no communication received from Goa on this matter.

Goa representative informed that right now Goa is permitted by WRLDC to transfer surplus power from WR network to SR network to mitigate the load shedding in Goa SR from Dec 22 to Jan 23. He requested that the surplus power from Goa WR may be diverted to Goa SR in normal circumstances also (i.e. on a continuous basis).

WRLDC representative informed that the power from WR Goa to SR Goa is allowed on temporary basis in emergency conditions only to mitigate load shedding in Goa. Now Goa is asking to divert the surplus power from WR Goa to SR Goa in normal condition. For that Goa must have Open Access margin of MTOA/LTA in the network. Goa is suggested to approach CTU for margin or Goa may take margin in STOA also.

SE(C), WRPC summarised that the power can be transferred only if Margin is there and designated path should be there. At present designated path for transfer of power is not there. Whenever, Goa wants to divert the power from WR to SR then WRLDC have to check whether margins are there. If there are margins then only WRLDC may allow the transfer of power from WR-SR and if margins are not there then it will be denied. At present Goa don't have a right of transfer the WR power to SR power through the WR-SR corridor, if Goa wants to transfer the power on continuous basis, then STOA needs to be

taken by Goa. Goa may consider for single control area for flexibility, so that Goa will be able to get their share from WR and SR.

WRLDC representative informed that the share allocation issued to Goa WR may be allocated to Goa SR and thus the surplus power may be transferred to Goa SR.

SE(C), WRPC informed that the share allocations are issued in the name of Goa State and it is not specifically for Goa WR or Goa SR,

Goa representative informed that whenever there is contingency and if corridor is available then at that time Goa is purchasing power from power exchange and at that time it is requested to divert the power from Goa WR to Goa SR.

MS WRPC enquired that this problem is due to two different control area. Goa is taking power from SR control area. If Goa wants to keep two control area then the treatment will also done for the two control areas separately. Due to this there is inconsistency.

WRLDC informed that for regular transaction there should be some medium STOA/MTOA to take it up. WRLDC informed that Goa bid area is different and therefore the PoC charges are different, Goa cannot simply transfer power as and when required.

SE(C), WRPC informed that at present during the emergency conditions, WRLDC is allowing the diversion of power from WR Goa to SR Goa and for the normal diversion from WR Goa to SR Goa, Goa needs to take margins in the transmission corridors. Further, It needs to be verified from the PoC data whether the Goa-WR loads are commensurate with this excess power available in Goa-WR instead of the actual loads in Goa-WR (base case scenario-1) or the PoC base case reflects the actual loads in WR & SR (base case scenario-2). In the base case scenario-1, the PoC results will not capture the WR-SR link charges. However under base case scenario-2, the PoC results will capture the WR-SR link charges also and therefore, if the base case scenario-2 is being considered by Implementing agency in arriving at the PoC charges then Goa may be allowed to divert the surplus power from WR through WR-SR link under normal condition also subject to availability of the capacity on the WR-SR link, since it capture the charges of WR-SR link for drawl of this excess surplus by Goa-SR. If the loads are actually reflected as per the base case scenario-2, then even if Goa goes ahead with single control area, the PoC charges may remain more or less same as with the different control areas to the sum total of Goa-WR & Goa SR transmission charges.

Goa representative informed that they will discuss the issue with their management and inform the decision.

It was concluded that Goa SLDC may inform whether they want one single control area to WRPC or they want to continue with separate control areas. In case opt for single control area, they will have to inform SRPC & Grid Controller of India. If they want to retain the two separate control areas scheduling for diversion of excess power from Goa-WR to Goa-SR can only be done if there are margins on the WR-SR link.

Goa representative informed that they will inform on the above in the WRPC meeting. Goa may please intimate the status.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the above agenda. He requested Goa Electricity Department to give the views of their management of Goa as suggested in the 88<sup>th</sup> CCM.

Sh. Jack Fernandes, CE, Goa informed that Goa want to maintain the status quo. He further suggested that as per the suggestion of WRLDC, Goa will try to get Open Access from Southern Region.

WRPC Chairperson suggested that the State may only have one control area so as to facilitate the proper integration of State with the grid.

#### TCC/WRPC noted the above.

### Item no. 5. Establishment of State-of-the-Art Unified Centralized Network Management System- U- NMS for Western Region ISTS and State Utility Communication Network

#### Agenda Notes:

Powergrid vide email dated 11.05.23 has informed the following:

- 1. UNMS Scheme for all regions (other than WR) have been approved through RTM route of funding. The present status of UNMS projects of other regions are as follows:
  - <u>NR, NER & ER</u>- UNMS awarded and commissioning to start from Aug'23.
  - <u>SR</u>- UNMS (Approved in SRPC)- Agenda put up for April'23 NCT meeting.

The need & criticality of State-of-the-art UNMS scheme at State/ Regional/ National setups has been discussed in the various RPC forums. And during implementation stage, in the ongoing FAT of upcoming nation-wide UNMS system, its feature & provisioning are being appreciated by the constituents & users.

 UNMS Scheme for Western Region has also been recommended for implementation by WRPC-TCC in Feb'22 (41st RPC meeting). In the said meeting, it was agreed that CTUIL/POWERGRID may go ahead with DPR preparation of the UNMS and approach NLDC for PSDF funding.

Subsequently POWERGRID applied for PSDF along with Detailed Project Report (DPR) for the UNMS scheme of WR. In response of that, PSDF Secretariat vide email dated 24.08.2022 conveyed that the matter of funding of the UNMS project from PSDF was discussed in the 18<sup>th</sup> meeting of the PSDF Monitoring Committee and the Monitoring committee has not accepted the proposal for funding the UNMS projects through PSDF. The same was informed to WRPC vide letter dated 29.08.2022.

And the same is minuted in 46th WRPC meeting held in Feb '23, as under: ".... PSDF Monitoring Committee has not accepted the proposal for funding the UNMS projects through PSDF funding, so it is requested that the UNMS scheme for WR may be considered for approval by WRPC in Regulated Tariff Mode...".

3. Estimated Cost# of UNMS WR- prepared by POWERGRID (Thru RTM Mode - recd. from POWERGRID (Mar '23, based on awarded cost) is as under:

S	Name of Scheme	Tentative Cost (Rs.	
l.		Crore)	
1	Centralized Supervision System i.e.	# cost is approx. 82	
	Unified NMS (UNMS) in Western	CRS plus AMC	
	Region (WR) along with AMC for 7	which is 19.07 Crs	
	years	for 7 years	

#### 88th CCM Discussions:

CTU representative informed that RTM is Regulated Tariff Mechanism. In UNMS, a Control Centre at regional level shall be deployed and all the underlying (discrete) NMS shall be connected together to get the unified view of the communication network so that the resource can be utilized optimally as at present all the discrete resources (NMS) monitoring individually, is very difficult. One NMS can see only its own network comprising of only 20 nodes for example. Each State has multiple NMS and presently the ISTS nodes have NMS presently situated in RLDC. Once this unified communication network monitoring center comes at regional level then it will also work as a data center

and multiple reports shall be generated for quick fault detection, restoration, entities can plan their system and they can see what the bottle necks in performance are. For example, Maharashtra have 3-4 NMS and as the NMS is not unified therefore the system may not be utilized optimally as the fragmented NMS cannot view the other NMS. The communication Regulation came into force in 2017 and in tariff regulation 2019-24, the communication system shall also be regulated through availability and the UNMS may help in that also. She further informed that NR would have two regional control center i.e. Delhi and Lucknow & other 9 States will also have NMS where they can monitor their network. In this system Tickets would be raised in every case of failure of communication system to the appropriate authority of the utility responsible for maintaining failed part of the communication system. This will ensure timely communication of messages of the failed communication to the appropriate authorities so that the same can be attended promptly. This regional control center will be manned 24x7. The NR project shall be commissioned in August, and they are setting the control center. All the other regions have approved the NMS in their region through RTM. Further SR NMS project has been approved by NCT. This is high time to get benefitted through UNMS.

SE(C), WRPC enquired whether RTM will be regional component or National component. He also requested all the beneficiaries and WRLDC to give their views on UNMS.

CSPDCL representative enquired that in 45<sup>th</sup> WRPC it was mentioned that experience may be shared by CTU, and the future course of funding may be decided. CSPDCL informed that their network is on Fiber optic on IMPLS and enquired whether it can be integrated.

MP SLDC representative informed that they will check and inform the views of their management. Technically it might be good for the system.

Goa representative informed that the scheme is useful and will inform their views in one weeks' time.

SLDC Maharashtra representative informed that they will check and inform the views of their management on the scheme.

CTU informed that the RTM is a regional component. CTU also confirmed that it can be integrated with the States NMS and UNMS have provisions for this.

WRLDC representative informed that technically the proposed scheme of UNMS is required in WR. He further informed that due to space constraints it cannot be hosted in WRLDC building since the building is also very old. SE(C), WRPC informed that the other Regions have started the work of commissioning of UNMS, and it will be completed by August and the experience gained from other Regions can only be shared after that.

MS WRPC informed that we need automated system because we are going into complexity. If we want to check the availability of communication system, there is no method available. As other regions are implementing UNMS, due to this some charges will be paid by WR beneficiaries also. It will be a good move to get the UNMS in WR. All beneficiaries are requested to go through it and give their views as soon as possible as one grid event data loss may cost in big loss for a beneficiary.

MP, Chhattisgarh, Maharashtra, Goa and DNHDD were requested to inform their views in the forthcoming WRPC meeting.

#### **Further Requirement:**

Inclusion of Workstation Console in UNMS Project Scope including AMC for WR UNMS systems at following locations- regarding.

a) At CTUIL, Headquarter Office, Gurgaon.

b) At WRLDC, Mumbai.

Following additional scope shall be added in project scope during project approval of WR UNMS:

1. The BOQ of Workstation Console along and other associated software and hardware such as firewall, router, switch, furniture etc.

2. Bandwidth connectivity & Its recurring charges for CTUIL HQ Office.

The Complete Scope shall be as below -

S. No.	Items	Details	
1.	Name of Scheme	Establishment of State-of Art Unified Network Management System (U-NMS) for ISTS and State Utility Communication System for Western Region	
2.	Scope of the scheme	<ul> <li>Main &amp; Back-up UNMS software and hardware along with required Application software including Video Projection System (VPS), firewall and IDPS.</li> <li>Remote Workstation for SLDCs.</li> </ul>	

S. No.	Items	Details
		<ul> <li>Video Projection System (VPS), Printer, furniture etc. at main &amp; back-up U-NMS location.</li> <li>Integration of existing NMS/NEs of ISTS and State Utility in a region in the proposed UNMS.</li> <li>Integration of upcoming U-NMS for National* &amp; other regions and upcoming NMS/NEs of ISTS and State Utility in a region during implementation and AMC period of the project.</li> <li>Operational support, training &amp; maintenance for proposed UNMS software and hardware.</li> <li>Auxiliary Power System for U-NMS system.</li> <li>Workstation Console along and other associated software and hardware such as firewall, router, switch, furniture at CTUIL HQ and WRLDC location</li> <li>Bandwidth connectivity &amp; Its recurring charges for CTUIL HQ Office.</li> <li>* National UNMS shall be implemented subsequent to regional UNMS and Tariff for National UNMS to be shared by all regions.</li> </ul>
3.	Estimated Cost	<ul> <li>Rs. 84* CRs. (approx.) and 19.07 CRs. AMC charges for 7 years.</li> <li>*Cost has been derived from awarded package of ER and NR UNMS Scheme.</li> </ul>
4.	Implementation timeframe	24 Months from date of project allocation based on NCT approval.
5	Implementation mode	Through RTM to POWERGRID

### 47th TCC Discussions:

MS, WRPC informed the background of the agenda item. He also explained the benefits which will come to the Western Region after installation of the UNMS system and the down time of the systems will also reduce thereby increasing the reliability of the system. This will help in the States having data in real time available which is useful for controlling deviations. He also informed that in future, the data from every region will be reported/collected at the national level to NLDC. This project of national reporting to NLDC will come at a later date and that will be integrated into the

National Component of the Sharing of transmission charges while the cost of Regional part of the project is estimated at 84 crs which will be borne entirely by Western Region constituents.

Chairman TCC enquired the pattern on which the funding/sharing of the cost of the project in other regions. MS WRPC replied that the funding/sharing of this project will be thorough the Regulated Tariff Mode(RTM) and same mode of funding is being adopted in other regions also.

Sh. K S Manothiya, ED SLDC, Chhattisgarh informed that in 46<sup>th</sup> WRPC meeting, it was suggested that a group from WR will visit the Northern Region and based on the feedback of the of this system and then they shall be in a position to recommend the project in WR. He also enquired regarding the integration of the project with IP/MPLS system technology which is adopted in their State.

Sh. P D Lone, SE (Comml.) informed that the project has not been implemented in the Northern Region and waiting for the project for NR to be implemented will unnecessarily delay the UNMS project in Western Region.

SLDC, Chattisgarh representative enquired whether there will also be a UNMS system made available to States. He also raised the query that NMS work has already been taken up in their State and therefore whether both the systems (i.e. NMS of Chhattisgarh State and UNMS) will work in parallel. He further informed that Chhattisgarh, in principle, is in agreement with the project. However, the technical specifications need more clarity and closer working with the CTU.

Smt. Nutan Mishra, CTU informed that all the approved technology in the CEA standards can be integrated with this project. The IP/MPLS fibre system will also be integrated with the UNMS in line with CEA's technical standards. She also informed that the project TOR includes integration of IP/MPLS. She informed that NMS of States will continue to work as they are and the UNMS will be an umbrella under which NMS will be existing. Multi functionality will be available with the UNMS. She also informed that while finalising the project implementation, States will be informed in detail and they will have an option of integrating their whole network as per their specifications. She also informed that the project will have numerous advantages.

MP SLDC representative informed that they have already given their approval to the project in different forums. He informed that since the mode of funding was changed from PSDF to RTM, the same needs to be informed and discussed with their higher management and shall be informed in the WRPC meeting, tomorrow.

TCC Chairperson enquired whether the all India UNMS will be formed at the national level.

CTU representative informed that the UNMS at national level will be formulated so that there is no redundancy.

Maharashtra also informed that they have already given their approval and have to inform their management about the change in funding of the project.

MS, WRPC informed that UNMS will help streamline the NMS of the different States and will be over and above the current project. Therefore there will be no redundancy in the project.

#### 47th WRPC Discussions:

MS, WRPC briefly informed the discussions of the TCC meeting held on the above issue.

WRPC Chairperson enquired about the sharing of the cost. He further enquired as to how these expenditure will be shared among beneficiaries though the PoC charges and whether the sharing is based on usage or on the length of the assets.

SE, Comml. WRPC informed that the charges are shared as per the Sharing of Transmission Charges and Losses Regulations of CERC, in which there is an ACC component comprising of usage based AC System component, Regional, National and Transformer components. The charges of ULDC are shared by the beneficiaries based on the LTA/MTOA of the States furnished by the Implementing agency.

After discussions WRPC agreed to the Regional UNMS proposal by CTU.

#### TCC/WRPC noted the above.

# Item no. 6. Commercial impact due to dismantled Conductor upon re-conductoring of 400kV Kolhapur-Kolhapur D/C Line

#### **Agenda Notes:**

PowerGrid vide email dated 12.05.23 informed the following:

- As per the transmission scheme "Transmission System strengthening beyond Kolhapur for export of Power from Solapur & Wind energy zones in Southern Region Reconductoring of Kolhapur(PG)-Kolhapur 400kV D/C Line", POWERGRID has reconductored Kolhapur(PG)-Kolhapur 400kV D/C Line. The original Line was commissioned and is in commercial operation since 01.01.2003. However as per the central scheme, the ACSR moose conductor from the line and some terminal equipment were dismantled before completion of its useful life. The Re-conductoring was done as per system requirement as agreed in 3<sup>rd</sup> meeting of WRPCTP on 14.06.2021.
- The above work has been done for the system improvement/requirement, by which POWERGRID has to de-capitalize the removed conductor as the same is not in use from the project capital, by no fault of POWERGRID. The same shall effect in loss to

POWERGRID in terms of unrecovered depreciation of these assets removed before its useful life, which were removed exclusively for the system improvement/requirement.

• Hence instead of de-capitalizing the ACSR moose and terminal equipment from original project, it is proposed that the tariff of original project shall continue and the dismantled conductor and equipment shall be disposed off as scrap and the scrap value collected after adjustment of CERC allowed salvage value shall be credited from the capital cost of the Re-conductoring work of Kolhapur-Kolhapur D/C Line.

Same is also to be considered for upcoming re-conductoring work of 400kV Parli(PG)-Parli(MSETCL) under the Western region Expansion scheme XXX (WRES XXX).

#### 88th CCM Discussions:

MSEDCL questioned the validity of approval being taken from WRPC and suggested that the same should be sought from CERC.

MPPMCL representative also suggested that CERC should be approached for such approval.

PGCIL representative informed that there is no provision for tariff of dismantled assets. Further as per the regulations if no asset is being used as ISTS, it is to be decapitalized from capital cost of the project.

GUVNL representative informed there is a provision regarding this in CERC tariff regulations. He informed that as per 2024 regulations chapter 7, that in case of replacement of a capital asset, the additional cost may be worked out by taking into consideration the cost of de-capitalization of capital asset. He suggested PGCIL may proceed as per the provision of this regulation and approach CERC if required.

It was concluded that the provision of CERC regulations may be followed regarding recovery of the cost of the projects and since CERC shall be deciding the tariff of this replacement work, PGCIL would be required to file the tariff petition and get it approved from Hon'ble CERC.

#### 47th TCC Discussions:

MS, WRPC informed the background of the agenda item. He informed that the CCM had recommended that the matter may be taken up with CERC regarding the re-conductoring of the lines.

PGCIL representative opined that the view points of the States are required to be communicated to CERC along with the petition for tariff of these assets.

GUVNL representative informed that as per CERC regulations, there is no need for consent from the States.

Sh Vibhay Kumar, PGCIL representative informed that the CERC tariff regulations cited by GUVNL is not applicable in current case. Since there is provision in tariff regulations for replacement of conductor in case it has completed its useful life or the same can be used elsewhere. In this case, the dismantled conductor has not completed its useful life and the dismantled conductor cannot be used elsewhere. The dismantled conductor has to be scraped.

MS, WRPC suggested that CERC may be approached regarding the above case.

Sh. Chandra Prakash, CE(GM), CEA informed that the constituents will also get a chance to give their views at the time when the petition is filed by PGCIL at CERC.

#### 47th WRPC Discussions:

MS WRPC briefed the agenda position. WRPC Chairperson enquired whether the conductor has not completed its useful life.

PGCIL representative informed that the conductor has not completed its useful life and it cannot be re-used, therefore, it would be scrapped.

WRPC Chairperson concluded that since there are no specific guidelines for re-conductoring of transmission lines in the Tariff regulations of CERC, therefore it needs to be decided by CERC as to what compensation shall be given to the Transmission Licensee for the removed conductor which has not served its useful life and cannot be used.

#### TCC/WRPC recommended that the matter may be taken up with the CERC.

# Item no. 7. Pooling of tariff of 25 years plus thermal/gas generating stations-MPPMCL Agenda.

#### **Agenda Notes:**

MPPMCL vide email dated 16.05.23 have informed the following:

1. Ministry of Power (MoP), through a concept note dated 15.11.2022 on the matter to forcefully pool all the thermal plants which have completed 25 years of operation and subsequently allocate power from such pool to beneficiary States whose power was scheduled from these Plants, sought views of various States. This action forcefully pools all the thermal plants (coal

+ gas) which have completed 25 years and allocation is given to beneficiary States from the same pool. Ministry of Power vide letter dated 20.04.2023 on above subject matter has directed all the concerned organizations to take necessary action to implement the scheme w.e.f. 01.07.2023.

The arrangement is hereby opposed by MPPMCL on the following broad reasons:

- i. There would be a substantial financial implication on States which were having cheap coal based power tied up. In the case of MP, to get the same amount of power from Vindhyachal and Korba, it would have to spend about Rs. 2100 Crores extra per Annum, which will be an additional burden on consumers of the State.
- ii. The move is in the form of a retrospective legislation as the present regulation says that the Discom (State) will have the option to retain or exit the PPA when it reaches 25 years. Now, MoP has suddenly and unilaterally considered the PPA as terminated with directions to supply power to beneficiary States from common pool of such Plants formed at National level. This move is against justice and equity.
- iii. It is important for the sector to maintain contractual sanctity. Long term PPAs are being entered into on this day, wherein it would be an unhealthy precedent if cheap power is taken away unilaterally from beneficiary states which had taken the pain of supporting the project many years ago and were having long standing arrangements in this regard.
- iv. The financial position of the Discoms is also tenuous. Any move to load the Discoms at this juncture would have a counterproductive effect on the viability of the sector.
- v. The problem is with Gas power being costly. Rather than addressing the problem, it is being blended with a solution (Coal) in an unjust manner.
- vi. RTC availability of Gas power is doubtful. With such reduced quantum, less power would be available for banking.
- 2. The objective of this step is that the fixed charge cost of the Gas plants can be mobilized so that the available capacity at national level does not get reduced. HP DAM has been recently approved which might accommodate the expenditure of Gas based power plants. It would be prudent for the HP DAM to be given adequate chance to cover the issue of Gas Power offtake. Besides "PUSHP" Portal has also been introduced where Plants may sell their spare power across the country. Above mechanisms can be utilized for off-taking Gas power.

#### **88<sup>th</sup> CCM Discussions:**

MPPMCL representative informed that as per this policy of Ministry of Power, there will be an additional 2100cr burden on MP, if the allocation of MP from the cheaper power sources such as Vindhayachal and Korba is de-allocated and utilized in the common pool which will be completing 25 years in the near future. He also informed that in a special meeting, MP had raised their concerns with ministry of power on implementation of the MoP's concept note dated 15.11.2022. In spite of this, MoP issued the order dtd 20.04.2023 for implementation from 1<sup>st</sup> July 2023.

CSPDCL representative informed that such policy should not be adopted as it will increase the burden on the state DISCOMs. He also informed that there should be an option to the beneficiary States to opt for proceeding with the PPA or surrender of the power after completion of 25 years or end of the PPAs instead of common pool. He also suggested that a common meeting may be held, to discuss the issue in detail and all beneficiaries may pool their resources together for the in such cases.

GUVNL representative informed that they had also informed ministry of Power but still their views were also not considered.

MSEDCL and Goa Elect. Department was also of the same views.

It was concluded that the beneficiary States in general were of the view that first preference to continue the PPA under such cases may be given to beneficiary States rather than pooling the power. However, once the policy decisions are made by MoP everybody has to follow and implement it. The matter may be discussed in WRPC meeting and future course of action may be decided. However, beneficiaries may discuss the matter with their legal experts.

MS, WRPC, informed that the decision of Ministry of Power is binding on all of us, and these valid concerns of the states need to be addressed as well. The same shall be discussed in WRPC and may be taken up with Ministry of Power.

#### 47th TCC Discussions:

MS, WRPC informed the background of the agenda item.

MP representative informed that they were not in agreement with the proposal of pooling power. He also informed that presently MP is getting cheaper power from Vindhyachal and Korba stations and in case of pooling almost an annual cost of Rs. 2,100 cr. will increase on the State for 1200 MW power. He informed that this will increase cost on the consumers of the State and such will have at least a 4% increase in the bill of the State.

MSEDCL representative informed that when the draft policy was circulated by the Ministry, a suggestion was given to keep the gas stations out of the pooling. This will ensure that the cost does not rise and in such case the States will be more agreeable to the policy.

Smt. S. Usha WRLDC, informed that such policy has come due to the resource adequacy problem, since all the beneficiaries have been surrendering the costly gas power and this costly power can also find other avenues to sell their power.

MP representative informed that for gas stations a number of alternatives/avenues are available such as HP-DAM market and other. Further, he informed that the States have helped the stations for 25 years and paid their Fixed Cost and therefore they should have first priority to access the cheaper power.

Chhattisgarh representative enquired about the scheduling of the power after 1<sup>st</sup> July, 2023.

DNHDD representative suggested that if the fixed cost of the Gas stations is waived off from inclusion in the pooling, the cost of power will be reduced and the policy may become more lucrative. He also informed that the in the current form, DNHDD is under dis-advantageous position due this policy.

GUVNL representative also informed that over the years they have borne the fixed cost of the gas stations and therefore fixed cost of the gas stations should not be included in the pool. He also informed that the implementation date of the scheme was not clear.

MS, WRPC suggested that WRPC as a forum may have to take up the matter with Ministry the concerns of constituents with the Ministry of Power.

#### 47th WRPC Discussions:

MS WRPC in short appraised WRPC regarding the stand taken by States and by & large, all States were of the view that Gas Stations should not be pooled. Since the MoP have issued the directions to all the concern for implementation of this scheme from 1<sup>st</sup> July 2023, therefore at best we can communicate the concerns of States to MoP.

Maharashtra representative reiterated their stand taken in TCC meeting that gas stations may not be kept in the pool and even if they are kept, only APM gas should be allowed to be used as fuel in these gas stations.

DD DNH representative agreed with the views of Maharashtra.

WRPC concluded that all of the States were in agreement that pooling of Gas Stations with Thermal Stations which have already completed their 25 years of life will create additional burden on the States and therefore States/DISCOMs would not be in a position to supply power at a affordable price (by all the consumers) to its consumers. Also, all the States were of the view that such pooling will not be helpful. Further, even if such pooling is to be done, APM gas should be used in the gas stations for pooling of gas stations power with thermal stations. However this may not be taken to mean that States/Beneficiaries are defying the decision of Centre but that they are giving suggestions to MoP for improvement so that the above proposal to pool may be reviewed by MoP such that the States may be able to supply at an affordable price. The above suggestions/views of the States/beneficiaries may be communicated to MoP by WRPC.TCC/WRPC agreed to the above.

# Item no. 8. Timely Furnishing ECR Data by Generating Station having PPA under section 62/63 of the Act for DSM Calculation

#### **Agenda Notes:**

Hon'ble CERC had notified DSM Regulation 2022 w.e.f. 05.12.2023. According to the DSM Regulation 2022, the ECR is required for the calculation of Reference Charge Rate of the General Sellers whose tariff is determined under Section 62 or Section 63 of the Act, Rs/ kWh energy charge as determined by the Appropriate Commission.

WRPC have requested all the generators whose tariff is determined under Section 62 or Section 63 of the Act to furnish the ECR data before 10th of each month for smooth implementation of DSM regulation. But the ECR data is not submitted by the Generators in time even after repeated reminders.

It is requested to the Generators to furnish the ECR data before 10<sup>th</sup> of each month for the DSM charges calculations.

It is proposed that if ECR data for a particular month is not received from the generators, then the ECR of past month shall be considered for accounting of DSM and there shall be no revision of these DSM accounts on account of late submission of the data. The ECR data is also being regularly annexed in the weekly DSM statements. Beneficiaries are also requested to check it for correctness, so that there is no mis-declaration of the ECR by generators.

#### 88th CCM Discussions:

It was informed that ECR data is not being submitted by IPPs and WRPC has to follow up with these generators for getting ECR data which is required for DSM calculations. It becomes difficult to follow up with each and every generator. It is the responsibility of the generators to provide the ECR data, in absence of such data the last months ECR data provided will be considered by WRPC for the DSM calculation purpose. Further, he

requested if any generators are facing issues, it shall be informed to WRPC immediately by 10<sup>th</sup> of the month and in case of noncompliance, the issue will be informed to CERC.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the agenda item. He informed that in case of nonfurnishing of the data, the old data will be taken up for calculating DSM. The agenda item is for noting purposes.

TCC Chairperson enquired what will be the implication on the States on such non-furnishing of the data. Further he opined that it needs also to be seen that this will not result in favouring any of the members, unduly.

SE (Comml) WRPC informed that the data is used for preparation of DSM charges of IPPs only and thus there will be no implication on the States.

TCC Chairperson expressed that if there is impact due to this it may be true up in the subsequent month, if it is impacting the DSM of States.

#### WRPC:

MS WRPC informed the agenda position.

#### WRPC noted the above.

# Item no. 9. Entitlement from CGPL under Section-11 direction issued by Ministry of Power, Govt. of India

#### **Agenda Notes:**

#### A. Background:

GETCO vide their letter dated GUVNL/COM/1335 dated 28.11.2022 (copy enclosed at Annexure 9.1) has informed the following:

- A. Ministry of Power, Govt. of India (MoP, Gol) vide notification dated 5.05.2022 has issued directives under Section -11 of the Electricity Act 2003 to imported coal based generators including Coastal Gujarat Power Ltd (CGPL), Mundra UMPP to operate and generate power to their full capacity w.e.f. 6.05.2022. Initially direction was valid up to 31.10.2022 which is further extended up to 31.12.2022.
- B. M/s CGPL vide letter dated 24.05.2022 has intimated procurer states viz. GUVNL (1805 MW 47.5%), Maharashtra (760 MW 20%), Punjab (475 MW 12.5%),

Haryana (380 MW — 10%) & Rajasthan (380 MW — 10%) regarding supply of power under Section 11 from their Mundra UMPP and requested procurer states to provide schedule as per their respective contracted capacity considering that the capacity charge will be charged based on the contracted capacity of the procurers. Out of 5 procures states, some of the states has not consented for procurement of power under Section 11 from CGPL.

- C. During the Section 11 period, out of 5 units (5 x 760 MW = 3800 MW) M/s CGPL has operated 2 / 3 unit whereas placed remaining units under RSD. CGPL has declared total capacity 3750 MW with operating 3 units (2230 MW on-bar and 1520 MW off-bar) which have been prorated between beneficiary states as per their contracted capacity. However, scheduling has been restricted up to on-bar declaration i.e. 2230 MW and at the same time capacity charge has been claimed on full declared capacity i.e. 3750 MW.
- D. Accordingly, Gujarat's on-bar entitlement as per contracted capacity was restricted to 1059 MW (47.5% x 2230 MW) and would be scheduled power up to 1059 MW only. Further, in the time-blocks when other beneficiary state(s) has not put their requisition and by availing their power through URS, GUVNL could schedule power up to its full contracted capacity (1781 MW =  $3750 \times 47.5\%$ ). However, in the peak time blocks, when URS power has been demanded back by original beneficiaries, then GUVNL has been deprived of its share and has to purchase costlier power from power exchange during peak hours to meet demand of the state DISCOMs.
- E. GUVNL/SLDC vide various e-mails / letters have repeatedly requested CGPL to bring machine(s) on-bar and supplying full contracted power i.e. 1805 MW to GUVNL as per direction under section 11. SLDC, Gujarat has also shown its readiness to support the technical minimum generation level of the machine(s). However, CGPL has not brought the generation unit on-bar as per the instruction of SLDC, Gujarat and has simultaneously recovered full capacity charges from GUVNL including off-bar entitlement.
- F. After repeated follow up and representation at various levels, CGPL had brought additional two units on bar w.e.f. 5.10.2022 & 6.10.2022 which were otherwise under RSD. With these two units on bar, CGPL had started declaring 1425 MW as on bar & 361 MW as off-bar entitlement (RSD).

- G. It would be relevant to mention that in mid of October, power demand of the State was on lower side due to festival season and 4 units of CGPL were kept under RSD as per Grid code. It is relevant to mention that GUVNL has paid full capacity charge to CGPL as per entitlement during RSD period.
- H. Upon resumption of normal demand, SLDC vide e-mail dated 28.10.2022 requested CGPL to bring machines on bar and to supply full contracted capacity to Gujarat. However, instead of bringing two machines on-bar from RSD, CGPL has withdrawn machines under force shut down.
- I. The details of on-bar & off-bar entitlement, schedule including URS, % reduction in schedule during peak hours as against entitlement etc. for the period from May to Sept 2022 is placed at Annexure-9.2. Further, the details of mis-declaration made by CGPL as non-availability along with relevant communication between SLDC & CGPL are attached at Annexure-9.3.
- J. GUVNL letter dated 15.09.2022, 23.09.2022, 29.09.2022, 7.10.2022 & 11.11.2022 has also highlighted the above issue with WRLDC and requested WRLDC to ascertain mis- declaration made by CGPL as non-availability as per IEGC, 2010.
- K. In the 87<sup>th</sup> CCM, it was concluded that though CGPL have tried their level best, the units when required could not be brought back in the time. The units under RSD should always be ready and no other maintenance activity be undertaken (which could delay in taking the unit on bar when required), during the period of RSD. For any such maintenance activity on the unit under RSD, the same needs to be declared under outage and no off-bar DC may not be declared as per the relevant detailed procedure on RSD and regulations. The proposal of GUVNL to reduce the DC on all the three occasions may be compromised by reducing the DC by one Unit capacity quantum during the RSD of 16<sup>th</sup> August 2020 period, if members agree to it.

GUVNL has requested to consider such non generation as mis-declaration of capacity by CGPL and revise the declared capacity accordingly so as to ensure that capacity charge is paid only as per the actual capacity available for scheduling of the power.

A detailed explanation received from CGPL on all the three events above is enclosed at Annexure-9.4 (Letter dated 18.01.2023)

L. In the 46<sup>th</sup> WRPC meeting, Chairman WRPC, suggested that the matter may be discussed separately with all the stake holders where the claims and counterclaims

of beneficiaries and CGPL can be examined. The outcome of the discussions may be put up to WRPC in the next meeting. He also requested CGPL to ensure that such incidents are not repeated in future

#### **Developments:**

- A special meeting was held on 10.02.23 to discuss the 'Entitlement from CGPL under section-11 direction issued by Ministry of Power'. It was decided in the meeting that block wise data shall be provided by SLDC Gujarat for the period of the incident under discussion.
- Accordingly, SLDC Gujarat have provided the data of the incidents and the same is shared by WRPC to all the stake holders for their comments vide email dated 05.04.2023 and no comments have been received so far on the shared data.

#### 88th CCM Discussions:

It was informed that GUVNL provided the block wise data, and it was forwarded among the participating members and CGPL has given its detailed comments on the issue. Further one more meeting will be held with the stakeholders as it's mainly a bilateral issue. The meeting will be held with Gujarat, Maharashtra, CGPL and NTPC. The comments received from CGPL (copy enclosed) will also be circulated to the stakeholders.

#### Findings of the group:

As per the decision of 46<sup>th</sup> WRPC meeting, a group was formed. Two meetings were held by the group, the first meeting was held on 10.02.2023 and the second meeting was held on 05.06.23. The MoM of the group is enclosed at Annex 9.5.

There were total three cases examined by the group. The conclusion of the group is as given below:

- 1. Case 1: (Period from 12<sup>th</sup> August to 23<sup>rd</sup> August 2022): Issue of cold start and communication issue:
  - **a.** The declaration of start up from cold start of the machines is the prerogative of the Generator (the timelines of cold start) and is not indicated in the detailed procedure/order of Hon'ble CERC. The start-up time from cold start upto synchronization is as declared by the generator in AS-1 format. As per past submissions of CGPL, it was declared as 72 Hrs. There was a communication gap from CGPL on the start-up of Unit No-10 (21.08.22) undertaken by them with SLDC Gujarat.

- b. CGPL is advised that the communication gap must be avoided in future so that beneficiary can plan their schedule requirement properly
- 2. Case 2: (Period from 2<sup>nd</sup> Sept to 29<sup>th</sup> Sept 2022): Confusion of ON-BAR and OFF BAR entitlements of URS power:

For the URS power the generator needs consent from the original beneficiary (surrendering beneficiary) therefore URS power of other beneficiaries could not be scheduled to Gujarat unless consent for the same is issued by the beneficiary to the generator and in turn generator communicates it to WRLDC. In case of regulation of power supply the generator has a liberty to sell the power in market/STOA.

The Generator scheduling and entitlements found to be in line with the Hon'ble CERC Regulations.

3. Case 3: (Period from 28.10.23 to 07.11.23): Conversion of units from RSD to Forced outage when power is required by beneficiaries:

The scheduling is found to be done as per the entitlements and as per the regulation in effect. CGPL tried to take the machine ON BAR but due to technical reason the machines were later declared under forced outage.

#### 47th TCC Discussions:

MS, WRPC informed the background of the agenda item briefly summarizing the decisions under case-1, 2 and case-3. He also suggested that CGPL may not repeat the above in future.

GUVNL representative informed that the agenda item does not reflect the true position of the discussions held in the sub-group meeting and they have objections on case-2 and case-3 findings as given in the agenda of this meeting.

SE (Comml.), WRPC informed that the above agenda item was prepared before the minutes of the meeting of the sub-group were finalised and therefore the matter was put up an agenda for 47WRPC meeting. The minutes and findings of the sub-group were subsequently issued by WRPC vide its letter no. WRPC/CGPL/Minutes/2023/5981 dated 13.06.2023 which would be enclosed as Annexure to the minutes of the 47<sup>th</sup> WRPC meeting (**Annexure – 9**). It was also informed that the group did not look into the financial and commercial issued involved due to imposition of Section 11 and therefore GUVNL and CGPL.

GUVNL representative pointed out that they have also iterated in the sub-group meeting that whenever the machine under RSD was asked to come on bar, it went into forced outage during the months of Aug., Sept., Oct., and Nov. It can technically happen but GUVNL is of the view that it should not happen repeatedly.

SE (Comml.) informed that the sub-group has also pointed out to CGPL that whenever the units are under RSD, they should adhere with the maintenance schedule and keep the machines ready whenever they are required by the beneficiaries.

MS, WRPC suggested that such instances may not be repeated in future.

#### 47th WRPC Discussions:

GUVNL suggested that out of 3, one of the incidents was deliberate and should have been avoided.

MS WRPC informed that the sub-group went into the details and found that CGPL genuinely tried to bring the machine on bar and while the machine was being start-up, the machine went under breakdown. The limited purview of this forum in this matter would be to sensitise the issue and send a signal to generators that during RSD period of the machine, the generator should always ensure that the machine is ready and whenever the procurer desires to recall it, it should be made available. If it fails to come on bar then there has to be a strong technical reason which has to be established by the generator for the failure. He informed that there is a need for Regulatory guidelines on this matter.

WRPC Chairperson suggested that we may recommend that regulator may come up with SOP so that such type of issues does not happen. He also suggested that due to the complexities of the thermal machine, these events could have occurred and the generators and procurers are well within their rights to ask questions and such may be clarified with a help of a proper SOP and data sharing. He further enquired as to how many times the units had tripped when the machines were under were RSD and they were recalled.

CGPL representative informed that there was no intention of any foul play or hiding of facts. All the facts were made available in the sub-group meetings. These are genuine things that came up during the start up of the units. He further informed that in two such incidences the unit had tripped when it was under RSD and recalled. There were 8 cases of RSD during the section 11 period and in 2 cases the machine went into forced outage. MS WRPC also clarified that it is not an issue of foul play but it is the inconvenience in power supply management that happens when the machine fails to come on bar after RSD.

Chairperson WRPC expressed that with thermal machines are complex machines and the issue becomes complicated when a thermal machine is subjected to a frequent start stop. Sometimes the

machine may trip also. However, there should be a very transparent mechanism through which the clear communication should be made by generator and the procurer and the data be shared transparently. The concerns of GUVNL were noted.

#### TCC/WRPC noted the above.

#### Item no. 10. Osmanabad Solar settlement of energy

#### **Agenda Notes:**

#### Background

SLDC Maharashtra vide email dated 05.01.2023 (copy enclosed at Annex – 10.1) have informed the representation received from Osmanabad Solar Energy Limited (OSEL) for settlement of the energy which could not be settled. OSEL vide letter dated 16.12.2022 (copy enclosed at Annex - 10.2) informed the following:

- In line with NSM PPA dated 27.01.2012 and subsequent amendment, 20MW power is procured on back to back basis by NVVN from Osmanabad Solar Energy Limited and it is being scheduled to CSLDC through Maharashtra SLDC to WRLDC from Oct 2013.
- In this process our plant is injecting power to 132 kV substations Naldurg 20 MW and punching the forecast & scheduling data in State-REMC software to MAHASLDC. The same was reflecting in WBES-WRLDC scheduling software by the action taken by WRLDC.
- 3. The nodal agency NTPC Vidyut Vyapar Nigam Limited has informed us by mail dated 7th July 2022 that it is observed in REA and schedule on WBES Portal, no power schedule is reflecting for the month of April/May / June / part July 2022 and bill can't be processed.
- 4. Since OSEL has neither any role nor any authority for further scheduling of power to WRLDC or CSPDCL, and their role is limited to scheduling generated power to MAHA SLDC only, They should not be penalized for the miscommunication between the nodal agencies.
- Further SLDC has confirmed that, the schedules of Power have punched in REMC software, but these schedules are not reflected in conventional WBC software of WRLDC. On account of this reason CSPDCL is showing inability

to make payment against the energy injected by our solar power project for the period May, June and July-2022 and without any fault of us.

SLDC Maharashtra requested CCM for the discussion on updation of the final implemented schedules of Osmanabad Solar Energy Limited to Chhattisgarh for the month of Apr to June 2022 in WRLDC's WBES portal/software.

- A. In the 87<sup>th</sup> CCM, it was concluded that the post-facto revision shall be done for this case as Maharashtra SLDC, WRLDC has no objection to the REA/DSM Accounts revisions provided Chhattisgarh has no objections to the revisions, and Chhattisgarh was requested to consult their management.
- B. In the 46<sup>th</sup> WRPC, it was decided that a separate meeting shall be convened by Commercial Division of WRPC with the stake holders to discuss the issue in detail and inform the modalities of payment, settlement and resolution of the issue. The outcome of the same shall be informed to the WRPC in the next meeting. He also requested WRLDC to automate the process in the meantime and requested all the entities involved to regularly check REA within a reasonable time so that issues like this do not occur in future

#### **Development:**

- 1. Special meetings of the stake holders were convened by WRPC on 09.02.2023 and 13.04.2023 and the MoM of the meetings was issued vide WRPC letter dated 11.05.23 (copy of the letter enclosed at Annex 10.3). The comparison statement of the DSM accounts without considering the OSEL schedule and with OSEL schedule is shared with the stake holders and these revised accounts without OSEL schedule would be issued after checking data for other entities of the pool shortly.
- M/s. Osmanabad Solar Energy Ltd. had filed a Petition before the CERC (Pet. No. 324/MP/2022) Vs. NVVNL, CSPDCL and others seeking payment of bills for supply of power for the period: April 2022 July 2022. The hearing on admission took place on 24.04.2023 at CERC and the Records of Proceedings (RoP) have been issued wherein the following have been recorded:

#### Quote:

1. During the hearing on 'admission', the learned counsel for the Petitioner submitted that the parties have agreed to resolve the issue mutually and hence the hearing of the petition may be adjourned for six weeks.

2. The Commission after hearing the learned counsel for the Petitioner accepted the request and adjourned the hearing of the petition. However, the Commission directed the Petitioner to apprise the commission regarding the development of reconciliation process, if any, in the matter, on or before 30.5.2023. The matter to be listed thereafter, if required, based on the report to be filed by the Petitioner.

#### Unquote

#### 88th CCM Discussions:

Two meetings were held with all the affected parties. Following conclusion was drawn:

The DSM revised accounts (with the final revised data received from WRLDC using the new software at WRPC), without OSEL schedule will be issued. The final DSM accounts with OSEL schedule (actual injection by OSEL) would be issued. The difference of CSPDCLs DSM receivable between the final DSM accounts with OSEL schedule and the DSM accounts without OSEL schedule will be used to compensate M/s OSEL for the actual energy injected by OSEL. The differential DSM amount payable by MSEDCL due to above revision will be paid by MSEDCL to the DSM pool. The differential amount receivable by CSPDCL due to the above revisions is approximately 4.2cr. Maharashtra also agreed to bear such burden as per the revised DSM accounts. No bills shall be raised by M/s OSEL for the period under dispute based on the energy shown in REAs of WRPC for that period. This was agreed by all the participants of the two meeting held.

CSPDCL representative suggested that the agreement of OSEL may be intimated in written and then only the revisions as above may be made by WRPC.

MS, WRPC suggested that if OSEL gives in writing that such bill is to be issued to OSEL and they are willing to settle the accounts on one time basis then it will be done by WRPC. It was decided that the willingness of OSEL and CSPDCL will be taken up in WRPC to revise the accounts as per the agreed terms and conditions of the meeting.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the agenda item. He requested OSEL representative to inform of the decision taken by their management regarding the above item.

WRLDC representative enquired about the status of the petition filed by OSEL in CERC.

OSEL representative informed that management wishes to get a full recovery of the amount and the current amount suggested for the settlement is incomplete. However, OSEL will inform in a matter of 30 days and wished to not close the negotiation currently. He also suggested that if the decision may come near 6 cr. they may be willing to agree to such settlement as the difference of 1.8 cr is huge for them as they are a small solar developer. He also informed that the petition has not progressed ahead as per his knowledge.

MS, WRPC suggested that the decision may be intimated as early as possible.

WRPC Chairperson suggested that in absence of such approval, OSEL may approach to CERC.

#### TCC/WRPC noted the above.

#### **Post-meeting developments:**

A letter from OSEL dated 30-06-2023 and enclosed at Annex 10.4. was received by this office. OSEL have communicated that they are pusuing the matter with the Hon'ble CERC. Accordingly this matter is now dropped from the WRPC.

## Item no. 11. Weighted Average Share Allocation forwarded to NLDC for providing approved withdrawal/approved injection of DICs for preparing RTA & RTDA Accounts

#### **Agenda Notes:**

#### Background

- 1. As per the Hon'ble CERC ISTS Sharing regulations, 2020, WRPC forwards the share allocation weighted average to NLDC for providing approved withdrawal/injection of DICs for preparation of the RTA and RTDA Accounts.
- WRPC anticipated difficulties in calculations of these weighted average share allocation in view of temporary allocations issued through the National Surplus Power Portal (PhuSP Portal) which has been operationalized from the month of April 2023.
- 3. 2 meetings was held on 25.04.2023 and 03.05.2023 at 16:00 hrs. to discuss the Weighted Average Share Allocation being forwarded by WRPC to NLDC.
- 4. In the meetings it was informed that that through this portal, there will be allocation changes for stations monthly, daily or even at the level of blocks. The beneficiaries will surrender power and other beneficiaries may take the power on short notice, therefore, with so many transactions resulting in number of allocation changes during the month, it would be difficult to compute the weighted average shares for the month. Hence, it was felt that

the weighted average of power from stations may be calculated based on entitlements of beneficiaries during the month instead of share allocation issued by the Ministry of Power. This would ensure that the weighted average shares during the month will capture the URS power transfer and the temporary allocations effected through the PhuSP Portal.

- 5. However in the 2<sup>nd</sup> meeting held on 03.05.2023, DICs were of the opinion that , power allocated/availed under the URS mechanism for even a period of 1 block will be considered as part of allocated power and DISCOM would be liable to pay ISTS charges on this additional quantum. Therefore, the tariff inclusive of power availed under the URS mechanism and through the PUShP portal will increase. With these additional ISTS charges which may lead to a scenario wherein the beneficiaries may not get incentivized to avail the power available under URS while supporting the generating unit to operate at technical minimum.
- 6. DICs were of the view also that the current methodology for working out the weighted average percentage share of DISCOM should be continued, until the implementation of GNA.
- 7. SE, (Comml.) WRPC informed that the existing methodology is being adopted in WR since the deviations of the beneficiaries from their approved withdrawal is charged to them through the RTDA, for which all the beneficiaries of WR were not having any issue. Also, if URS allocation for some MW power is given for 2-3 time blocks for availing/surrendering of the power, then the weighted average approved withdrawal will not be for these 2-3 blocks but will get distributed throughout all the blocks of the month which will be a minuscule amount. This will lead to deviation in RTDA accounts for these 2-3 blocks and beneficiaries will have to pay additional RTDA charges in these blocks in addition to the RTA charges for the URS power availed/surrendered.

Therefore, it was decided that the existing methodology of calculating the weighted average of the Share allocation for forwarding the data to NLDC will continue till the GNA regulations are implemented.

#### 88th CCM Discussions:

It was informed that a special meeting was held to discuss the issue and all the beneficiaries were of the opinion that the existing system of forwarding the weighted average share allocation to NLDC (Implementing agency), may be continued.

#### TCC/WRPC noted the above.

#### Item no. 12. RELAY SETTING DATA IN WR.

#### Agenda Notes:

CERC vide order dated 22.02.2014 in petition No. 167/Suo-Motu/2012, have directed to maintain the relay settings data of all the ISTS lines and lines emanating from interface S/s of Utilities to ISTS. The relay settings data available with WRPC is very old and needs to be updated.

In the past PCMs following was decided that;

STUs/SLDCs shall act as a nodal agency for State transmission system and shall be responsible for collecting the relay setting data from Utilities/entities under their jurisdiction and nominate representative for coordination of data submission of data. Similarly other ISTS transmission licensees and Generating stations in WR are requested to nominate a Nodal officer and shall be responsible for updating/furnishing the relay setting data to WRPC. The data as per old formats is at present is being maintained at WRPC in excel.

#### In the 152<sup>nd</sup> PCM following two approaches were put up to the sub-Committee:

#### Approach A)

This approach has been adopted by ERPC & SRPC for creating and updating the relay setting database. In this approach a complete software of the relay settings developed by PRDC can be employed it comprises of following main features.

- 1) A relay setting data base:
  - a) Collecting of raw relay setting files by the developer from the site and development of engine through which the setting data can be converted and stored in the database.
  - b) Utilities may submit the raw of RSF to RPC and then developed will prepare only database of the relay setting.
- 2) Complete mapping of the system SLD and equipments in the load flow studies module which can carry out transient studies, fault studies for checking the performance of the relay settings.
- 3) The studies module also can read the DR files and replays the fault and checks the performance of the relay settings.

#### Approach B)

The relay setting data base as per Hon'ble CERC Order can also be maintained as follows;

- It is proposed to develop a portal for maintenance of relay setting data for which data can be provided in following three ways. Relay setting data can be provided in following three formats as follows:
  - a) Relay setting data collection task will be given to third party. Third party will visit the sites and collect, compile and will update the data into WR relay setting data base.
  - b) Relay setting data will be submitted by utilities in a designated format (the format is under finalization by PCM) to the WRPC. WRPC will submit data to third party, for updating it into WR relay setting data base initially and there after the data base shall be maintained by WRPC.
  - c) Relay setting data will be submitted in a standard format by all utilities and the same will be submitted to third party.

In the 152<sup>nd</sup> PCM, all the Utilities of WR felt that "Approach B" be adopted for maintaining the relay setting data base.

This approach mainly involves the following;

- a) WRPC have taken advice from retired protection system expert (Shri Ravi Satpute retired Testing Expert of MSETCL), who was a member of the "Report of the Task Force-Ramakrishna Committee". With the advice of this expert a format for relay setting data submission to RPC has been finalized and enclosed at Annexure 12.
- b) After submission of the data in the above formats by all the Utilities, with the help of the expert the software of development of the database can be taken up through a suitable software developer.
- c) A honorarium is required to be paid to Shri Ravi Satpute for utilization of his services for taking up the above work. The Committee may like to decide the honorarium.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the agenda item. He suggested that the approach B may be taken up and Sh. Ravi Satpute may be recommended for such work. He informed that Shri Satpute retd SE from MSETCL, is a distinguished Protection expert and had also inter-alia worked with the Ramakrishna Committee on protection guidelines and opined his guidance would be very useful to WRPC. MS, WRPC informed that Rs. 25,000/- may be recommended as a honorarium to Shri. Ravi Satpute for his efforts in developing the formats.

TCC Chairperson recommended that since the proposal has been brought for the approval of the committee, the financial implication of implementation of the software may be also put up to the committee.

MS WRPC suggested that they will use the expertise of Shri Satpute in designing the software requirements and pay the honorarium. Thereafter when the software costing is finalised, the same will be put up to WRPC for approval

#### TCC/WRPC agreed as above.

#### Item no. 13. Updated status of New islanding schemes in WR

#### Agenda Background:

In view of a partial black out in Mumbai on 12<sup>th</sup> Oct, 2020 at 10:05 Hrs, Shri R.K. Singh, Hon'ble Cabinet Minister (Power, New & Renewable Energy) has conducted several meetings with MoP/NPC/RPC for formulation of New Islanding Schemes in all India grid and subsequently the state utilities of WRPC have formulated following 5 nos. of new islanding schemes which are highly feasible.

Sr	Name of	Name of Generating	Generation in	Load in	State
No.	Islanding Scheme	Station	MW	MW	
1	Nagpur	Khaparkheda TPS	4 X 210=840	500-600	Maharashtra
2	Jamnagar	Sikka	2x250=500	300-370	Gujarat
3	Bhuj (Anjar-	APL	2X330=660	510	Gujarat
	Kukma)				
4	Jabalpur	Amarkantak TPS	U-5: 210	170-190	Madhya Pradesh
5	Raipur	Marwa (W) TPS	2X500 =1000	330	Chhattisgarh

Further, MoP has decided that the above new islanding schemes may be funded through Power System Development Fund (PSDF). The progress of the same shall be monitored in the OCC/PCM of WRPC. WRPC has requested concerned utilities to prepare a detailed project report (DPR) for above schemes incorporating both technical and commercial requirement and submit the same to Nodal agency of PSDF i.e. NLDC for necessary approval.

The progress of the above Islanding schemes is being regularly monitored by CEA and MoP (Annexure 13). The updates on the same is being monitored regularly in PCM and it was discussed in the 46<sup>th</sup> WRPC meeting where Maharashtra, Gujarat and Chhattisgarh have assured to submit the DPR within one month. However the same has not yet been received. Out of the five new Islanding schemes DPR for Jabalpur Islanding scheme was received and the funding approval from PSDF is in final stage. GETCO is requested to give update on Jamnagar-Sikka and Bhuj-Anjar
Kukma, CSPTCL to update on Raipur-Marwa and MSETCL to update Nagpur-Khaparkheda Islanding Schemes.

## 47th TCC Discussions:

MS, WRPC informed the background of the agenda item and he reiterated that Minister of Power is actively pursuing the above scheme and requested all the participants to inform the status for the islanding schemes.

Chhattisgarh representative informed that islanding scheme of Marwa has been finalised and the DPR is also ready and the load has been enhanced from 330 MW to 450 MW. He also informed that the scheme has been put up for approval for management and the same will be intimated at earliest in the month of July 2023.

Maharashtra representative informed that the scheme is ready and the proposal for PSDF is pending for approval of their management. He informed that in 1<sup>st</sup> week of July they shall inform the updated status.

MP representative informed that the DPR has already been sent and some clarification sought by NLDC were also replied by MP. The DPR is pending for approval from PSDF.

MS, WRPC requested all to send the DPR to WRPC.

## 47th WRPC Discussions:

WRPC Chairperson recommended that the DPR and the schemes be prepared expeditiously as these schemes will be getting 90% funding from PSDF, so the burden on States would be 10% only.

## TCC/WRPC noted the above.

Item no. 14. Hon'ble CERCs orders on the Grid disturbance of 30.07.2012 & 31.07.2012

## **Agenda Notes:**

1: Compliance Status observations made in Protection Audit (Petition No. 220/MP/2012)

## Status of Third-Party Protection Audit observation-

## Agenda Background:

CERC vide its order dated 21.02.2014 in respect to petition No. 220/MP/2012 filed by POWERGRID have directed that CTU and SLDCs shall submit quarterly Protection Audit Report to the respective RPC latest by 15<sup>th</sup> day of the first month of next quarter and RPCs shall submit the report to the

Commission latest by15<sup>th</sup> day of the second month of next quarter. The Member Secretary of Regional Power Committees shall monitor the protection related issues and bring to the notice of the Commission any instance of non-compliance of the Regulation1.5of the Grid Code in respect of the protection related issues considered in the instant petition (Annexure -14).

## Protection Audit of all critical S/Ss above 220kV level:

In 132<sup>nd</sup> PCM held on 18/04/2018, it was decided that Third party Protection Audit (TPPA) of all critical S/S of 220 kV and all 400 kV level S/S shall be carried out regularly. Newly commissioned S/Ss shall be audited for TPPA within one year of commissioning and old/existing S/Ss shall be audited for TPPA every 5 years.

Update of 3<sup>rd</sup> party Protection Audit in WR is regularly being followed up in the past PCMs and WRPC meetings.

- a) TPPA should be carried out once in 5 years for old S/s and within 1 year for new S/s.
- b) All the Utilities in WR to submit in detail the protection Audit Report for Phase-2 (i.e. year 2017-2022) and the action plan for Phase-3 (i.e. from 2023-2028).
- c) In Phase-2 report, a consolidated report of 5 years (year 2017-2022) indicating therein deficiencies which could be corrected by procurement and without procurement (above Protection Audit Table) year wise should be submitted immediately.
- d) In addition, a consolidated report indicating detail observations during audit substation wise/year wise should also be submitted by all Utilities.
- e) In 37th WRPC meeting, third party protection audit teams (TPPAT) were already formed who shall carry out Third Party Protection Audit of critical S/s of 220 kV level and above. However nominations from Utilities for empanelment of Retired Protection Engineers/working Engineers have not been received.
- f) Protection Audit whether internal or outsourced should be carried out as per Ramkrishna Committee report guidelines. The audit reports should be submitted for Phase-2 (year-2017-22) immediately by all Utilities along with action plan for the Phase-3 (year 2023-28).

## In 152<sup>nd</sup> PCM following updates were received:

- 1. MPPMCL representative informed that the protection audit will be carried by third party in July 2023.
- 2. PGCIL WR-1 and WR-2 representative confirmed that the protection audit already submitted to WRPC but without details in Category A and Category B as mentioned in above format. Both agreed to submit updated details in above format.

- 3. NTPC representative informed that audit report carried out in February 2023 will be sent.
- 4. It was decided that surprise visit may be carried out at any time by WRPC Teams to verify whether the TPPA is being carried out as per the Ramkrishna Committee report guidelines.
- 5. Goa representative informed that TPPA has been carried out and the details would be submitted., DD,DNH representative was not present.
- 6. Audit report received from Gujarat (07.04.2021), MP (13.12.2021), TATA Power (May-2022), AEML (yr. 2018), CSPTCL (yr. 2013), Nagpur and Pune zone. Chhattisgarh. Audit reports received from Pune and Nagpur Zone. MSETCL informed that they shall submit data of all the Zones in their State. CSPTCL was requested to prepare plan for fresh audit plan and further requested remaining Utilities to submit the details in the above format at the earliest.

#### 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the agenda item. He requested Chhattisgarh to inform the status of protection audit.

Chhattisgarh representative informed that the protection audit has been conducted by the old retired officials for 16 substations and the report has been sent to WRPC.

To a query by Chhattisgarh representative, MS, WRPC informed that WRPC had already earlier recommended that the audit has to be done and it is important that the audits be carried out either by 3<sup>rd</sup> party or retired officials/Engineers from other Zones/Circles. He also informed that WRPC was aware that there was issues of non-availability of competent manpower/institutes for protection audit and therefore the audit be done with whatever resources available. He also recommended that Zones be created in States such as Zone A may audit Zone B and so on such that it is a kind of a 3<sup>rd</sup> Party Audit. All the Utilities of WR are requested to furnish the plan of 3<sup>rd</sup> Party Protection Audit of their system.

#### TCC/WRPC noted the above.

#### Item no. 15. OPGW replacement on Itarsi-Dhule Transmission Line

#### **Agenda Background:**

CTU vide email dated 24th May 2023 informed that the following scheme was put up by POWERGRID for deliberation in 7th SCADA & Communication meeting. Further, the agenda was recommended in 46th WRPC meeting held on 02.02.2023:

## 1. OPGW replacement on Itarsi-Dhule Transmission Line

OPGW on the Itarasi Dhule line was laid by Telecom department under PDT in the year 2003. Later on this line was LILOed at Khandwa and OPGW on LILO portion (56Km) was installed under Master communication plan for WR in 2015. Currently Itarasi – Khandwa section is being used for ISTS Communication. It is understood that this OPGW link is being shared for ISTS Communication purpose as per the CERC sharing mechanism.

## POWERGRID's Comment

In the 18th NRPC meeting, connectivity of Central Sector stations using PDT fibers was discussed and approved. Further, in its 26th meeting, NRPC briefed utilization of around 1300 Kms of OPGW of POWERGRID Telecom to provide connectivity to Central Sector Sub-stations/ Generating stations under NR FO Expansion project.

(Copy of Minutes of 18th and 26th NRPC meetings attached).

Telecom fibers as mentioned above were shared as per CERC regulation. Accordingly, a petition has been filed for which CERC order is awaited. Copy of petition attached.

CERC tariff orders [ 37-TT-2021 (WR-Master Communication Plan) and 168-TT-2018 (SR FO Expansion)] on various communication schemes are also attached wherein Telecom fibers have been considered to provide connectivity to various Central Sector Sub-stations and Generating stations. However, it is to be mentioned that in the above mentioned CERC tariff order for WR, Itarasi – Dhule link is not mentioned.

In view of above, OPGW installed on Itarasi - Dhule line may be considered as an ISTS system (since its date of sharing with Telecom) as it is being used to provide connectivity to Central Sector sub-stations i.e. Khandwa, Khandwa PS, Chhegaon etc. Further, matter may be deliberated with CTU-Commercial and POWERGRID-Commercial team.

At last, it is pertinent to mention here that sharing of fibers with Telecom has saved significant time and cost for facilitating data reporting of ISTS stations.

POWERGRID's view on replacement proposal:

- 1. In view of above, considering OPGW on Itarasi Dhule as an ISTS, replacement proposal may be retained as approved in 46th WRPC meeting.
- 2. Further, it is to inform that OPGW on Itarasi Dhule line (403km) is degraded, therefore replacement of OPGW may be proposed. This will save cost of earthwire, which may be needed in future to replace degraded OPGW, in case OPGW is proposed on second peak.

## CTU's view:

As the above link is laid by telecom department, the above scheme needs to be amended in the WRPC as new ISTS OPGW link and not to be mentioned "OPGW replacement". Moreover the replacement of the link is to be deliberated for Itarasi – Khandwa or Itarasi – Dhule. Further After implementation of the above scheme, the shared usage (if any) of the existing PowerTel links for ISTS purpose shall be discontinued and PowerTel usage for the new ISTS OPGW links, if any, shall be governed by CERC norms.

## 47th TCC/WRPC Discussions:

MS WRPC informed that as informed by PGCIL in 46<sup>th</sup> WRPC meeting OPGW of Itarsi Dhule has already completed its useful life and needs to be replaced.

CTU representative informed as the above link is laid by telecom department, the above scheme needs to be amended in the WRPC forum as new ISTS OPGW link and not to be mentioned "OPGW replacement" which has been mentioned and approved in the 46th WRPC meeting.

Chairperson TCC recommended that as the terminology is being changed the matter may be taken in the special scada meeting and the decision of the meeting may be updated in the 47th WRPC Minutes, provided it is acceptable to all stakeholders. Otherwise the matter may be discussed , deliberated and then put up to TCC/WRPC.

## TCC/WRPC noted

Accordingly the matter was discussed in a special scada meeting held on 26.06.2023 with all concerned stakeholders.

The replacement of OPGW on 400kV Itarsi-Dhule (403Km) was already approved in 46th WRPC board meeting. Subsequent it was informed by CTUIL that this OPGW was laid by POWERGRID under PDT project (POWERGRID diversification to Telecom) around 2003. Later on commencement on ULDC project, 06 No. fibers were used for transfer of power system data to NLDC/WRLDC. Now as the OPGW on this link has already completed useful life and is working at threshold level of fiber losses, So the replacement is required urgently.

Further as the original OPGW was not laid under ULDC scheme, CTUIL proposed to lay a new OPGW on 2nd peak of 400kV Itarsi-Dhule under ongoing ULDC project. On commissioning of the link, fibers can be shared between ULDC/POWERTEL as per latest CERC regulation 2020 on sharing of revenue derived from utilization of transmission assets for other business.

WRLDC raised the point whether new OPGW should be laid on Itarsi-Khandwa portion or entire Itarsi-Dhule line. On this CTUIL informed that this new link of Itarsi-Dhule shall be utilized for further connectivity to Kalwa/WRLDC through state sector network. Further new transmission schemes are also planned in near future where OPGW connectivity on entire length of Itarsi-Dhule shall be necessary.

POWERGRID informed that as the OPGW on this link is required urgently for ensuring stable connectivity of Khandwa S/S, Same may be included in the ongoing project of Western region communication system strengthening scheme.

Special SCADA sub-Committee held as per the directives of 47<sup>th</sup> WRPC, agreed to the installation of OPGW on 400kV Itarsi-Dhule (403Km) to be installed on the 2nd peak of the transmission line under ongoing WRCSS project.

All concerned stakeholders have agreed in the special SCADA sub-Committee meeting as per the directives of 47<sup>th</sup> WRPC.

Item no. 16. OPGW installation on 765/400kV Pune (PG) (GIS) – 400kV Parli (PG) line.

## Agenda Notes:

CTU vide email dated 24<sup>th</sup> May 2023 informed that the scheme was discussed in 7<sup>th</sup> SCADA & Communication meeting, 47<sup>th</sup> TCC and recommended in 46<sup>th</sup> WRPC meeting held on 02.02.2023. However, the cost estimate was not prepared and was not recommended during the meeting for the scheme. The scheme is as under along with the cost estimate:

1. OPGW installation on 765/400kV Pune (PG) (GIS) – 400kV Parli (PG) line which is to be LILOed at Kallam Substations under TBCB project by the line owner M/s Adani.

S. No.	Items	Details	
1.	Name of Scheme	Supply and Installation of OPGW on existing line which	
		to be LILOed at Kallam Substation under TBCB project	
		namely "Transmission system for evacuation of power from	
		RE projects in Osmanabad area (1 GW) in Maharashtra"	

## 

S. No.	Items	Details
2.	Scope of the scheme	<ol> <li>The OPGW Supply and installation alongwith accessories on the following line by replacing the existing one no. earthwire by Live Line installation:</li> <li>765/400kV Pune (PG) (GIS) – 400kV Parli (PG) line</li> </ol>
		2. FOTEs of requisite configuration at Pune, Parli for establishing the communication in between Pune-Kallam-Parli.
3.	Depiction of the scheme on FO Map	Figure-I
4.	Objective / Justification	<ul> <li>A new substation Kallam is proposed to be established by LILOing the following line :</li> <li>765/400kV Pune (PG) (GIS) – 400kV Parli (PG) line (272 kms.)</li> <li>The line is owned by M/s Adani. Further, it is to mention that, OPGW on the LILO portion is envisaged along with the construction of the proposed lines under TBCB project. Kallam S/s is being developed by M/s Indigrid and tentative COD is 31.10.2023.</li> <li>Connectivity diagram of the scheme is attached at Annexure-I. From the diagram, it is apparent that, there is no OPGW on the above said existing main line and without OPGW availability on the main line, redundancy of data communication of the new Kallam substation to RLDC cannot be maintained. Further OPGW installation on above line shall create one more intra-state communication paths.</li> </ul>

S. No.	Items	Details
		Thus, OPGW needs to be provided by replacing one earthwire on both the main existing lines and integrating it with OPGW of the upcoming LILO section.
5.	Estimated Cost	Rs. 14 Crore (approx.)
6.	Implementation timeframe	24 Months from the date of allocation
7.	Implementing Agency	Through M/s Adani on RTM mode
8.	Deliberations with WRPC along with their comments	The scheme was deliberated in the 46th WRPC meeting held on 02.02.2023.





As per the discussion in 46<sup>th</sup> WRPC, M/s Adani agreed for implementation of the scheme in RTM mode.

Estimated cost of the project is approx. 14 Cr.

## 47th TCC Discussions:

MS, WRPC informed that the item was discussed in 46<sup>th</sup> WRPC meeting, wherein the cost of the project was not intimated. Now CTU has conveyed the cost of the project would be 14 Cr.

## TCC/WRPC noted the above

## Item no. 17. Installation & integration of 10 nos. of PMUs at critical Locations in MMR Region (Mumbai Metropolitan Region) in the existing URTDSM System at Maharashtra SLDC (MSLDC)

## **Agenda Notes:**

As per recommendations of High-Level Committee (HLC), MSLDC (MSETCL), M/s. Adani Mumbai & M/s. Tata Mumbai has proposed to install 41 nos. of PMUs for MMR & 80 nos. of PMUs for rest of Maharashtra power transmission grid under Maharashtra State Unified Synchro phasor Project (MSUSP).

Considering importance of MMR Region, it is suggested to install & commission 10 nos. of PMUs at critical locations for MMR (Mumbai Metropolitan Region) into existing URTDSM system on urgent basis by considering the importance of power system monitoring of Mumbai region.

There are 3 stakeholders MSETCL, M/s. Adani & M/s. Tata Power Mumbai involved in this project. PMU procurement, Communication part & Cyber security guidelines will be followed scrupulously by each stakeholder.

MSLDC approached PowerGrid to give permission for integration and instruct M/s GE to integrate 10 nos. of PMUs in existing URTDSM System at SLDC, Kalwa vide Email Dt. 28.04.2023 and reminder Dt. 08.05.2023.

- 1. PowerGrid suggested to MSLDC that the issue may be taken up at appropriate forum vide Email Dt. 10.05.2023.
- 2. Specifications of PMUs to be installed in MMR (Mumbai Metropolitan Region) are under discussion with M/s GE.
- 3. After confirmation from PGCIL for MSLDC proposal, all the stakeholders will procure, install and commission the PMUs as assigned to them and same will be integrated in the existing URTDSM System at Maharashtra SLDC (MSLDC) by M/s GE.

567th OCC Discussions:

The 567th OCC agreed for Installation & integration of 10 nos. of PMUs at critical Locations in MMR Region (Mumbai Metropolitan Region) in the existing URTDSM System at Maharashtra SLDC (MSLDC). Further the OCC committee suggested MSETCL to confirm the specifications of PMU's with PGCIL before procurement, so that it can be integrable to existing system. Further PGCIL would integrate the PMU's with the existing network

## 47th TCC/WRPC Discussions:

MS WRPC informed that subsequent to Mumbai blackout of 14.10.2020, TATA are going to install PMUs along with Adani and Maharastra at critical locations in the MMR. But their concern was regarding integration of these new PMU's with the existing URTDSM system.

Powergrid representative stated that the cyber security issues should be taken care by MSETCL.

MS WRPC informed that MSETCL would ensure availability of these PMU's however PGCIL is required to provide support during the integration.

SLDC Maharashtra representative informed that they have requested for 10 numbers of PMU's but now they have reviewed the requirement for implementation of PMU based islanding schemes recommended by the black out committee at Mumbai in the year 2020 and 2022, now the requirement is to integrate 50 PMU's and the cost of this would be borne by MSETCL/MSLDC.

MS WRPC enquired SLDC Maharashtra to clarify their requirement from the forum as to whether support from PGCIL is required to integrate the PMU and the cost the cost will be borne by SLDC only.

SLDC Maharashtra representative informed that they are willing to bear the cost and support is required from Powergrid to integrate the PMUs.

## TCC/WRPC agreed and noted the above

## Item no. 18. Replacement of 63 MVAr Bus reactor with 125 MVAr Bus reactor at

## Jabalpur:-

## Agenda Notes:

PGCIL vide email dated 23<sup>rd</sup> May 25, 2023 informed that as per 41<sup>st</sup> meeting of WRPC, the replacement of 400KV 63 MVAR Bus reactor at 400/220kV Jabalpur S/s is approved under O&M Additional capitalization in line with the recommendation of CPRI based on RLA after completion of its useful service life.

Herein, recently, CTU has proposed replacement of 63 MVAR bus reactor with 125 MVAR bus reactor based on system conditions (Letter dtd 04.05.2023 attached as Annexure 18).

Accordingly, it is proposed to replace the existing 400KV 63 MVAR Bus reactor with 125 MVAR bus reactor at Jabalpur under ADD-CAP.

In the 567<sup>th</sup> OCC committee meeting PGCIL representative informed that the useful life of 400KV 63 MVAR Bus reactor at 400/220kV Jabalpur S/s is completed. Further, CTU has proposed replacement of 63 MVAR bus reactor with 125 MVAR bus reactor based on system conditions.

## 47th TCC Discussions:

MS WRPC informed that the 63MVAR rector has completed its useful life of 25 year and it needs to be replaced but CTU suggested to replace 63 MVAR with 125 MVAR and it was accepted by all the stake holders.

## TCC/WRPC noted the above.

## Item no. 19. Pending Establishment charges from WRPC members

## **Agenda Notes:**

As decided by the Government of India and agreed in the first meeting of WRPC held on 31.5.2006, the expenditure of WRPC Secretariat is to be reimbursed to the Govt. of India. Further, as decided in 1st meeting of WRPC, total expenditure on WRPC Secretariat has to be equally shared by each WRPC member except CEA, RLDC, NLDC, SLDCs and WRPC Secretariat. Subsequently, in the 7th meeting of WR Power Committee, it was agreed that total annual payment by WRPC members towards reimbursement of expenditure of WRPC Secretariat shall be made in a single instalment. Further, CTU has also been exempted from payment of establishment charges by Ministry of Power.

However, there has been delays in the reimbursement of the above expenditure by a number of entities. Almost 3.48 crore of dues are pending on different WRPC members.

The Names of these Members who have not paid their dues as per the different years is as below:

## 1. Year 2018-19. Rs. 8,46,600/- for each member. Total: 25,39,800/-.

a. GSECL, Vadodara

84

- b. PTC India Ltd., New Delhi
- c. KSK Mahanadi Power Co. Ltd., Bilaspur.

Six reminders have been sent to the above entities, the latest reminder was sent on 27.08.2021 vide letter number WRPC/Secret-Remb./Corrs./2018-19/247

## 2. Year 2019-20. Rs. 9,82,010/- for each member: Total: 29,46,030/-

- a. KSK Mahanadi Power Co. Ltd., Bilaspur.
- b. DGVCL, Vadodara.
- c. JSW Energy Ltd., New Delhi.

Five reminders have been sent to the above entities, the latest reminder was sent on 11.05.2022 vide letter number WRPC/Secret-Remb./Corrs./2019-20/232

## 3. Year 2020-21. Rs. 10,01,700/- for each member: Total: 60,10,200/-

- a. JSW Energy Ltd., New Delhi.
- b. UGVCL, Mehasana.
- c. Elect. Dept., Panji, Goa.
- d. UT of Daman & Diu, Daman
- e. UT of DNH, Silvasa
- f. MB Power (M.P.) Ltd., New Delhi.

Three reminders have been sent to the above entities, the latest reminder was sent on 11.05.2022 vide letter number WRPC/Secret-Remb./Corrs./2019-20/236.

## 4. Year 2021-22. Rs. 9,07,560/- for each member: Total: 54,45,360/-

- a. JSW Energy Ltd., New Delhi.
- b. Elect. Dept., Panji, Goa.
- c. UT of Daman & Diu, Daman
- d. MB Power (M.P.) Ltd., New Delhi.
- e. MSETCL, Mumbai
- f. Adani Transmission Ltd., A.bad.

One reminder have been sent to the above entities, the latest reminder was sent on 12.05.2022 vide letter number WRPC/Secret-Remb./Corrs./2019-20/251

## 5. Year 2022-23. Rs. 8,53,771/- for each member: Total: 1,79,29,191/-

- a. JSW Energy Ltd., New Delhi.
- b. Elect. Dept., Panji, Goa.

- c. UT of Daman Diu & DNH.
- d. MB Power (M.P.) Ltd., New Delhi.
- e. MSETCL, Mumbai
- f. Adani Transmission Ltd., A.bad.
- g. R.K.M Power Gen. Pvt. Ltd., Chennai
- h. D.B. Power Ltd., Champa, Chhattisgarh.
- i. CSPGCL, Chhattisgarh.
- j. MGVCL, Vadodara.
- k. Guj. Ind. Power Co. Ltd., Vadodara
- 1. NTPC Ltd., New Delhi.
- m. PGCIL, Gurgaon, Haryana.
- n. C.T.U. COO CTUIL Gurgaon.
- o. RGPPL, Noida (UP)
- p. Torrent Power Gen. Ltd., Surat.
- q. Kreate Energy (I) Pvt. Ltd., New Delhi.
- r. Torrent Power AEC Ltd., Ahemedabad.
- s. Jindal Power Ltd., Raigarh.
- t. Coastal Gujrat Power Ltd., Kutch.
- u. Jaypee Nigrie Super Thermal Power Project.M.P.

WRPC Letter for demand of the reimbursement charges was sent on 26.09.2022 vide letter number WRPC/Secret-Remb./Corrs./2022-23/496.

The above outstanding are pending and are required to be deposited in the consolidated fund of India. It is required to be decided as to how to recover the outstanding dues from these Utilities/Organisations. M/s PTC India Ltd. (Trader category), was rotating member for the year 2018-19. M/s KSK Mahanadi has not paid the outstanding for 2018-19 & 2019-20. M/s JSW Energy is not paying the outstanding since 2019-20. Further, JSW energy has already requested for withdrawing its membership from the WRPC forum and same was discussed in the 43<sup>rd</sup> WRPC meeting held on 12.08.2022 and it was recommended by the WRPC forum that "*TCC/WRPC recommended JSWEL to pay the outstanding Secretarial charges and to approach the Ministry of Power for the withdrawal of membership.*" However, the same has not been paid yet.

In the light of the above observations, the following is proposed

- 1. JSW Energy has long back requested for suspension of its membership way back in the year 2018 due to financial crises. The same was discussed in the WRPC meeting held on 12.08.2022 and JSW Energy was advised by WRPC to approach MoP for getting the membership suspended. Also number of reminders have been sent to PTC and no response has been received from PTC. The outstanding dues of M/s PTC India Ltd. And M/s JSW Energy which amounts to a total of Rs. 45,91,641. This amount is proposed to be recovered from the current members of the WRPC, which amounts to Rs. 1,20,832/- per member.
- 2. For the payments not made, Late payment surcharge will be charged from all the entities. It is proposed that Late Payment Surcharge at the rate of 1% per month of their outstanding amount will be charged from 1<sup>st</sup> July 2023. This will be for all the entities who have not paid the demands as mentioned above.
- 3. For every entity who does not pay in the subsequent years, will be charged a Late Payment surcharge at 1% per month of the dues post the date the demand is made on.
- 4. If any member fails to pay the dues within 6 months of the demand, the membership of that member will be terminated from the WRPC forum and the member will not be eligible for membership for the next 5 years. Further, a 100% penalty of the demand amount will be charged on the member.

Members Under Sr. No. 1, 2, 3, 4 are requested to pay the outstanding within a month and all members under Sr. No. 5 are also requested to pay the outstanding within a month or else a penalty of 1 % per month shall be payable by the member on the outstanding amount.

## 47th TCC/WRPC Discussions:

MS, WRPC informed the background of the agenda item. He also requested that the pending amounts may be cleared by the members of the WRPC.

PTC representative informed that the intimation regarding their nomination in the WRPC forum was not received by them. However, the pending amount of PTC will be paid by next week.

CTU representative informed that the CTU has been exempted by Ministry of Power from paying of any dues pending.

MS, WRPC informed that as per earlier MoP resolution, CTU only was member not PGCIL. Payments for CTU were done by PGCIL, as CTU was looked after by PGCIL. Subsequent to the new resolution, PGCIL was separated and is a new paying member. Hence in that finance year both CTU and PGCIL were treated as paying members and accordingly demands were raised. He informed that already several backlog payments are yet to be received in WR. Hence it would be difficult and confusing to convert CTU to a non-paying member and make adjustments in this finance year. He requested that CTU may pay this bill, as it is only once, and for the coming financial years in future WRPC shall treat CTU as a non-contributing member. In the past also, when SLDCs became non-paying members during a financial year, similar treatment was followed.

TCC Chairperson suggested that the pending dues should be cleared immediately. He also suggested that the issue may be intimated to CEA and such delays may be reported such that appropriate action may be taken.

Regarding JSW Energy or any member who is eligible as per MoP, but is not willing to become a member of WRPC, they must get exemption from MoP.

## WRPC agreed to the above.

## Item no. 20. Flexible operations of Thermal Power Stations

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

- On 25.01.2023, the Central Electricity Authority (CEA) has notified the CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023. These regulations shall apply to all coal based thermal power generating units owned or under control of the Central Government, State Governments or owned by any private company, connected with the grid and to the load despatch centres.
- Salient points of the said regulation are given under:
  - The coal based thermal power generating units shall have flexible operation capability with minimum power level of forty percent (40%).
  - The generating units which are not capable of achieving minimum power level of fifty-five (55) percent, shall achieve the same within one year of the notification of these regulations.

- The generating units which are not capable of achieving minimum power level of forty (40) percent, shall achieve the same as per the phasing plan, that shall be specified by the CEA from time to time.
- The coal based thermal power generating units shall have ramp rate capability of minimum three percent (3%) per minute for their operation between seventy percent to hundred percent (70% 100%) of maximum continuous power rating and shall have ramp rate capability of minimum two percent (2%) per minute for their operation between fifty-five percent to seventy percent (55%-70%)of maximum continuous power rating.
- The generating units which are not capable to comply with this ramping capability, shall comply with the same within one year of the notification of these regulations
- The coal based thermal power generating units shall achieve ramp rate capability of minimum one percent (1%) per minute for their operation between forty percent to fifty-five percent (40% 55%) of maximum continuous power rating as per phasing plan specified by CEA.

## 88th CCM Discussions:

WRLDC representative informed that the above guidelines are applicable to all the generators irrespective of their ownership. He also informed that these capabilities were applicable earlier on ISGSs and will now be applicable on all generators (State & IPP). He also informed that these regulations may be adopted by SLDCs also, to improve flexible operation of their thermal units. It was requested that an update may be given by all the State generators regarding their readiness.

MP SLDC informed that the matter is under discussion, and they are under consultation with MP ERC to amend the regulations.

Maharashtra SLDC informed that they have taken up the matter with both regulator and generator.

Chhattisgarh SLDC informed that they have already communicated with their generators and feedback will soon be informed.

It was concluded that all SLDCs may communicate an action plan to WRLDC & WRPC, so that if CEA requires any data on this matter, it can be communicated promptly to CEA.

#### TCC/WRPC noted the above.

## Item no. 21. CERC Order dated 23.04.2023 in 06/SM/23 enhancing the scope of RRAS Regulations:

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

- Hon'ble CERC has issued the following directions in its suo-moto order dated 23<sup>rd</sup> April, 2023 in Petition No. 06/SM/2023 [6-SM-2023.pdf (cercind.gov.in)] wherein the following additional generators have been made eligible to participate in RRAS:
  - i) State generators whose tariff is determined or adopted by SERCs, and who are willing can participate in RRAS.
  - ii) Generating stations which are mandated by the Central Government to participate under RRAS and whose tariffs are discovered through a competitive bidding process.
- Relevant extracts of the said order are given below:

Quote:

- a) The Eligibility for participation for RRAS referred to in Regulation 5 of the RRAS Regulations, 2015 shall, in addition to the regional entity generating stations whose tariffs are determined or adopted by the Commission, also include the state generating stations whose tariffs are determined or adopted by the State Commission and willing to participate under RRAS; and the generating stations which are mandated by the Central Government to participate under RRAS and whose tariffs are discovered through a competitive bidding process.
- b) The merit order stack to be prepared by the Nodal Agency shall include the state generating stations whose tariffs are determined or adopted by the State Commission and willing to participate under RRAS; and the generating stations which are mandated

by the Central Government to participate under RRAS, along with the regional entity generating stations whose tariffs are determined or adopted by the Commission.

8. The above directions shall come into force with immediate effect."

Unquote:

- Subsequently, two gas based generators in WR have submitted necessary formats (AS1) as per the regulations for participation in RRAS:
  - 3 x 382.5 MW SUGEN CCPP / Torrent Power Limited (Intra State Generator of Gujarat)
  - 3 x 400 MW DGEN Mega Power Project / Torrent Power Limited (Inter State generator/regional entity)

## 88th CCM Discussions:

It was informed that CERC through its Suo moto petition has made all the generators, who are willing to participate in RRAS, eligible to participate in RRAS. It was requested to SLDC's to take a lead in this matter and identify such generators from State sector. Also ISGS, including IPPs, can also participate in it through competitive bidding. Consequently, SUGEN CCPP and DGEN have submitted necessary formats as per RRAS regulations.

## TCC/WRPC noted the above.

# Item no. 22. Launch of Portal for Utilization of Surplus Power (PUSh-P) by MoP Govt. of India -

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

• The national surplus power portal (PUSh-P) [https://nationalsurpluspower.in/ ] was launched by the Hon'ble Union Power and NRE Minister over a virtual plat form on 9<sup>th</sup> March 2023. This portal gives an opportunity to the DISCOMs (i.e. original beneficiaries in ISGS stations) to indicate their surplus power in different time horizons (short term and long term), which can be requisitioned by other DISCOMS/buyers who are in need of power. The new buyer gets temporarily allocated with the surplus power and stands liable for payment of FC and VC for this allocated surplus power. Upon re-allocation, the original beneficiary loses the right to recall the surplus power.

- The portal was made operational from 03<sup>rd</sup> April 2023. The status of utilization of this portal by WR utilities as on 10.05.23 is as given under:
  - a) Madhya Pradesh has been surrendering power from NTPC Solapur, Khargone & Gadarwara Stations. The day-wise details of power surrendered by Madhya Pradesh is attached as **Annexure 22**.
  - b) Chhattisgarh has surrendered power of 70 MW round the clock (RTC) for 12.05.2023;
  - c) DNH-DD-PDCL has surrendered 36 MW from 12:00 to 13:00 hrs for 22.04.2023.
- All DISCOMs may utilize this portal to publish their share of surplus power from the central generating stations in PUSh-P portal so that other needy DISCOMs can avail it as per their requirement.

## 88th CCM Discussions:

It was informed that even after launch of the portal, transactions are not happening through the portal to the desired extent. Beneficiaries were requested to put their requirements and their surplus power through this portal. Also SLDCs were requested to encourage State generators to transact their surplus power through this portal so that cheaper power can be availed by the needy State.

MS WRPC stated that off take of the surrendered power by the needy States is not up to the mark, also, the surplus available is not being declared by the surplus States through PUSh-P portal. He further requested all the States and generators, to take the benefit of the portal,

Maharashtra SLDC representative informed that some of the State IPPs in Maharashtra has shown interest in the portal. Therefore, a login ID & password may be provided to these intra State private generators. To this, it was replied that the matter will be taken up with NPC CEA.

## TCC/WRPC noted the above.

## Item no. 23. Implementation of High Price Day Ahead Market (HP-DAM) in India

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

Hon'ble CERC vide its order dated 16.02.2023 in Petition No. 359/MP/2022 [IEX Vs NLDC] has approved the proposal of M/s IEX Ltd. to introduce a High Price Day Ahead Market (HP-DAM) in the integrated DAM (I-DAM) segment to facilitate participation of high variable cost generators which may not otherwise have been able to participate in DAM due to the prevailing price cap.

The said order is available at <u>https://cercind.gov.in/2023/orders/359-MP-2022.pdf</u>. A similar order was issued by the Commission on 11-April-2023 for HP-DAM introduction by PXIL [https://cercind.gov.in/2023/orders/14-MP-2023.pdf].

Some salient features of this new segment (HP-DAM) are given under:

- 1) Eligibility: The following categories of generators will be eligible to participate in HP-DAM which can be periodically reviewed by the Commission
  - Gas based Power Plants using imported RLNG and Naphtha
  - Imported Coal based Power Plant using imported coal.
  - Battery Energy Storage Systems (BESS)

All the entities which are eligible to procure power through pen Access are eligible to participate in HP-DAM as buyer.

- 2) **Bidding:** There will be a single window for bidding (uniform auction mechanism) as per existing time line (10 to 12 hours) for all segments in integrated DAM including HP-DAM, with a provision for buyers to carry forward their unselected bids from conventional DAM to HP-DAM.
- 3) **Congestion Management**: During transmission congestion the sequence curtailment of scheduled transactions would be as under:
  - Curtailment of HP-DAM transaction to be done first followed by DAM, G-DAM and finally RTM.
- 4) Standing Clearance/NOC: Eligible seller willing to participate in HP-DAM shall submit the request for standing clearance along with a declaration form through NOAR, and the concerned SLDC/RLDC/NLDC shall grant standing clearance through NOAR as per the extant provisions. The NoC/Standing clearance should clearly specify the source of power of such sellers. Eligibility of HP-DAM sellers shall be ascertained at the time of registration with the Power Exchange based on NoC/Standing clearance issued by SLDC/RLDC/NLDC.
- 5) NLDC will compile a list of all eligible sellers and publish in their website under intimation to the Commission.
- Floor price = ₹ 0 / kWh and Forbearance price (upper price limit) = ₹ 20/kWh as per CERC order in 04/SM/2023;

The following table summarizes the trade happened over the HP-DAM segment for in the month of April 2023 w.r.t. the WR utilities.

HP DAM Trade in April'23 by WR constituents						
DATE	STATE	ТҮРЕ	Total (MW)	Maximum (MW)	Minimum (MW)	Average (MW)
17-04-2023	Chhattisgarh	Drawal	387.26	57.92	0.00	4.03
20-04-2023	Gujarat	Injection	-90.30	0.00	-7.10	-0.94
21-04-2023	Gujarat	Injection	-74.40	0.00	-7.30	-0.78
22-04-2023	Gujarat	Injection	-37.70	0.00	-5.50	-0.39

## 88th CCM Discussions:

The CCM noted.

## 47th TCC/WRPC Discussions:

MP representative suggested that even buyers may be allowed to sell power in the HP-DAM.

MS, WRPC agreed that this suggestion is a welcome one, however he suggested that as it is the CERC Order, the issue may be take up with CERC for the inclusion of the above suggestion.

## TCC/WRPC noted the above.

## Item no. 24. Replacement of faulty SEMs

**Agenda Notes:** WRLDC vide email dated 12.05.23 informed that with the cooperation of utilities, CTU and POWERGRID, faulty SEMs in Western Region are being replaced with new healthy meters. However below is the list of few meters whose replacement is still pending:

SR. NO.	SEM SR. NO.	LOCATION	ISSUES FACED	
1	NP-8851-A	400kV side of GT-1 at Solapur (NTPC) (Standby meter)	Meter faulty since 19.09.22 (Elster make)	
2	NP-8724-A	220kV BSP line-3 at NSPCL (check meter)	Meter faulty since 16.01.23 (Elster make)	

3	NP-5526-A	220kV Ichapur line-1 at Kawas (Main meter)	Meter faulty since 30.01.23 (Elster make)
4	NP-9909-A	400kV Solapur STPS (NTPC) line-1 at Solapur (PG) (Main Meter)	Meter faulty since 13.02.23 (Elster make)
5	NP-3929-A	220kV Rewa line-1 at Badwar (Mahindra - RUMS)	Meter faulty since 20.02.23 (Elster make)
6	NP-8872-A	400kV Kolhapur (PG) line at Alkud (MSETCL)	Meter faulty since 27.03.23 (Elster make)
7	GJ-5245-A	33 kV Radhanesda (GETCO) line-1 at GSECL	Meter faulty since 06.03.23 (Secure make)

WRLDC informed that these meters are faulty and the replacement is delayed by more than two weeks.

Utilities are requested to provide the reason for the non-replacement.

Utilities are also requested to expedite the replacement of these meters in coordination with CTU/POWERGIRD for express replacement of faulty meters.

## 88th CCM Discussions:

It was informed that all the issues were resolved in the earlier meetings regarding the responsibilities and timelines for replacement of meters as per CTU agenda.

NTPC representative informed that meter at Point No. 1 is in transit and will be taken and replaced. He also informed that by Month end, the meter will be replaced. Regarding meter at Point No. 3, as per the MoU, the meter is to be replaced by GETCO. Further, GETCO is currently under process to replace it after discussions with CTU. He also informed that at Point No.4, there is no meter of NTPC.

NSPCL representative informed regarding Point no.2 that the meter was not earlier available and has now become available and shall be replaced within one week.

PowerGrid representative informed that the meters were not available and are being diverted from other places and meters at Point No.2,4 and 6 are being replaced and will be done within the end of the month. He also informed that the SLDC has not paid for the meter no.6 and he requested that same shall be paid.

MSETCL informed that the payment will be made.

CTU representative suggested that the spare meters available with the PowerGrid may be informed to CTU on monthly basis such that issues of non-availability may not arise.

## 47th TCC/WRPC Discussions

TCC recommended that the replacement of faulty meters may be done immediately.

## TCC/WRPC noted the above.

## Item no. 25. Addition of new utilities and revision of drawal/injection formula due to addition of new transmission elements

**Agenda Notes:** WRLDC vide email dated 12.05.23 have informed the details of addition of new utilities and formula changes in active/reactive reports due to addition of new transmission elements since last CCM (i.e, 87<sup>th</sup> CCM on 15.07.22) have been summarized in **Annexure 25**.

## TCC/WRPC noted the above.

## Item no. 26. Intra-State Transmission charges and SLDC Operating Charges for STOA bilateral transactions for FY 2023-24.

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

• The STU and SLDC rates implemented by RLDCs for the FY 2023-24 w.r.t STOA charges for Intra-State system of Western region is given below. This is in line with STU and SLDC rates data updated by the respective SLDCs in NOAR software as on 10.05.2023.

Details of Transmission and Operating Charges for STOA for FY 2023-24				
Transmission Charge: State	Transmission Utilities	s (STU)		
STU Name	Rate (Rs / MWH)	From Date		
Maharashtra	510	01-Apr-23		
Madhya Pradesh	410	01-Apr-23		
Chhattisgarh	363.4	01-Apr-23		
Gujarat	379.4	01-Apr-23		
Goa	80	07-Jan-08		

DNH-DD	80	01-Jun-22		
Operating Charge: State Lo	ad Despatch Centre (S	SLDC)		
SLDC Name	Rate (Rs / Day)	From Date		
SLDC Maharashtra	2250	23-Jul-16		
SLDC Madhya Pradesh	1000	01-Aug-22		
SLDC Chhattisgarh	2000	01-Jun-15		
SLDC Gujarat	1000	15-May-15		
SLDC Goa	1000	15-May-15		
SLDC DNH-DD	1000	01-Jun-22		
Operating Charge: Western Regional Load Despatch Centre (WRLDC)				
WRLDC	1000	15-May-15		

• The above rates will be continued till such period; a revised rate is received from respective SLDCs through NOAR software.

## WRLDC requested that all SLDCs of Western Region are requested to make a note of this and update the STU and SLDC charges through NOAR software only in case of any revision.

## 88th CCM Discussions:

SE(C), WRPC explained the agenda item and informed that the item is for noting purposes. In case of discrepancies, it should be informed to WRLDC.

## TCC/WRPC noted the above.

## Item no. 27. Status of Letter of credit (LC) opening against Deviation charges liability for FY23-24.

Agenda Notes: WRLDC vide email dated 12.05.23 informed the following:

The Hon'ble CERC has issued regulations on "Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2022" dt. 14<sup>th</sup> March 2022 implemented from 05<sup>th</sup> Dec'22. Regulation 10 (2) of the principal Regulations is as below:

## Quote

Any regional entity which at any time during the previous financial year fails to make payment of charges for deviation within the time specified in these regulations, shall be required to open a Letter of Credit (LC) equal to 110% of their average payable weekly liability for deviations in the previous financial year in favour of the concerned Regional Load Despatch Centre within a fortnight from the start of the current financial year.

## Unquote

WRLDC vide letter dated  $11^{\text{th}}$  May'2023 had issued the LC requirements to all respective regional entities for FY 2023-24 and the summary of LC to be provided by each entity is provided as **Annexure – 27**.

WRLDC requested that all regional entities are advised to open LC immediately without any further delay.

## 88th CCM Discussion:

SE (C), WRPC requested all the regional entities to open the LC immediately.

TCC/WRPC noted the above.

## Item no. 28. Status of Reconciliation of DSM, RRAS, SRAS (AGC), REC and Congestion Regulatory Pool account for the period up to Q4 of FY 2022-23.

Agenda Notes: WRLDC vide email dated 12.05.23 informed that WRLDC vide letter no WRLDC/MO/DSM Recon/Q4/FY 2022-23 dated 28.04.2023, has circulated the reconciliation statement for the period Q4 FY 2022-23 to all DSM, RRAS, SRAS (AGC), Reactive and Congestion Regulatory pool members. All the details of payments/receipts of Pool accounts up O4 of FY 22-23 also uploaded WRLDC website to are on (https://wrldc.in/content/78 1 MarketOperations.aspx under the head "Pool Reconciliation" in Regulatory Pool Account). WRLDC has not received the signed reconciled statements from the entities given in Annexure-28 and the same has been considered as deemed reconciled by WRLDC.

## TCC/WRPC noted the above.

#### Item no. 29. Status of Regulatory Accounts DSM Charges Payable to DSM Pool Account:

#### A. Status of DSM Charges Payable to DSM Pool Account

WRLDC vide email dated 12.05.23 informed the following:

• Details of major default by entities towards deviation charges payment as on 08-05-2023 are given below.

1. **Vandana Vidyut Ltd.-** Total overdue from VVL is Rs 18.50 Crores (as on 08.05.23) and VVL was deregistered as a user of WRLDC w.e.f. May'2017 in line with Hon'ble CERC order dated 19.06.2017 in Pet. No. 243/MP/2016. The matter is now before the National Company Law Tribunal (NCLT) and WRLDC had submitted the claims to NCLT appointed Insolvency Resolution Professional (IRP).

#### 2. SKS Power -

i)Total DSM overdue of SKS Power from 31.12.18 to 06.01.19 is Rs. 1.6 CRs. (The DSM bill for this period was disputed by SKS vide Petition No. 90/MP/2019 before the CERC and the matter was subsequently disposed of vide order dated 15.04.2022 wherein Hon'ble CERC didn't grant any relief to SKS). Subsequently, the power plant went under insolvency proceedings before the NCLT and the CERC directions were not honoured by SKS Power. WRLDC had placed its claims against the entire outstanding DSM charges (which was overdue and payable by SKS Power) till 28.04.2022 before the Insolvency Resolution Professional (IRP) appointed by the NCLT vide its letter dated 07.07.2022. This claim of WRLDC (for ₹3,40,32176/- Three crore forty lakh thirty-two thousand one hundred seventy six) was admitted by the IRP (vide their intimation dated 24.08.2022). The admitted claims will be dealt with in accordance with the provisions of the Insolvency & Bankruptcy Code.

## B. Status of Reactive Energy Charges Payable to REC Pool Account

No outstanding of Reactive Charge payment as on 11-05-2023.

## C. Status of Congestion Charge Payable to Congestion Pool Account

No outstanding of Congestion charge payment as on 11-05-2023.

TCC/WRPC noted the above.

- Item no. 30. Interest calculation statement of Regulatory Pool Account up to Q3 of FY 2022-23:
  - A. Interest calculation statement of Deviation Pool Account up to Q3 of FY 2022-23 due from following entities:

Sr.	POOL MEMBER	NET INTEREST Amt	Domonto	
No.	NAME	Rs.	Remarks	
	CGPL UMPP		DSM Q3 FY 22-23	
1	MUNDRA	15280.00		
2	CSPDCL	15736.00	DSM Q3 FY 22-23	
3	GIWEL SECI 2	3407.00	DSM Q3 FY 22-23	
4	Ostro-Kutch (WIND)	261255.00	DSM Q3 FY 22-23	
5	RGPPL	203.00	DSM Q3 FY 22-23	
6	RKM	18245.00	DSM Q3 FY 22-23	
7	TRN Energy Ltd.	8036.00	DSM Q3 FY 22-23	
8	SKS Power	82913.64	DSM Q3 FY 21-22	
9	SKS Power	174211.19	DSM Q4 FY 21-22	
10	SKS Power	5540027.17	01.01.19-06.01.19	
	Total Rs.	6119314.00		

#### All entities are advised to make the payment on priority

## B. Interest calculation statement of REC account up to Q3 of FY 2022-23.

No outstanding interest on account of delay in Reactive Energy Charge account upto Q3 of FY 2022-23.

## C. Interest calculation statement of Congestion charge Account up to Q3 of FY 2022-23.

No outstanding interest on account of delay in Congestion payment up to Q3 of FY 2022-23.

## TCC/WRPC noted the above.

## Item no. 31. Commissioning of Elements in WR-I and WR-II:

Powergrid WR-I vide email dated 12.05.23 informed that the following elements are commissioned in WR-I:

Sr No	Name of Asset	Project	DOCO date	Remarks
1	Reconductoring of 400kV Kolhapur(PG)- Kolhapur (MSETCL) TL Ckt 1 along with upgradation of 400kV bays at Kolhapur (PG) & Kolhapur(MSETCL) substations	TransmissionSystemstrengtheningbeyondKolhapurforexportPowerfromSolapurWindenergyzonesSouthernRegion-ReconductoringofKolhapur(PG)-Kolhapur400kV D/C Line	09/03/2023	
2	OPGW Communication Link in 400kv Bilaspur Mahan along with end equipments	Reliable Communication Scheme under Central Sector for Western Region	03/03/2023	
3	OPGW Communication Link in 400kv JPL-Raipur ckt 1 along with repeater station and end equipment	Reliable Communication Scheme under Central Sector for Western Region	08/10/2022	
4	OPGW Communication Link in 400kv DB Power- Kotra along with end equipments	Reliable Communication Scheme under Central Sector for Western Region	19/01/2023	
5	OPGW Communication Link in 400kv Bhilai-Bhadrawati	Reliable Communication Scheme under Central Sector for Western Region	01/12/2022	

## 101

	along with 02 repeater stations and end equipment			
6	Communication Equipments for WRLDC,Kalwa and Mauda,NTPC	Reliable Communication Scheme under Central Sector for Western Region	01/12/2022	
7	Conversion of Fixed LR of 400kV Parli-Pune Line Ckt 1 to Switchable Line Reactor	Conversion of 50MVAR Fixed Line Reactor on each circuit of Parli(PG)- Pune(GIS) 400kV D/C Line at Parli(PG) end into Switchable Line Reactors	29/03/2023*	Commissioned on 29/03/2023. However DOCO shall be claimed as 27/06/2023 under Proviso 5(2) of CERC Tariff Regulations 2019
8	Conversion of Fixed LR of 400kV Parli-Pune Line Ckt 2 to Switchable Line Reactor	Conversion of 50MVAR Fixed Line Reactor on each circuit of Parli(PG)- Pune(GIS) 400kV D/C Line at Parli(PG) end into Switchable Line Reactors	18/04/2023*	Commissioned on 29/03/2023. However DOCO shall be claimed as 27/06/2023 under Proviso 5(2) of CERC Tariff Regulations 2019

Powergrid WR-II vide email dated 11.05.23 informed that the following elements are commissioned in WR-II till April 2023 (excluding those already mentioned in 87<sup>th</sup> CCM):

S.N	Name of Asset	Project	DOCO date
1	1x500 MVA, 400/220 kV ICT	ICT Augmentation at 2x315	13.01.2023
	augmentation along with	MVA, 400/220 KV Shujalpur	
	associated bays at Shujalpur (PG)	(PG) Substation	
2	OPGW link for 400 kV	Western Region	17.01.2023
	Indore(MPPTCL) -	Communication Strengthening	
	Itarsi(POWERGRID) Circuit-II	Scheme (WRCSS)	

3	Conversion of 80 MVAR Fixed	Western Region System	04 02 2023
	Line Reactor at Boisar end of	Strengthening Scheme	07.02.2023
	Aurangabad-Boisar 400 kV D/C	(WRSS)-22	
	line to Switchable Line Reactor		
	along with NGR bypass		
	arrangement		
4	OPGW link for 400 kV Indore-	Western Region	10.02.2023
	Asoj Ckt-I	Communication Strengthening	
		Scheme (WRCSS)	
5	OPGW link for 765 kV Indore-	Reliable Communication	21.02.2023
	Vadodara	Scheme under central sector for	
		Western Region	
6	OPGW link for 400 kV Itarsi -	Western Region	12.04.2023
	Jabalpur Ckt-4	Communication Strengthening	
		Scheme (WRCSS)	

## TCC/WRPC noted the above.

## Item no. 32. New Regulations Notified

- Central Electricity Regulatory Commission Suo Motu order dated 06.02.23 for DSM Regulation 2022
- Central Electricity Regulatory Commission Suo Motu order dated 09.04.23 for DSM Regulation 2022
- Central Electricity Regulatory Commission Suo Motu order dated 23.04.23 for Reserve Regulation Ancillary Services (RRAS) under CERC (Ancillary Services Operations), Regulations 2015.

## TCC/WRPC noted the above.

## Item no. 33. Share allocations issued

The following Share allocations are issued:

- 1. Allocation of 40 MW Power from Unallocated quota of WR (UP) to Uttarakhand w.e.f 12.01.23.
- 2. Incorporating calculation upto 6 decimal places in share allocation issued on 10.02.23.
- 3. Restoration of Allocation of 40 MW Power from Unallocated quota of WR (UP) to Uttarakhand w.e.f 01.03.23.
- Allocation of 316.98 MW Power to Gujarat from Unallocated Quota of Western regions (MP) w.e.f 03.03.23.
- 5. Allocation of 14 MW Power from Kakarapar Atomic Power Station (KAPS) to Heavy Water Plant (HWP), Hazira under Department of Atomic Energy w.e.f 20.04.23.
- 6. Allocation of 30 MW Power to Bihar from Unallocated Quota of WR (UP) issued on 02.05.23.
- Restoration of the Allocation of 14 MW Power from Kakarapar Atomic Power Station (KAPS) to Heavy Water Plant (HWP), Hazira under Department of Atomic Energy w.e.f 05.05.23.

## TCC/WRPC noted the above.

## Item no. 34. Accounts/Revisions Issued

## DSM accounts revised:

- 1. Week From 16.01.23 to 22.01.23 (Revised on 09.02.23)
- 2. Week From 06.02.23 to 12.02.23 (Revised on 27.02.23)
- 3. Week From 20.02.23 to 26.02.23 (Revised on 09.03.23)
- 4. Week From 06.02.23 to 12.03.23 (Revised on 03.04.23)
- 5. Week From 17.04.23 to 23.04.23 (Revised on 08.05.23)

## **Draft Final REA Accounts Issued:**

Draft Final AUG22-OCT22 (Issued on 10.02.23)

## **REA accounts revised:**

1. Final REA for April 2022 (Issued on 13.03.23)

- 2. Revised REA for December 2022 (Issued on 13.03.23)
- 3. Final REA for May 2022 (Issued on 15.03.23)

## TCC/WRPC noted the above.

#### Item no. 35. Essar Mahan oscillations observed on 09.02.2023

## **Background:**

Severe oscillations were reported by NTPC Sipat on 09.02.2023 & amp; same was seen generators (ACBIL/LANCO/MCCPL) connected at Bilaspur. However, no abnormality was seen, and oscillations died out after some time. But it reappeared at 20:00hrs/09.02.2023 onwards & amp; observed intermittently till 23:00hrs/09.02.2023.Mahan Energen Limited informed that Unit-2 tripped at 22:59hrs on 09.02.2023 due to drum level low. Later on, the unit was synchronized at 01:32hrs/10.02.2023. Again 10.2.23 morning, oscillations started around 0700hrs and continued till 1018hrs. it was observed through the PMU data at Bilaspur, that the oscillations were pre-dominant from Mahan Energen (2x600MW) which was generating around 1100MW and peak to

peak 700MW oscillations were observed at Mahan with 0.97 Hz frequency (Annexure 35).

## **Discussion during 152nd PCM:**

- 1. It was informed Severe oscillations were reported by NTPC Sipat on 09.02.2023. The issue arose when the generation of Essar Mahan was raised to more 1200MW during the peak loading conditions. 2-3 meetings were held by WRPC with WRLDC, Essar Mahan, NTPC to know the exact cause of initiation of the oscillations and remedial actions were suggested to Essar Mahan Generator. The same were implemented by Essar Mahan.
- 2. Member Secretary WRPC explained the above phenomenon behind the oscillations in short and informed that recommendations for addressing the above issue were given to the generator and Load despatcher. These are as follows;
  - a) The PSS of both the machines at Essar Mahan be tuned to provide maximum response for frequency of oscillations of 0.9 to 1 Hz.
  - b) After getting the PSS tuned, the dispatch schedule to the generator be given in a step increase manner with a pause of at least ½ an hour (@50 MW-100MW schedule rise in steps)

## TCC/WRPC noted the above.

## Item no. 36. Reimbursement of Incidental charges in respect of WRPC Secretariat

#### Agenda Notes:

As decided in the 10<sup>th</sup> WRPC meeting held on 30<sup>th</sup> May 2009 at Diu, the WRPC members would contribute towards the incidental charges of Rs. 50000/- annually to the Contingency fund of WRPC for every financial year.

The payment yet to be received from members towards Incidental charges for past financial years is given at Annex 36.

Members are requested to clear the dues.

#### TCC/WRPC noted the above

Item no. 37. Supplementary Agenda Items

SA-Item No 1: Changes in the process of funding of expenses of WRPC Secretariat and streamlining the process of fund utilization/ budgetary provisions for all RPCs. Agenda Notes:

## **Existing funding structure of RPCs.**

a) Subsequent to the formation of the RPCs (from the erstwhile REBs) after the EA 2003, MoP vide letter dated 23.02.2006 (**Annexure- S.1.1**) directed that activities of RPCs will be fully financed by constituent members with effect from 01.04.2006 and CEA will take immediate steps in this regard. Further MoP vide letter dated 03.04.2006 (**Annexure- S.1.2**) had allowed establishments expenditure of RPCs to be met from CEA budget for transition period of six months which will be reimbursed by RPCs.

b) The WRPC Secretariat being a subordinate office of CEA, used to put up the Budgetary expenditure (BE) and Revised estimates (RE) for every financial year, through CEA to MoP and accordingly the fund was allotted from Consolidated fund of India (CFI) to meet the Secretariat office expenses. The expenditure bills and payments were processed through the Pay and Accounts office of Bengaluru. The working of the office was audited by the CAG as well as CEA internal audit. At the end of the financial year, the actual expenditure of the year would be recovered from the WRPC constituent members and deposited to CFI thus completing the process of reimbursement.

c) However Audit paras had pointed out repeatedly that self-financing of RPCs, has not taken within six months after the above decision, and therefore recently CEA vide order dated 02.01.2023 has constituted a Committee for stream lining the process of fund utilization/budgetary provision of all RPCs. A meeting on 06.04.2023 was taken by the Chairperson of CEA in this regard wherein the **Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs** prepared by the Committee constituted by CEA was finalised and approved. CEA vide letter dated 01.05.2023 (**Annexure- S.1.3**) had communicated the SOP to Streamlining the process of fund utilisation / budgetary provisions of RPCs for further necessary action.

# **1.1.** The salient points in the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs as communicated by CEA are as follows:

- i. RPCs shall decide and collect contribution amount from their member organisations after approval in the RPC meeting.
- ii. RPCs shall finalise its annual Internal Budget (except salary head) and get its approval in committee meeting. Quarterly expenditure from "RPCs Internal Budget" shall be put up for intimation/approval in concerned RPC meeting.
- iii. CEA shall provide budget to RPCs for "Salary" head only. All expenditure of "Salary" head shall be met from the budget provided by CEA and the same shall be reimbursed to CEA by RPCs quarterly.
- iv. All expenditure of heads other than "Salary" shall be met from concerned RPC Fund.
- v. Any other fund for any specific purpose may be created by RPCs with the approval of RPC Committee.

- vi. Amendment of the SOP, if any, shall be carried out after conducting joint discussion among all the Member Secretaries and Chairperson, CEA's approval is to be obtained.
- vii. The provisions in the SOP needed to be implemented from the financial year 2023-24 onwards. For the purpose of reimbursement of expenditures met out of Central Budget to the consolidated fund of GoI, and all other Establishment related expenditure a fund named "WRPC Establishment Fund" is to be created and maintained by WRPC.

#### **1.2.** Proposal of WRPC Establishment Fund and its operation

(i) As seen from above, the present practice of yearly reimbursement of actual expenses followed requires to be changed. Accordingly the following is proposed for deliberations.

(ii) In line with the SOP for budgeting and expenditure of RPCs, WRPC Secretariat shall open a new Bank Account in the name of "WRPC Establishment Fund" in a Nationalised Bank (preferably in State Bank of India) and operated by the officersnominated by Member Secretary, WRPC.

(iii) Following the existing practice, WRPC Secretariat shall prepare BE at the start of the financial year and RE if any, by October, and communicate to the WRPC members for payment. The Constituents shall contribute their share as intimated by WRPC Secretariat, on annual basis in the beginning of the financial year (by April), and additional requirement from RE if any.

(iv) WRPC secretariat shall reimburse salary component to CEA on regular basis.

(v) Any Surplus of a particular year that could not be utilised would be retained in the "WRPC Establishment Fund" and adjusted against next year contributions suitably.

(vi) The Constituents shall deposit the amount in the Fund by means of online mode as intimated by WRPC Secretariat into the Bank Account - "WRPC

**Establishment Fund**" in respect of the WRPC establishment charges for the year 2023-24 onwards.

(vii) Erstwhile fund from CEA for Office expenses were available at the start of the financial year. But now since funds have to be provided by members in April onwards, timely payment is required and so mechanism for Late Payment surcharges have to be introduced and have been included in draft business rules in this agenda.

(viii) The draft Resolution for the formation of the above account is attached at **Annexure- S.1.4.** The approved resolution shall be submitted to the Nationalised Bank in which the account is opened for the purpose of the operation of the account. Whenever Bank Account Operators are changed, Member Secretary, WRPC shall declare the change of individual operators to the bank with their specimen signatures in line with the approved resolution.

The above may please be deliberated and approved.

## **TCC/WRPC Discussion:**

MS WRPC informed that After the EA 2003, MoP directed that activities of RPCs will be fully financed by constituent members with effect from 01.04.2006 through the establishment charges of the Secretariat.

The WRPC Secretariat being a subordinate office of CEA, used to put up the Budgetary expenditure (BE) and Revised estimates (RE) for every financial year, through CEA to MoP and accordingly the fund was allotted from Consolidated fund of India (CFI) to meet the Secretariat office expenses. The expenditure bills and payments were processed through the Pay and Accounts office of Bengaluru. The working of the office was audited by the CAG as well as CEA internal audit. At the end of the financial year, the actual expenditure of the year would be recovered from the WRPC constituent members and deposited to CFI thus completing the process of reimbursement.

But recently CEA vide order dated 02.01.2023 has constituted a Committee for stream lining the process of fund utilization/budgetary provision of all RPCs. A meeting on 06.04.2023 was taken by the Chairperson of CEA in this regard wherein the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs prepared by the Committee constituted by CEA was finalised and approved. Wherein it was decided that CEA shall provide budget to RPCs for "Salary" head
only. All expenditure of "Salary" head shall be met from the budget provided by CEA and the other expense should be collect contribution amount from their member organisations after approval in the RPC meeting which will be known as WRPC Establishment Fund. **TCC:** TCC Chairperson queried members about their position. All stakeholders agreed.

### WRPC agreed for the above

# SA-Item No 2: Amendment in WRPC (Conduct of Business Rules), 2022

### **Agenda Notes:**

The existing business rules is enclosed at **Annexure- S.2.1** In order to implement the SOP for Streamlining the process of fund utilisation / budgetary provisions of WRPC from the year 2023-24 & exclusion of CTUIL from sharing the WRPC expenditure the following amendment in the Western Regional Power Committee (Conduct of Business) Rules, 2022 are proposed:

# 1. Proposed addition as clause 1 (iv) in Chapter I

Chairperson, CEA approved Standard Operating Procedure (SOP) (Appendix-1) for budgeting and expenditure of RPCs communication dated 01.05.2023 and amendment thereof shall for part of Western Regional Power Committee (Conduct of Business) Rules.

2. Replacement of Chapter V follows:

# Chapter V

# 3. Reimbursement of annual expenditure of WRPC secretariat

- i. All the Members of WRPC (except CEA, NLDC, CTUIL, SLDC and WRLDC and as exempted by WRPC in future, if any) shall equally contribute in the WRPC Establishment Fund in the beginning of the financial year.
- ii. Such members shall contribute annual expenditure of WRPC Secretariat in the beginning of the financial year, based on the budgetary estimates intimated by

WRPC Secretariat after approval of WRPC. Any surplus/deficits of a particular year shall be adjusted in the subsequent financial year.

- iii. The WRPC shall finalise the WRPC Secretariats expenses as an annual Internal Budget (except salary). However payment including the Salary component shall be contributed by eligible members, for reimbursement of Salary to CFI by WRPC Secretariat on quarterly basis. WRPC Secretariat shall intimate to WRPC quarterly positions of the expenditure incurred.
- iv. CEA shall provide budget to RPCs for "Salary" head only. All expenditure of "Salary" head shall be met from the budget provided by CEA and the same shall be reimbursed to CEA by WRPC Secretariat quarterly.
- v. For the purpose of reimbursement of expenditures met out of Central Budget to the consolidated fund of GoI, and all other Establishment related expenditure a fund named "WRPC Establishment Fund" shall be created and maintained by WRPC Secretariat.
- vi. All expenditure of heads other than "Salary" shall be met from "WRPC Establishment Fund".
- vii. The Constituents shall deposit the contribution on annual basis by the end of April every year in the Bank Account named "WRPC Establishment Fund" opened and operated by WRPC Secretariat in a Nationalised bank, the amount intimated by WRPC Secretariat. Surplus of a particular year would be retained in the WRPC Establishment Fund or as decided by the Committee. Management of surplus fund shall be at the sole discretion of the Committee.
- viii. Any deficit or additional requirements would be reimbursed by Constituents under approval of the Committee.
- ix. The payments shall be made by the member utilities in respect of the members from the respective utility as communicated by WRPC Secretariat.
- x. The "WRPC Establishment Fund", shall be operated by WRPC Secretariat in line with the Chairperson CEA approved "Standard Operating Procedure" (SOP) [refer Appendix-1].
- xi. WRPC Secretariat shall operate the bank account "WRPC Establishment

Fund" in line with the Committee approved guidelines [Appendix-II]. Resolution to open the Bank Account in the name of "WRPC Establishment Fund" by WRPC Secretariat [Appendix-III]

- xii. All expenditure of "Salary" head shall be met from the budget provided by CEA and the same shall be reimbursed to CEA by RPCs quarterly from "WRPC Establishment Fund", through online payment or through cheque shall be issued and got deposited to the consolidated fund of GoI for an amount equal to the quarterly expenditure towards Salary.
- xiii. From the year 2023-24 onwards all the payment towards WRPC expenditure shall be made to the "WRPC Establishment Fund"
- xiv. If payment for reimbursement are not received by June, 1% per month Late Payment Interest would be charged from 1st April onwards till payment.
- xv. Expenditure from "WRPC Establishment Fund" or any other Fund created shall be made with the approval of Member Secretary, WRPC.
- xvi. Audit of fund:
  - a) The statement(s) of the fund shall be verified by the officer of Secretariat nominated by Member Secretary, WRPC. The officers nominated shall be other than the officers handling the fund. The Member Secretary, WRPC will approve the statement of the fund before placing the same to auditor.
  - b) The fund shall be got audited every year by a Chartered Accountant Firm.
  - c) CA Audited Report shall be put up to Chairperson, WRPC for perusal.
- xvii."WRPCEstablishmentFund"shall haveitsown Permanent Account Number (PAN) and GST Number.

#### **TCC/WRPC Discussion:**

MS WRPC informed that the changes in process of funding of expenses of WRPC secretariat as discussed under SA-1 are reflected in amendment in WRPC (Conduct of Business Rules), 2022.

# TCC/WRPC agreed to the above.

# SA-Item No 3: WRPC Annual Internal Budget for the Year 2023-24 and reimbursement of the actual expenditure for FY 2022-23

# (a) Establishment Charges for the Year 2022-23 :

The total actual expenditure for the financial year 2022-23 towards the establishment expenses of WRPC Secretariat is Rs. 2,89,58,095/-(Two Crores Eighty Nine Lacs Fifty Eight thousand Ninety Five Only). The head wise details of actual expenditure are as follows;

1. Kegi	Regional Co-ordination - WKI C Secretariat. (KS in faking				
Sr.	Major Head Of A/C	Actual Expenses			
No.	2801	For the FY 2022-			
	Non-Plan Regional	23.			
	Coordination				
1	Salary	235.58			
2	Medical Treatment	0.40			
3	OTA	0.00			
4	DTE	6.03			
5	OE	44.98			
6	RRT	0.37			
7	M.W.	2.22			
	Total	289.58			

1. Regional Co-ordination -WRPC Secretariat: (Rs in lakhs)

The number of members of WRPC for the FY 2023-24 is around 38. Accordingly the yearly reimbursement charges payable for FY 2022-23 by each member is Rs 7.62/- lakhs. Necessary letter will be shortly issued by WRPC Secretariat for reimbursement.

# (b) Establishment Charges for the Year 2023-24 :

The Budget Estimate (BE), Budget Allocated (BS) and Actual Expenditure (AE) up to 31st May 2023 for the FY 2023-24 towards the establishment expenses is as follows;

Rs.	In	lakhs

II INV	ri regional co or anadon wire coccicianat.				
Sr.	Major Head Of A/C	Budget	Budget	Actual	
No.	2801	Estimate	Allocated	Expenses	
	Non-Plan Regional	(BE) for the	(BA) for the	(AE) up to	
	Coordination	year 2023-	year 2023-	31st	
		24	24	May 2023	
1	Salary	201.88	200	38.36	
2	Wages	22	0	0	

1. Regional Co-ordination -WRPC Secretariat:

3	Rewards	2	1	0
4	Allowances	140.02	140	22.87
5	LTC	4.5	8	0
6	Training Expenses	2	1	0.31
7	Pensionary Charges	142.36	0	0
8	Medical Treatment	9	9	0.04
9	OTA	0	0	0
10	DTE	8	8	0
11	OE	49.82	8	5.28
12	RRT	0.5	0.5	0
13	Repair & Maintenance	2.5	4	0
14	Information, comput Telecommunication,(ICT)	ter 3.5	2	0
15	Equipment	0	0	0
16	Land	72	0	0
17	M.W.	50	15	0
18	Other Charges	0	1	0
19	Furniture & Fixtures	0	3	0
	Total	710.08	400.5	66.86

The BA against the BE is Rs.309.58 lacs short (i.e. 710.08-400.5) the shortfall is required to be met from the "Establishment fund".

The total BE for Year 2023-24 is required to be collected at the start of every FY, for meeting the running expenditure towards the WRPC Secretariat establishment. The charges required to be collected from each the members (total 38 members) works out to be Rs18.62/ lakhs. A demand would be raised by WRPC Secretariat immediately after the WRP meeting for FY-2023-24

# TCC/WRPC discussion:

MS WRPC briefed about the agenda item and informed that for FY 2023-24 they have not raised the demand but they will send the letter soon regarding that. Further he informed that if the budget is not fully utilised then it will reflect to the next year budget and demand for next year will be raised considering the remaining amount also.

# TCC/WRPC agreed for the above.

# SA-Item No 4: Agenda for Development of transit office and Redevelopment of WRPC Building.

# **Agenda Notes:**

# **1.** Renting of Office Premises:

- a) In the 44th TCC/WRPC meeting held on 26th Sept 2022 online, Item No 3, the weak structural position of WRPC Building complex was discussed and interim renting of premises for WRPC Secretariat was agreed to.
- b) The cost of renting out the premises preliminary worked to about Rs 1.2 to 1.3 Crores per year (around Rs 10 lakh per month). Meanwhile, since WRPC Staff Quarters had vacant quarters it sought CEA's permission to use the vacant quarters as office space and the same was agreed by CEA till development of new building, as discussions with CPWD had shown that a transit office in existing premises can be constructed in a year's time. So the above expenditure is avoided as of now.
- c) It may be noted that due to shifting of office and establishing the same at quarters, various small civil, carpentry, electrical repair works at quarters, establishing new internet connections at quarters etc were required to be done. Also it was required to carry some urgent repairs of main office building like water pipeline bursting, sewage problems, concrete debris falling removal, and other such small repairs. Hence from Sept 2022 onwards such emergency works (of a total of less than Rs 9 lakhs or so), were required to be carried out urgently and same was met from Chairman WRPC fund, and the same was done by this office only due to the safety and urgency and following the standard procedures like tendering, work order etc.

# 2. Development of Transit office and Main office:

- a) Regarding the development of transit office and main office, the following is the position.
- b) It may be recalled that MoP had already approved for the redevelopment of the building WRPC/WRLDC and WRPC/WRLDC was asked to prepare the plans. Both WRPC and WRLDC are co-ordinating and taking up with the concerned authorities on land records, CPWD etc.

# **Development of Transit office:**

a) WRPC communicated to CPWD regarding development of a transit office. Chief

Engineer, MCD V, CPWD visited WRPC office site and subsequently two meetings were held with CPWD (along with WRLDC) to discuss the development of Transit office.

b) CPWD vide letter dated 21.03.2023 has intimated the layout of transit office and the advance cost to be paid to CPWD. The enabling estimate for construction of G+1, transit office is Rs 7,12,250/-. Further the rough cost estimate intimated by CPWD is for G+1 transit office is Rs 2,74,10437.00. This amount to be shared in 50:50 by WRPC and WRLDC.( 50% cost would be reimbursed by WRPC members equally)

# **Development of Main WRPC/WRLDC Building Complex:**

WRPC vide letter dated 30.09.2022 had communicated to CPWD regarding redevelopment and construction of new composite office building complex.

CPWD vide letter dated 07.10.2022 had requested for Old approved plans from local body, Survey report if any, Land ownership documents/lease documents Space requirement, Demarcation from survey office and computerised survey of land mentioning elevation wrt sea level. The layout drawings of existing building have been submitted to CPWD. And other formalities are in process.

With respect to Mode of Payment to CPWD for development of Transit Office and WRPC composite Building, CPWD has informed that the mode of payment can be made in the following two ways:

# i) As a Deposit work:

(17) **Deposit Works** – This term is applied to works of construction or repair, the cost of which is met, not out of Government Funds, but out of funds from non-Government sources, which may either be deposited in cash or otherwise placed at the disposal of the Divisional Officer.

# ii) Ministry Approved Budget

It is seen that deposit works mode is applicable for our case.

Once the CPWD finalises the project and cost, the same shall be put up to WRPC for needful.

# **TCC/WRPC Discussions:**

# **1. Renting of Office Premises:**

MS WRPC informed that the main building of WRPC is not in good condition, and slabs are falling. Considering safety and other pressing field situations, and with the approval from CEA currently they are running their offices from WRPC quarters. Due to limited time, renting process by following standard procedures could not be completed and so the office is currently running from Quarters premises, even though WRPC had already approved contribution of Rs 3-5 lakhs per annum per member for renting in the earlier WRPC meeting. After completing all the due formalities, the office would be shifted to a suitable rented space till transit/permanent office structure come up. Also as the quarters are in bad condition they have met some of the expenses from the WRPC Chairman fund for carrying urgent repairing works, following financial procedures, and other works to the tune of about Rs 9 lakhs.

He also informed that this account is audited by a Charter Accountant to take care of Tax liabilities and other financial formalities. Once the CA files the returns, the statement of expenditure under this fund shall be shared in WRPC for information.

# 2. Development of Transit office and Main office:

# **Transit office:**

As stated in the agenda notes, the position of transit office is explained. MS WRPC informed that as per the discussion with CPWD, and as per the transit office space requirements as furnished by WRLDC, a G+1 transit is feasible, as communicated by CPWD in the existing premise. The cost estimate by CPWD is about Rs 2.75 crores. This amount to be shared in 50:50 by WRPC and WRLDC. (50% cost would be reimbursed by WRPC members equally)

MS WRPC queried if WRLDC has to add any point regarding the development of Transit office, to which WRLDC did not add any point.

TCC/WRPC agreed to the development of the transit office and cost sharing of 50% for one floor for WRPC requirements. Portion of cost pertaining to WRLDC would be shared by WRLDC.

# Main office redevelopment:

MS WRPC informed that WRPC vide letter dated 30.09.2022 had communicated to CPWD regarding redevelopment and construction of new composite office building complex. As per MoP decision, POSOCO was directed to prepare a building plan/map with the help of architect to include the requirements of WRPC also. The new building plan was to be based on principle of optimal utilization of space.

MS WRPC informed that for the final building redevelopment plan, WRLDC is required to give their space requirement plan to WRPC after which the matter can be taken up with CRWD for needful. Further progress shall be informed in the next WRPC meeting.

# TCC/WRPC agreed for the above

# Item no. 38. Incoming and Outgoing members of WRPC

The list of incoming and outgoing members of WRPC is enclosed at Annex 38. TCC/WRPC members may check the list and provide details if there are any changes.

MS WRPC informed that he would be superannuating from 30<sup>th</sup> June 2023. During this long innings, he got opportunity to learn a lot from WRPC forum for which he expressed his thanks to the WRPC. He also informed that Shri P.Patel, CE, MPSLDC and Shri Girish Dixit, representing MP GENCO, were also superannuating in this month.

WRPC Chairperson, on behalf of all stakeholders placed on record the contributions of the retiring and outgoing members.

# TCC/WRPC noted the above.

Item no. 39. Any other Item

# Item 39.1 Membership for RE Generators in RPC forum

Government of India has a vision of achieving Renewable Energy installation target of 175 GW and 500 GW by 2022 and 2030 respectively. The major challenge before the government is the RE integration to the Indian Electricity Grid and smooth running of the Grid in the Real Time operation. For resolving the issues of RE generators, smooth integration and proper real time dispatch of RE generation.

In the 11th meeting of NPC (28.02.2022), it was observed that the issue needs deliberation at the RPC level first and afterward may be discussed at NPC level.

It is to note that, ERPC had proposed a suitable provision for inclusion of RE generators with threshold of 200 MW and above as a membership of RPC forum and SRPC has recommended membership of two RE generators with a threshold of 1000 MW (and above) installed capacity in the region on rotational basis. The participation of such generators would be limited to technical and operational issues.

# TCC/WRPC discussion

In NPC meeting it was decided that the RE is the vision for the future so it must be part of the RPC forum. Wherein ERPC suggested threshold of 200 MW and SRPC suggested threshold of 1000 MW to become member further he asked for any recommendation in this regards final call will be taken at Ministry level.

WRPC members suggested the threshold criteria of 1000 MW within a region for to be a member of WRPC.

MS WRPC informed that CE(NPC) shall be informed accordingly.

# TCC/WRPC noted the above.

# Item No 39.2 Inclusion of holding company as member of RPC:

MS WRPC informed that some states like MP and Gujarat have holding companies. The holding companies are very important in decision making, but they are not members as per the MoP resolution for RPC. Hence he suggested that " member of State Holding company, if any" may also be added to the MoP resolution for members of RPC. This can be taken by WRPC Secretariat to MoP through CEA.

# TCC/WRPC agreed to MS WRPC suggestion.

# Item No 39.3: Regarding timely restoration of 400 kV Pune GIS- Pune PG lines:

On 18.05.2023 at 19:10 hrs, 400 kV Pune GIS-Talegaon ckt. 3 & 4 lines tripped. Due to snapping of B phase conductor of circuit-3, conductor fell on circuit-4 resulting in to Phase to Phase and Ground fault. These lines are owned & maintained by M/s. Adani Transmission (India) Ltd. Due to tripping of these two circuits, LTS operated resulting in to load shedding of around 462 MW in Pune area (Chinchwad, Chakan, Magarpatta, Baramati, Jejuri, etc.) Further to maintain stable & reliable network and to avoid contingency, Koyna hydro generation (in-spite of water restrictions) & costly Mumbai embedded generation was maintained on bar to its full capacity upto restoration of lines.

As the sufficient man power of ATIL was not available at site, the work was attended by agencies contracted by MSETCL.

Similarly on 10-Oct-2022, 400KV Pune-GIS-Pune-PG-I tripped on Y-E fault at 21:15 hrs. due to failure of suspension type polymer insulator at tower no. 12 of ckt I. To attend the same,

Emergency Shut Down on 400KV Pune-GIS-Pune-PG-II was also availed at 04.13 hrs. The delay of 7 hrs for starting the work was due to man power not available at site.

The matter was discussed in 560th OCCM held on 21st Oct 2022 & in that meeting Adani representative informed that "*they are in talks with POWERGRID for storage space for relocating spares in Talegaon. They are also planning to move their Pune office to near Chakan, within a month. With the relocation of office 2 to 2.5 Hrs will be saved in team mobilization*".

During such incidences Mumbai/MMR & Pune systems are under threat & compelled to carry out larger load shedding, hence in order to avoid such incidences in future MSLDC requests this forum to provide concrete solution. Considering importance of these lines, double insulator strings & hardware for suspension & tension towers (DSN/DTN) may be used so as to mitigate instances of mechanical breakdown of one string

# **TCC/WRPC Discussion**:

MS WRPC briefed about the agenda item and informed that there is a multi circuit line of M/s Adani, ATIL, connecting Pune-Pune, and this is a very important line as it is carrying loads of Mumbai and Pune areas. However due to man power constraint of ATIL ,MSETCL/MSLDC informed that, the restoration work was attended by agencies contracted by MSETCL.

The delay of 7 hrs for starting the work was due to inadequate man power not available at site. M/s ATIL was requested to improve the maintenance situation. M/s ATIL agreed to give the maximum help. MS WRPC informed that this is a very important corridor affecting prime cities of Maharashtra. He requested ATIL to address the issues and discuss the matter with MSETCL.

Regarding the issue of double insulator string, MS WRPC informed that it is a 400 kV line and generally it should be of double insulator line. As suggested by MSETCL this line should be made of double insulator that will provide strength and the conductor snapping issues may be resolved. After discussion, this was agreed.

# TCC/WRPC noted the above.

# Item no. 40. Date and venue of 48<sup>th</sup> TCC/WRPC Meeting

Members may like to decide the date and venue of the next (48<sup>th</sup>) TCC/WRPC meeting.

#### \*\*\*\*\*

#### LIST OF PARTICIPANTS OF 47th WRPC MEETING HELD AT RAIPUR ON 15.06.2023

<b>SI.No.</b> 1	Members of WRPC Shri Sanjay Dubey, Chairman WRPC & Principal	Mobile No. 8889150333	E-mail Address psenergyn@gmial.com
2	Secretary(Energy), Gov. of M.P. Shri Raghuraj Rajendran, Chairman TCC & M.D.	9425925852	md@mppmcl.com
3 4 5 6 7 8 9	Shri S.S. Patel, C.E., MPSLDC Shri K.S. Manothiya, E.D., SLDC, Raipur Shir S.K. Katiyar, M.D., CSPGCL, Raipur Shri Manoj Khare, M.D., CSPDCL Shri Satish Jindal, President Power Trading, JPL Shri Vijay Kumar Sinha, M.D., NHDC Shri Satyanarayan S., M.S., WRPC	9425805270 9826710989 9425160587 9826182532 9810227433 9811737111 7710821415	sspatel 2261@yahoo.com ksmanothiyayks@gmail.com mdgenco@cspc.co.in mddiscom@gmial.com satish.kumar@jindalpower.com mdnhdc@nhdcl.com ms-wrpc@nic.in
II 10 11 12 13	WRPC Shri P.D. Lone, S.E. (Comml.) Shri D.N. Gawali, S.E.(Opn.) Shri Vidya Sagar Paladugu, E.E. (O & S) Shri Deepak Sharma, E.E.	9867622823 9930666765 9010061437 9711250509	comml-wrpc@nic.in opc-wrpc@nic.in opc-wrpc@nic.in comml-wrpc@nic.in
III 14 15 16 17 18 19 20 21 22	CSPTCL/CSPGCL Shri R.K. Shukla, E.D. Shri R.A. Pathak, E.D. Shri A.K. Ambastha, Addl. C.E. Shri Ram Krishna Arvind , Addl. C.E. (O & M) Shri Girish Gupta, Addl. C.E. Shri V.P. Kaushal, S.E. Shri Ajay Kumar Singh, S.E. Shri S. Surya Prakash, E.E. Shri K.K. Shrivastava, E.E.	9827191983 9826217363 9827184218 8085013777 9827115065 7000778452 9893193646 9329012913 7999921010	rk_shukla1963@yahoo.co.in pathak63ra.gmail <u>ak.ambastha@cspc.co.in</u> <u>rarvind2270@gmail.com</u> <u>girish.gupta@cspc.co.in</u> <u>vpsk.in@gmail.com</u> <u>ajaysingh.cseb@gmail.com</u> <u>prakashsps@sldccg.com</u> <u>cseb-knoha@gmail.com</u>
IV 23 24 25 26 27 28	MPPTCL / MPSLDC /MPPMCL Shri Firoj Kumar Meshram, C.G.M. Shri Mohan Dhoke, Addl.C.E. Shri Pradeep Sachan, A.C.E. Shri B. Khan, Add.C.E. Shri Girish Dixit, E.E. Shri Lokesh Dwivedi, E.E.	9425805844 9425805237 9425805277 9425806560 9425806618 9425806878	fk.meshram@gmail.com stu.mp@mptransco.nic.in p.sachan@mptransco.nic.in bashruddin63@gmail.com gkdixitmpeb@gmail.com Idewedi1968@gmail.com
V 29 30 31	<b>MSEDCL</b> Shri Eknath Moze, C.E. Shri Dinesh Agrawal Shri S.R. Patil	8879770737 9833387967 8657489092	<u>cegw@mahagenco.in</u> <u>ceppmsedcl@gmail.com</u> eepp2msedcl@gmail.com
VI 32 33	<b>DAMAN &amp; DIU</b> Shri C.A. Parmar, C.E. Shri Rajnikant Chaubal, E.E.	9925211476 9924155572	caparmar1956@gmail.com rbchaubal@gmail.com
VII 34 35 36	<b>POSOCO,WRLDC</b> Shri M.M. Mehendale, C. G.M. Smt. S. Usha, C.G.M. Shri Akhil Gupta, Chief Mgr.	9422811701 9869404458 9574077727	<u>mehendale@grid-india.in</u> susha@grid-india.in akhil.gupta@grid-india.in
VIII 37 38 39	<b>POWERGRID (WR-I &amp; WR-II)</b> Shri K.P. Balanarayan , CGM (WR-I) Shri Satish Kumar Sahare, G.M. Shri H.S. Kaushal, Sr. G.M.	9449599050 9434748247 9599291535	kpbalanarayana@powergridindia.in satishkumarsahare@powergrid.in hsk@powergrid.in

XI 40		0400044007	nadaa @nawararid in
40 41	Shri P.S. Das, Sr. G.M. Shri Pratvush Singh. Ch. Mar.	9433041837 8826094863	psdas@powergrid.in pratvush-singh@powergrid.in
42	Ms. N. Mishra	9873918449	nutan@powergrid.in
v	NDCI		
^ 43	Shri Sandeep S., A G.M., NPCII	9869441211	ssarwate@npcil.co.in
			<u></u>
XI	NTPC		
44	Shri R. Kumar,D.G.M.	913117100	rakeshkumar@ntpc.co.in
45	Shri Abhy Sahu, A.G.M.	9423137986	agsahu@ntpc.co.in
46	Shri P.R. Jena, A.G.M. (Commi.)	9437964960	pravatranjan@ntpc.co.in_
XII	TATA POWER		
47	Shri P. Devanand, Chief PSCC	9871800506	p.devanand@tatapower.com
XIII		000000507	
48	Shri Manoj Taunk, A.V.P.	909900537	manoj.taunk@adani.com
49	SII. Adhishek Kukieja, Mgr.	0339930492	abilistiek.kukreja@adaili.com
XIV	NHDC		
50	Shri Sandeep K. Jain, G.M.	9425135183	skjain_nhdc@rediffmail.com_
51	Shri R.K. Mishra, S.M. (D & M)	8989519295	rakesh.mishra08@gmail.com
×1			
XV 52	D.B. Power Shri Kapil Dev Dubay, Sr. G.M.	0100051021	kanilday dubay@dbpower.in
52	Shiri Kapir Dev Dubay, Sr. G.M.	9109951021	
XVI	J.P. Nigrie		
53	Shri Navin Tinguria, V.P.	8349788717	navin.tinguria@jalindia.co.in
XVII 54	RKMPPL Shri Rojaah Kumar	9425000770	raiaabkumar t@rkm in
54	Shir Rajesh Ruman	6433000779	
XVIII	M B POWER		
55	Shri Satyendra Singh, A.V.P.	9650659956	satyendra.singh@hpppl.in
XIX	JPL Shri C.N. Singh, E.D.	0777464600	on singh@iindolnowor.com
50 57	Shiri Gini Gingin, E.D. Shri Aiit Kumar Rai, A.V.P., IDI	9111401009 7808005012	cn.singn@jindalpower.com
57		1090900010	
58	Shri Sanjay Singh		

#### LIST OF PARTICIPANTS OF 47th TCC MEETING HELD AT RAIPUR ON 14.06.2023

SI.No.	Members of TCC	Mobile No.	E-mail Address
1	Shri Raghuraj Rajendran, Chairman TCC & M.D.	9425925852	md@mppmcl.com
_	MPPMCL		
2	Shri S.S. Patel, C.E. , MPSLDC	9425805270	sspatel_2261@yahoo.com
3	Shri K.S. Manothiya, E.D., SLDC, Raipur	9826710989	ksmanothiyayks@gmail.com
4	Shri Sandeep S., A.G.M., NPCIL	9869441211	<u>ssarwate@npcil.co.in</u>
5	Shri P. Devanand, Chief PSCC	9871800506	p.devanand@tatapower.com
6	Shri Ajit Kumar Rai, A.V.P., JPL	7898905013	<u>ajitrai@jindalpower.com</u>
7	Shri Manoj Taunk, A.V.P., APML	9099005517	manoj.taunk@adani.com
8	Shri C.A. Parmar, C.EDNHDD Power Corp. Ltd.	9925211476	caparmar1956@gmail.com
9	Shri Satyanarayan S., M.S., WRPC		<u>ms-wrpc@nic.in</u>
п	WBBC		
10	ShripD Long SE (Comm!)	0067600000	comml urno@nic in
10	Shii P.D. Lone, S.E. (Connilli)	9007022023	
10	Shiri D.N. Gawaii, S.E.(Oph.)	9930000703	<u>opc-wipc@nic.in</u>
12	Shii Vidya Sagar Paladugu, E.E. (O & S)	9010061437	
13	Shri Deepak Sharma, E.E.	9711250509	commi-wrpc@nic.in_
Ш	CSPTCL/CSPGCL		
14	Shri R.K. Shukla, E.D.	9827191983	rk shukla1963@yahoo.co.in
15	Shri C.L. Netam, E.D.(O & M Gen)	9406249106	netamcl19671@gmail.com
16	Shri Sanjeev Katyar, M.D. (Gen.)	9425160587	rarvind2270@gmail.com
17	Shri Manoi Khare, M.D.	9826182532	
18	Shri Ram Krishna Arvind , Addl, C.E. (O & M)	8085013777	rarvind2270@gmail.com
19	Shri Girish Gupta, Addl. C.E.	9827115065	girish.gupta@cspc.co.in
20	Shri V.P. Kaushal, S.E.	7000778452	vpsk.in@gmail.com
21	Shri Aiay Kumar Singh, S.F.	9893193646	aiavsingh.cseb@gmail.com
22	Shri S. Surva Prakash F.F.	9329012913	prakashsps@sldccq.com
23	Shri Manoi Verma E E	9424298275	mverma csptcl@gmail.com
20		0121200210	<u>mroma.copto.o.gmai.com</u>
IV	MPPTCL / MPSLDC /MPPMCL		
24	Shri Firoj Kumar Meshram, C.G.M.	9425805844	fk.meshram@gmail.com
25	Shri Mohan Dhoke, Addl.C.E.	9425805237	stu.mp@mptransco.nic.in
26	Shri Pradeep Sachan, A.C.E.	9425805277	p.sachan@mptransco.nic.in
27	Shri B. Khan, Add.C.E.	9425806560	bashruddin63@gmail.com
28	Shri Girish Dixit, E.E.	9425806618	gkdixitmpeb@gmail.com
29	Shri Lokesh Dwivedi, E.E.	9425806878	Idewedi1968@amail.com
V	MSEDCL		
30	Shri Eknath Moze, C.E.	8879770737	cegw@mahagenco.in
31	Shri Dinesh Agrawal	9833387967	<u>ceppmsedcl@gmail.com</u>
32	Shri S.R. Patil	8657489092	eepp2msedcl@gmail.com
M			
33	Shri Rainikant Chaubal, E E	9924155572	rbchaubal@gmail.com
00		0021100012	<u>nonadball@gmail.com</u>
VII	POSOCO,WRLDC		
34	Shri M.M. Mehendale, C. G.M.	9422811701	<u>mehendale@grid-india.in</u>
35	Smt. S. Usha, C.G.M.	9869404458	<u>susha@grid-india.in</u>
36	Shri Akhil Gupta, Chief Mgr.	9574077727	akhil.gupta@grid-india.in_
\/III			
37	Shri K.P. Balanaravan , CGM (WR-I)	9449599050	kpbalanaravana@powergridindia in
38	Shri Satish Kumar Sahoo, G M	9434748247	satishkumarsahoo@powergrid in
39	Shri H S, Kaushal, Sr, G M	9599291535	hsk@powergrid.in
00		2000201000	

#### XI POWERGRID CORPORATE CENTER

- 40 Shri P.S. Das, Sr. G.M.
- 41 Shri Pratyush Singh, Ch. Mgr.
- 42 Ms. N. Mishra

#### X NTPC

- 43 Shri R. Kumar
- 44 Shri C.Siva Kumar
- 45 Shri Abhy Sahu, A.G.M.
- 46 Shri P.R. Jena, A.G.M. (Comml.)

#### XI APML

47 Sh. Abhishek Kukreja, Mgr.

#### XII NHDC

- 48 Shri Sandeep K. Jain, G.M.
- 49 Shri R.K. Mishra, S.M. (D & M)
- 50 Shri V.K. Sinha

### XIII D.B. Power

51 Shri Kapil Dev Dubay, Sr. G.M.

#### XIV J.P. Nigrie

52 Shri Navin Tinguria, V.P.

#### XV M B POWER

53 Shri Satyendra Singh, A.V.P.

#### XVI JPL

- 54 Shri Satish
- 55 Shri C.N.

# 9433041837 psdas@powergrid.in 8826094863 pratyush-singh@powergrid.in 9873918449 nutan@powergrid.in 913117100 rakeshkumar@ntpc.co.in 913117100 csivakumar@ntpc.co.in 9423137986 agsahu@ntpc.co.in 9437964960 pravatranjan@ntpc.co.in 6359956492 abhishek.kukreja@adani.com 9425135183 skjain nhdc@rediffmail.com 8989519295 rakesh.mishra08@gmail.com 9811737111 rakesh.mishra08@gmail.com 9109951021 kapildev.dubey@dbpower.in 8349788717 navin.tinguria@jalindia.co.in 9650659956 satyendra.singh@hpppl.in

9810227433 <u>satish.kumar@jindalpower.com</u> 7087861634

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division



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 मे/To

As per list of Addresses

विषय : ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की चौटहती बैठक का कार्यवत - के सम्बन्ध में ।

Subject: Minutes of the 14<sup>th</sup> Meeting of National Committee on Transmission (NCT) - regarding.

महोदया (Madam) / महोदय (Sir),

The 14<sup>th</sup> meeting of the "National Committee on Transmission" (NCT) was held on 09<sup>th</sup> June, 2023. Minutes of the meeting are enclosed herewith.

अवदीय/Yours faithfully,

.1.222

(ईशान शरण / Ishan Sharan) मुख्य अभियंता एवं सदस्य सचिव ,एनसीटी /Chief Engineer & Member Secretary (NCT)

प्रतिलिपि / Copy to:

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

# List of Addresses:

1.	Chairperson,	2.	Member (Power System),
	Central Electricity Authority		Central Electricity Authority
	Sewa Bnawan, K.K. Puram,		Sewa Bnawan, K.K. Puram,
	New $Delm = 110066$ .		New $Deini - 110066$ .
3.	Member (Economic & Commercial),	4.	Director (Trans), Ministry of Power
	Central Electricity Authority		Shram Shakti Bhawan,
	Sewa Bhawan, R.K. Puram,		New Delhi-110001.
	New Delhi – 110 066.		
5.	Sh. Ajay Yadav, Joint Secretary	6.	Chief Operating Officer, CTUIL,
	Room no 403, Atal Akshay Urja Bhawan,		Saudamini, Plot No. 2,
	Opposite CGO Complex gate no 2,		Sector-29, Gurgaon – 122 001.
	Lodhi Road, New Delhi – 110003		
7.	Sh. Rainath Ram.	8.	CMD. Grid Controller of India.
	Adviser (Energy), NITI Aavog.		B-9. Outub. Institutional Area. Katwaria
	Parliament Street		Sarai New Delhi – 110010
	New Delhi $- 110,001$		
9	Dr. Radheshvam Saha	10	Ms. Seema Gunta
· ·	Ev. Chief Engineer		Fy Director (Operations)
	DA. Unior Eligilico, Control Electricity, Authority	•	DAL DIRECTOR (Operations),
	Central Electricity Authority		FUWERUKID

# **Special Invitee**

Chief Engineer (PCD), CEA

Gel

# Index

1	Confirmation of the minutes of the 13 <sup>th</sup> meeting of National Committee on Transmission4
2	Status of the transmission schemes noted/approved/recommended to MoP in the 13 <sup>th</sup> meeting of NCT:
3	New Transmission Schemes:
4	Modification in the earlier approved/notified transmission schemes:43
5	Comprehensive presentation by CTU apprising NCT of measures taken for ensuring development of an efficient, co-ordinated and economical ISTS for smooth flow of electricity
6	Five-year rolling plan for ISTS capacity addition
7	Any other issues, with permission of chair
Su	mmary of the deliberations of the 14th meeting of NCT held on 09th June, 202350
An	nex-I71

Gel 3

# Minutes of the 14<sup>th</sup> meeting of National Committee on Transmission

List of Participants is enclosed at Annex-I.

- 1 Confirmation of the minutes of the 13<sup>th</sup> meeting of National Committee on Transmission.
- 1.1 The minutes of the 13<sup>th</sup> meeting of NCT held on 12.05.2023 were issued vide CEA letter no CEA-PS-12-13/3/2019-PSPA-II dated 19.05.2023. Comments/observations were not received on the minutes.
- 1.2 Accordingly, members confirmed the minutes.

# 2 Status of the transmission schemes noted/approved/recommended to MoP in the 13<sup>th</sup> meeting of NCT:

2.1 The status of the transmission schemes noted/approved/recommended in the 13<sup>th</sup> meeting of NCT is tabulated below:

Sl. No.	Name of the Transmission	Noted/	Survey	MoP approval	Remarks
	Scheme	Recommended	Agency		
1.	Establishment of State- of the Art Unified Network Management System (U-NMS) for ISTS and State Utility Communication System for Southern Region	Approved	Not Applicable	Not Applicable (Cost of the scheme being less than Rs. 500 Crore)	Under RTM route
2.	EasternRegionExpansionScheme-XXXVII(ERES-XXXVII)	Approved	Not Applicable	Not Applicable (Cost of the scheme being less than Rs. 500 Crore)	Under RTM route

# **3** New Transmission Schemes:

# 3.1 Augmentation of transformation capacity by 1x1500 MVA, 765/400 kV ICT (3<sup>rd</sup>) at Maheshwaram (PG) substation in Telangana

3.1.1 As per SRLDC, augmentation of transformation capacity at Maheshwaram by 1x1500 MVA, 765/400 kV ICT is required as existing ICTs (2x1500 MVA) at Maheshwaram (GIS) are over loaded and 'N-1' criterion is not getting satisfied. Additionally, as per the studies carried out as part of the Rolling Plan exercise for the year 2026-27, under N-1 contingency of one ICT, loading on the other is around 114% of the rating and therefore augmentation by 1x1500 MVA, 765/400 kV ICT (3<sup>rd</sup>) at Maheshwaram is required.

Accordingly, augmentation of transformation capacity at Maheshwaram (PG) by 1x1500 MVA (3<sup>rd</sup>) for improving reliability and meeting the peak demand of Telangana was discussed and agreed in the 14<sup>th</sup> CMETS-SR meeting held on 26.12.2022.

3.1.2 After detailed deliberations, augmentation of transformation capacity by 1x1500 MVA (3<sup>rd</sup>), 765/400 kV ICT at Maheshwaram (PG) substation in Telangana was agreed to be implemented under RTM route by POWERGRID.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Augmentation of transformation	123.12	Approved to be
	capacity by 1x1500 MVA, 765/400 kV		implemented under
	ICT (3 <sup>rd</sup> ) at Maheshwaram (PG)		RTM route by
	substation in Telangana		POWERGRID.
	Implementation timeframe: 21 months from the date of allocation		

3.1.3 Summary of the scheme is given below:

3.1.4 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Tran	smission S	Scheme	<b>Capacity</b> / Route length
1	Augmentation by	1x1500	MVA,	• 765/400 kV, 1500 MVA ICT – 1 No.
1.	765/400 kV	ICT	at	• 765 kV ICT bays – 1 No. (GIS)
	Maheshwaram(PG)	S/s		• 400 kV ICT bays – 1 No. (GIS)
				• 400 kV GIS duct along with associated
				support structure – 710 m (total length for
				three phases)
				• 765 kV GIS duct along with associated
				support structure – 800 m (total length for
				three phases)

Gel

# 3.2 Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW)

3.2.1 Transmission system for evacuation of 15 GW power from Khavda RE Park has already been evolved in 3 phases (Phase-I: 3 GW, Phase-II: 5 GW & Phase-III: 7 GW). Phase I and Phase II transmission schemes are under construction and Phase III transmission scheme is under bidding.

3.2.2 Stage-II connectivity applications for 18.605 GW (KPS-I: 9 GW, KPS-II: 3.755 GW & KPS-III: 5.85 GW) have already been received till January, 2023. Considering the rapid pace of connectivity applications being received in Khavda area and request from GPCL vide e-mail dated 23.12.2022 to consider 30 GW RE potential in Khavda for planning the power evacuation system, transmission system for balance 15 GW Khavda REZ has now been planned in two phases (Phase-IV: 7 GW AC & Phase-V: 8 GW HVDC). The present scheme has been planned to enable the evacuation of additional 7 GW RE power from Khavda RE park under Phase IV.

3.2.3 Member Secretary, NCT, stated that the modified scheme as per deliberations in 12<sup>th</sup> NCT meeting held on 28.03.2023 and meetings held on 20.04.2023 & 09.05.2023 amongst CEA, CTUIL & GRID-INDIA, had been sent by CTUIL to WRPC vide letter dated 12.05.2023 for views/observations within 10 days. However, no views were received from WRPC in this regard.

3.2.4 After detailed deliberations, the transmission scheme was agreed to be implemented subject to views of WRPC. Subsequently, in the 47<sup>th</sup> WRPC meeting held on 15.06.2023, the subject scheme was deliberated. However, minutes of WRPC meeting are yet to be issued. Details of the packages formulated for implementation of the scheme is given below:

Sl.	Name of the scheme	Implementation mode
No.		
1.	Part A	TBCB
2.	Part B	TBCB
3.	Part C	TBCB
4.	Part D	TBCB
5.	Part E1	RTM
6.	Part E2	TBCB
7.	Part E3	RTM
8.	Part E4	RTM

Gel

6

Package wise details of the scheme are given below:

Sl. No.	Name of the transmission scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	4091	Recommended to
	Power from potential renewable energy		be implemented
	zone in Khavda RE park of Gujarat		through TBCB
	under Phase-IV (7 GW): Part A		route.
	Tentative Implementation timeframe: 24 months from SPV transfer and matching with Parts B, C & D of Khavda Ph-IV (7 GW)		

# 3.2.5 **Phase-IV: Part A - Summary**

# 3.2.6 Detailed scope of Part A Scheme is given below:

S Scope of the Transmission Scheme	Capacity/ Route length
N	
Creation of 765 kV bus section-II at KPS3	Bus Section-II at KPS3
(GIS) along with 765 kV Bus Sectionaliser & 1x330 MVAR, 765 kV Bus Reactors on Bus Section-II	765 kV Bus Sectionaliser – 1 set
Bus section – II shall be created at 765 kV & 400 kV level both with 3x1500 MVA, 765/400	1500 MVA, 765/400 kV ICT – 3 Nos.
kV ICTs at Bus Section-II	330 MVAR, 765 kV Bus Reactor – 1 No.
	765 kV reactor bay – 1 No.
	765 kV ICT bays – 3 Nos.
Creation of 400 kV bus Section-II at KPS3	Bus Section-II at KPS3
(GIS) along with 400 kV Bus Sectionaliser & 1x125 MVAR, 420 kV Bus Reactors on Bus Section-II and 3 Nos. 400 kV bays at Bus	400 kV Bus Sectionaliser – 1 set
Section-II for RE interconnection	125 MVAR, 420 kV Bus Reactors – 1 No.

hd

<b>S</b> Scope of the Transmission Scheme	Capacity/ Route length
N	
0	
	400 kV reactor bay – 1 No.
	400 kV ICT bays – 3 Nos.
	(for ICTs at Sl. 1 above)
	400  kV line bays $-3  Nos.$ (for PE interconnection)
	KE interconnection)
KPS3 (GIS) – Lakadia (AIS) 765 kV D/C line	Route length: 185 km
2 Nos. of 765 kV line bays each at KPS3 (GIS)	• 765 kV line bays (GIS) – 2 Nos.
& Lakadia (AIS) for KPS3 (GIS) – Lakadia	a (at KPS3 end Bus section-II)
(AIS) 765 kV D/C line	• 765 kV line bays (AIS) $- 2$ Nos.
5+300 MVAR STATCOM with 1x125 MVAR	(at Lakadia end) +300 MVAR STATCOM (with
MSC 2x125 MVAR MSR at KPS3 400 kV	$1 \times 125$ MVAR BIATCOM (with 1x125 MVAR MSC, 2x125
Bus section-II	MVAR MSR)
	• 400 kV bay – 1 No.
KPS1 (GIS)– Bhuj PS 765 kV 2 <sup>nd</sup> D/C line	• Route length: 110 km
2 Nos. of 765 kV line bays each at KPS1 (GIS)	• 765 kV line bays (GIS) $- 2$ Nos.
& Bhuj PS for KPS1 (GIS) – Bhuj PS 765 kV	(at KPS1 end Bus section-II)
D/C line	<ul> <li>/65 KV line bays (AIS) – 2 Nos. (at Bhui end)</li> </ul>
830 MVAR switchable line reactors at KPS3	• 330 MVAR, 765 kV switchable
end of KPS3 (GIS) – Lakadia 765 kV D/C line	line reactor- 2 Nos.
(with NGR bypass arrangement)	• Switching equipment for 765 kV
	Inne reactor- 2 Nos.
	reactor unit at KPS3 (GIS) end

Note:

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

iii. The TSP of the present scheme shall arrange for additional land for installation of STATCOM (with MSC/MSR) as specified at Sl. No. 5 at KPS3 and TSP of KPS3 shall provide space for 1 No. 400 kV bay for termination of STATCOM.

v. The TSP of the present scheme shall arrange for additional land adjoining Lakadia S/s for creation of 2 Nos. 765 kV diameter consisting of 1 main bay & 1 Tie bay (for each diameter)

Gel

ii. TSP of KPS3 shall provide space for work envisaged at Sl. 1, 2, 4, 5 & 8.

iv. TSP of KPS1 and Bhuj PS shall provide space for work envisaged at Sl. No. 7.

in one-and-half breaker AIS scheme, towards implementation of 2 Nos. 765 kV line bays at Lakadia S/s (at Sl. No. 4) associated with KPS3 – Lakadia 765 kV D/c line and the same shall be extendable in future for integration of  $2^{nd}$  main bay (future line with switchable line reactor) for diameter completion.

- vi. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- vii. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	4,766	Recommended to be
	power from potential renewable energy		implemented
	zone in Khavda area of Gujarat under		through TBCB
	Phase-IV (7 GW): Part B		route.
	Tentative Implementation timeframe: 24 months from SPV transfer and matching with Parts A, C & D of Khavda Ph-IV (7 GW)		

# 3.2.7 **Phase-IV: Part B - Summary**

3.2.8	Detailed	scope of	Part B	Scheme	is	given	belo	)W:
						0		

S Scope of the Transmission Scheme	Capacity/ Route length
1.	
N	
0	
•	
1 Establishment of 2x1500 MVA, 765/400	765/400 kV, 1x1500 MVA
. kV & 2x500 MVA, 400/220 kV GIS S/s at	ICT-2 Nos. (7x500 MVA
a suitable location South of Olpad (between	single phase units including
Olpad and Ichhapore) with 2x330 MVAR,	one spare unit)
765 kV & 1x125 MVAR, 420 kV bus reactors	400/220 kV, 500 MVA ICT – 2 Nos.
Future Provisions:	765 kV ICT bays- 2 Nos.
Space for	400 kV ICT bays- 4 Nos.
➢ 765/400 kV ICT along with bays- 4 Nos.	220 kV ICT bays- 2 Nos.
➢ 765 kV line bays along with switchable line reactors − 8 Nos.	220 kV BC bay – 1 No.
$\succ$ 765 kV Bus Reactor along with bay:	330 MVAR, 765 kV bus

Gel

# File No.CEA-PS-12-13/3/2019-PSPA-II Division

2 Nos.	reactor-2 Nos.
<ul> <li>765 kV Sectionaliser bay: 1 - set</li> <li>400 kV line bays along with switchable line reactor - 8 Nos.</li> </ul>	125 MVAR, 420 kV bus reactor-1 No.
➤ 400/220 kV ICT along with bays - 8 Nos.	765 kV reactor bay- 2 Nos.
<ul> <li>420 kV Bus Reactor along with bay:</li> <li>3 Nos.</li> </ul>	765 kV line bay- 4 Nos.
<ul> <li>400 kV Sectionalization bay: 1- set</li> <li>220 kV line bays: 18 Nos</li> </ul>	400 kV reactor bay- 1 No.
<ul> <li>220 kV line odys: 10 103.</li> <li>220 kV Sectionalization bay: 1 set</li> <li>220 kV BC: 1 Noc.</li> </ul>	400 kV line bay- 4 Nos.
<ul> <li>Establishment of 2500 MW, ± 500 kV South Olpad (HVDC) [VSC] terminal station (2x1250 MW)</li> </ul>	110 MVAR, 765 kV, 1-ph reactor (spare unit for line/bus reactor)-1 No.
2 Vadodara (GIS) – South Olpad (GIS) 765	Route length: 140 km
. kV D/C line	
3 240 MVAR switchable line reactors on each ckt at Vadodara(GIS) end of Vadodara(GIS) –South Olpad (GIS) 765 kV D/C line (with NGR bypass arrangement)	<ul> <li>240 MVAR, 765 kV switchable line reactor- 2 Nos.</li> <li>Switching equipment for 765 kV line reactor- 2 Nos.</li> <li>1x80 MVAR spare bus reactor available at Vadodara (GIS) to be used as spare</li> </ul>
<ul> <li>4 2 Nos. of 765 kV line bays at Vadodara</li> <li>. (GIS) for Vadodara(GIS) – South Olpad</li> <li>. (GIS) 765 kV D/C line</li> </ul>	<ul> <li>765 kV line bays (GIS) – 2 Nos. (at Vadodara end)</li> </ul>
<ul> <li>5 LILO of Gandhar – Hazira 400 kV D/c line</li> <li>. at South Olpad (GIS) using twin HTLS conductor with minimum capacity of 1700 MVA per ckt at nominal voltage</li> </ul>	LILO route length ~ 10 km.
6 Ahmedabad – South Olpad (GIS) 765 kV . D/c line	Route length: 250 km
7 240 MVAR switchable line reactors on each ckt at Ahmedabad & South Olpad (GIS) end of Ahmedabad – South Olpad (GIS) 765 kV D/c line (with NGR bypass arrangement)	<ul> <li>240 MVAR, 765 kV switchable line reactor- 4 Nos. [2 for Ahmedabad end and 2 for South Olpad (GIS) end]</li> <li>Switching equipment for 765 kV line reactor- 4 Nos. [2 for Ahmedabad end and 2 for South Olpad (GIS) end]</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor - 1 No. (for South Olpad end)</li> </ul>

Gel

10

	<ul> <li>1x80 MVAR, 765 kV 1-ph spare line reactor being implemented for Lakadia – Ahmedabad line (under Khavda Ph-II Part B scheme) at Ahmedabad S/s to be used as spare</li> </ul>
8 2 Nos. of 765 kV line bays at Ahmedabad S/s for Ahmedabad – South Olpad (GIS) 765 kV D/c line	<ul> <li>765 kV line bays (AIS) – 2 Nos. (at Ahmedabad end)</li> </ul>

### Note:

- i. TSP of Vadodara S/s shall provide space for work envisaged at Sl. No. 3 & 4 given above
- ii. TSP of Ahmedabad S/s shall provide space for work envisaged at Sl. No. 7 & 8 given above
- iii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- iv. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

# 3.2.9 **Phase-IV: Part C - Summary**

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	5,340	Recommended to
	power from potential renewable energy		be implemented
	zone in Khavda area of Gujarat under		through TBCB
	Phase-IV (7 GW): Part C		route.
	Tentative Implementation timeframe: 24 months from SPV transfer and matching with Parts A, B & D of Khavda Ph-IV (7 GW)		

# 3.2.10 Detailed scope of Part C Scheme is given below:

S	Scope of the Transmission Scheme	Capacity / Route length
1		
+		
N		
0		
1	Establishment of 4x1500 MVA, 765/400	765/400 kV, 1500 MVA
	kV & 2x500 MVA, 400/220 kV Boisar-II	ICT- 4 Nos. (13x500
	(GIS) S/s with 2x330 MVAR, 765 kV bus	MVA single phase units
	reactors and 2x125 MVAR, 420 kV bus	

Gel

S Scope of the Transmission Scheme	Capacity / Route length
<ul> <li>reactors.</li> <li>(2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition)</li> <li>Future Provisions: Space for</li> <li>765/400 kV ICT along with bays- 2 No.</li> <li>765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 - set</li> <li>400 kV line bays along with bays - 6 Nos.</li> <li>400/220 kV ICT along with bays - 6 Nos.</li> <li>420 kV Bus Reactor along with bay: 2 No.</li> <li>220 kV line bays: 12 Nos.</li> <li>220 kV BC: 1 No.</li> </ul>	<ul> <li>including one spare unit)</li> <li>400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>765 kV ICT bays- 4 Nos.</li> <li>400 kV ICT bays- 6 Nos. (2 Nos. on Bus Section-I and 4 Nos. on Bus Section-II)</li> <li>400 kV Bus Sectionaliser-1 set</li> <li>220 kV ICT bays- 2 Nos.</li> <li>220 kV BC bay – 1 No.</li> <li>330 MVAR, 765 kV bus reactor-2 Nos.</li> <li>125 MVAR, 420 kV bus reactor-2 Nos.</li> <li>765 kV reactor bays- 2 Nos.</li> <li>765 kV line bays- 6 Nos.</li> <li>400 kV reactor bays- 2 Nos. (one on each bus section)</li> <li>400 kV line bay- 6 Nos.</li> </ul>

Gel

12

# File No.CEA-PS-12-13/3/2019-PSPA-II Division

S Scope of the Transmission Scheme	<b>Capacity</b> / Route length
N 0	
	110 MVAR, 765 kV, 1- ph reactor (spare unit for line/bus reactor)-1 No.
2South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line	Route length: 225 km
<ul> <li>Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> </ul>	765 kV line bays (GIS) – 2 Nos. (for South Olpad end)
<ul> <li>240 MVAR switchable line reactors on each ckt at South Olpad (GIS) &amp; Boisar-II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>LILO of Navsari (New) – Padghe (PG) 765 kV D/c</li> </ul>	<ul> <li>240 MVAR, 765 kV switchable line reactor- 4 [2 for Boisar-II (GIS) and 2 for South Olpad (GIS)]</li> <li>Switching equipment for 765 kV line reactor- 4 (2 for Boisar-II (GIS) and 2 for South Olpad (GIS))</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor - 1 No. (for Boisar-II end)</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor proposed for Ahmedabad - South Olpad (GIS) 765 kV line (under Khavda Ph-IV Part B scheme) at South Olpad (GIS) S/s to be used as spare</li> <li>LILO route length: 25 km.</li> </ul>
line at Boisar-II Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Ouad ACSP/AAAC/AL59 moose equivalent) line	Route length: 10 km.
<ul> <li>2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/ c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> </ul>	400 kV line bays (GIS) – 2 Nos. [for Velgaon (MH) end]
LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at	LILO route length: 65 km.

Gel

N	
nominal voltage	
80 MVAR switchable line reactors at Bosar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO	80 MVAR, 420 kV switchable line reactor including switching equipment- 2 Nos.
⊭200 MVAR STATCOM with 2x125 MVAR MSC, 01x125 MVAR MSR at 400 kV bus section-I of Boisar-II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II	<ul> <li>±200 MVAR STATCOM (with MSC/MSR) on 400 kV Section-I</li> <li>400 kV bay - 1 No. on Section-I</li> <li>±200 MVAR STATCOM (with MSC/MSR) on 400 kV section-II</li> <li>400 kV bay - 1 No. on Section-II</li> </ul>
	±300 MVAR STATCOM (with MSC/MSR) 400 kV bay – 1 No.
Note:	

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

- MSETCL shall carry out reconductoring of the balance portion of Padghe (M) Boisar-II 400 kV D/c line (i.e. from LILO point upto Padghe(M)) and shall also carry out corresponding upgradation of 400 kV bays at Padghe (M) as may be required in matching time-frame of the LILO line. MSETCL has confirmed the maximum capacity of the line which can be achieved after reconductoring considering clearances in existing towers of Babhaleswar Padghe (M) 400 kV D/c line as 1700 MVA per ckt.
- MSETCL shall implement the LILO of both circuits of Boisar-II Velgaon 220 kV D/c line at Boisar-II (ISTS) S/s along with 4 Nos. 220 kV GIS bays at Boisar-II in matching timeframe of Boisar-II (ISTS) S/s.
- iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at Sl. No. 3 & 4.
- v. MSETCL shall provide space for the work envisaged at Sl. No. 7 at Velgaon S/s.
- vi. TSP of the subject scheme shall implement Inter-tripping scheme on South Olpad (GIS) Boisar-II (GIS) 765 kV D/c line (for tripping of the switchable line reactor at either end along with the main line breaker).
- vii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- viii. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Gel

	•		
Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	3,455	Recommended to
	Power from potential renewable energy		be implemented
	zone in Khavda area of Gujarat under		under TBCB route.
	Phase-IV (7 GW): Part D		
	Tentative Implementation timeframe: 24 months from SPV transfer and matching with Parts A, B & C of Khavda Ph-IV (7 GW)		

# 3.2.11 Phase-IV: Part D - Summary

# 3.2.12 Detailed scope of Part D Scheme is given below:

S I	Scope of the Transmission Scheme	Capacity/ Route length
N 0		
1	Establishment of 2x1500 MVA, 765/400	765/400 kV, 1500 MVA
	kV & 3x500 MVA, 400/220 kV Pune-	ICT-2 Nos. (7x500 MVA
	III (GIS) S/s with $2x330$ MVAR, 765	including one spare unit)
	kV bus reactor and 2x125 MVAR, 420 kV bus reactor.	400/220 kV, 500 MVA ICT – 3 Nos.
	Future Provisions:	765 kV ICT bays- 2 Nos.
	Space for	400 kV ICT bays- 5 Nos.
	<ul><li>765/400 kV ICT along with bays- 4 No.</li><li>765 kV line bays along with switchable line</li></ul>	220 kV ICT bays- 3 Nos.
×	reactors – 8 Nos. 765 kV Bus Reactor along with bay: 2 No.	220 kV BC bay – 1 No.
	765 kV Sectionaliser bay: 1 -set 400 kV line bays along with switchable line reactor – 12 Nos.	330 MVAR, 765 kV bus reactor-2 Nos.
$\succ$	400/220 kV ICT along with bays -5 Nos.	125 MVAR, 420 kV bus
	400 kV Bus Reactor along with bay: 2 No. 400 kV Sectionalization bay: 1 set	reactor-2 Nos.
	220 kV line bays: 12 Nos.	765 kV reactor bay- 2
	220 kV Sectionalization bay: 1 set 220 kV BC: 1 No.	Nos.

S Scope of the Transmission Scheme	Capacity/ Route length
N O	
<ul> <li>STATCOM (±300 MVAR) along with MSC (3x125 MVAR) &amp; MSR (1x125 MVAR): alongwith 1 No. 400 kV bay: 1 No.</li> <li>80 MVAR, 765 kV, 1-ph reactor (spare unit for line reactor)-1 No.</li> </ul>	<ul> <li>765 kV line bay- 6 Nos.</li> <li>400 kV reactor bay- 2 Nos.</li> <li>400 kV line bay- 2 Nos.</li> <li>110 MVAR, 765 kV, 1-ph reactor (spare unit for line/ bus reactor)-1 No.</li> </ul>
Boisar-II – Pune-III 765 kV D/c line	Route length: 200 km
330 MVAR switchable line reactors at Pune-III end of Boisar-II – Pune-III 765 kV D/c line (with NGR bypass arrangement).	<ul> <li>330 MVAR, 765 kV switchable line reactor- 2 Nos.</li> <li>Switching equipment for 765 kV line reactor- 2 Nos.</li> <li>1x110 MVAR spare bus reactor available at Pune-III (GIS) to be used as spare</li> </ul>
42 Nos. of 765 kV line bays at Boisar-II for termination of Boisar-II – Pune-III 765 kV D/c line	<ul> <li>765 kV line bays (GIS) – 2 Nos. (for Boisar-II end)</li> </ul>
LILO of Narendra (New) – Pune (GIS) 765 kV D/ c line at Pune-III	LILO route length: 10 km.
630 MVAR switchable line reactors at Pune-III end of Narendra (New) – Pune-III(GIS) 765 kV D/ c line (with NGR bypass arrangement).	<ul> <li>330 MVAR, 765 kV switchable line reactor- 2.</li> <li>Switching equipment for 765 kV line reactor- 2</li> <li>1x110 MVAR spare bus reactor (1-ph) available at Pune-III (GIS) to be used as spare</li> </ul>
LILO of Hinjewadi-Koyna 400 kV S/c line at Pune-III (GIS) S/s	LILO route length: 40 km.
80 MVAR, 420 kV switchable Line Reactors on each ckt at Pune-III (GIS) end of Pune-III (GIS) – Koyna 400 kV line formed after above LILO (with	• 80 MVAR, 420 kV switchable line reactor along with switching equipment- 2 Nos.

16

Capacity/ Route length

- Note:
- i. Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme, shall also be executed by the TSP.
- Logic for Inter-tripping scheme for tripping of the 330 MVAR switchable line reactor along with main line breaker at Pune (GIS) end of Pune (GIS) Narendra (New) 765 kV D/c line shall be implemented by the owner of the line after LILO of Narendra (New) Pune (GIS) 765 kV D/c line at Pune-III
- iii. MSETCL shall implement the following 220 kV lines along with 5 Nos. 220 kV GIS bays at Pune-III (GIS) S/s in matching time-frame of Pune-III S/s:
  - a. LILO of both circuits of Jejuri-Phursungi 220 kV D/c line at Pune-III S/s with HTLS conductor (twin zebra equivalent) along with reconductoring of balance line section viz. LILO point to Phursungi and LILO points to Jejuri with HTLS conductor (twin zebra equivalent)
  - b. Nanded City Pune PG III 220 kV S/c line with HTLS conductor (twin zebra equivalent)
- iv. TSP of Boisar-II S/s shall provide space for work envisaged at Sl. No. 4.
- **v.** The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- vi. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation	216	Approved to be
	of Power from potential renewable		implemented under
	energy zone in Khavda area of		RTM by Adani
	Gujarat under Phase-IV (7 GW): Part		Transmission Limited
	E1		(the TSP implementing
	Implementation timeframe: 24 months from the date of allocation		KPS 1)

# 3.2.13 Phase-IV: Part E1 - Summary

Gel

17

3.2.14	Detailed sco	pe of Part E1	Scheme is	given	below:
0.2.1	2	p• • • • • • • • • • • • • •	~~~~~		

S I	Scope of the Transmission Scheme	Capacity/ Route length	
N 0	Į		
	Augmentation of transformation capacity at KPS1 (GIS) by 1x1500 MVA, 765/400 kV ICT (8 <sup>th</sup> ) on bus section-I	<ul> <li>1500 MVA, 765/400 kV ICT – 1 No.</li> <li>765 kV bays – 2 Nos. on bus Section-I (including 1 No. bay for Dia completion)</li> <li>400 kV bays – 2 Nos. on bus section-I (including 1 No. bay for Dia completion)</li> </ul>	

### Note:

- i. The TSP shall implement one complete diameter consisting of 2 main bays & 1 Tie bay at both 765 kV & 400 kV levels of KPS1 (GIS) for completion of diameter (GIS) in one-and-half breaker scheme.
- ii. Further, TSP of KPS1 shall provide space to carry out the above augmentation work.

# 3.2.15 Phase-IV: Part E2 - Summary

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	697	Recommended to
	Power from potential renewable energy		be implemented
	zone in Khavda area of Gujarat under		under TBCB route.
	Phase-IV (7 GW): Part E2		
	Tentative Implementation timeframe: 21 months from SPV transfer		

S Scope of the Transmission Scheme	Capacity/ Route length
N 0	
Augmentation of transformation capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5 <sup>th</sup> & 6 <sup>th</sup> ) & 2x1500 MVA, 765/400 kV ICT on Bus section-II (7 <sup>th</sup> & 8 <sup>th</sup> ) & 2 Nos. 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection	<ul> <li>1500 MVA, 765/400 kV ICT – 4 Nos.</li> <li>765 kV bays – 4 Nos. [2 Nos. complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)]</li> </ul>
	400 kV bays– 10 Nos. [4 Nos. ICT bays (2 on each section) & 5 Nos. line bays (2 on bus section-I & 3 on bus section-II) along with 1 No. bay on Bus Section-II for Dia

Note:

i. The TSP shall implement two complete diameters (1 on Bus Section-I & 1 on bus section-II) at 765 kV level of KPS2 (GIS) consisting of 2 Main Bays & 1 Tie Bay required for completion of diameter (GIS) in one-and-half breaker scheme.

completion]

- The TSP shall implement five complete diameters (2 on Bus Section-I & 3 on Bus ii. Section-II) at 400 kV level of KPS2 (GIS) consisting of 2 Main Bays & 1 Tie bay required for completion of diameter (GIS) in one-and-half breaker scheme.
- iii. Further, TSP of KPS2 shall provide space to carry out the above augmentation work.
- 2 Nos. 400 kV bays at Bus Section-I for RE interconnection and 1 No. 400 kV bays at iv. Bus Section-II for RE interconnection are already under implementation at KPS2.
- The implementation timeline mentioned above is tentative. Final Timeline would be v. indicated in the RfP Document.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	216	Approved to be
	Power from potential renewable energy		implemented under
	zone in Khavda area of Gujarat under		RTM by the TSP
	Phase-IV (7 GW): Part E3		implementing KPS
			3.

# 3.2.17 Phase-IV: Part E3 - Summary

Implementation timeframe: 24 months	
from date of allocation	

# 3.2.18 Detailed scope of Part E3 Scheme is given below:

Scope of the Transmission Scheme	Capacity/ Route length
No.	
Augmentation of transformation capacity at	1500 MVA, 765/400 kV ICT – 1
KPS3 (GIS) by 1x1500 MVA, 765/400 kV	No.
ICT (7 <sup>th</sup> ) on Bus section-I	<ul> <li>765 kV bays – 2 Nos. on Bus Section-I (including 1 No. bay for Dia completion)</li> <li>400 kV bays – 2 Nos. on Bus section-I (including 1 No. bay for Dia completion)</li> </ul>

# Note:

- 1. The TSP shall implement one complete diameter consisting of 2 Main Bays & 1 Tie Bay at both 765 kV & 400 kV levels of KPS3 (GIS) required for completion of diameter (GIS) in one-and-half breaker scheme.
- 2. Further, TSP of KPS3 shall provide space to carry out above augmentation work.

# 3.2.19 Phase-IV: Part E4 - Summary

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	235	Approved to be
	Power from potential renewable energy		implemented under
	zone in Khavda area of Gujarat under		RTM route by
	Phase-IV (7 GW): Part E4		POWERGRID
	Implementation timeframe: 24 months from date of allocation		

# 3.2.20 Detailed scope of Part E4 Scheme is given below:

S 1 N 0	Scope of the Transmission Scheme	Capacity/ Route length
1 A	Augmentation of transformation capacity at Padghe (PG) (GIS) by 1x1500 MVA,	1500 MVA, 765/400 kV ICT – 1

Gel

S 1 N 0	Scope of the Transmission Scheme	Capacity/ Route length
76	5/400 kV ICT (4 <sup>th</sup> )	No. 765 kV bays – 2 Nos. (including 1 No. bay for Dia completion) 400 kV bays – 2 Nos. (including 1 No. bay for Dia completion) 765 kV GIB Duct (single phase) – 510 m (approx.) for three phases
		400 kV GIB Duct (single phase) – 500 m (approx.) for three phases

*Note:* 

i. POWERGRID shall implement one complete diameter consisting of 2 main bays & 1 Tie bay at both at 765 kV & 400 kV levels Padghe (PG)(GIS) required for completion of diameter (GIS) in one-and-half breaker scheme.

# 3.3 Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-V (8 GW)

3.3.1 The Phase V (HVDC) transmission scheme has been planned for evacuation of additional 8 GW RE power from Khavda RE park.

3.3.2 Member Secretary, NCT, stated that the modified scheme as per deliberations in 12<sup>th</sup> NCT meeting held on 28.03.2023 and meetings held on 20.04.2023 & 09.05.2023 amongst CEA, CTUIL & GRID-INDIA had been by CTUIL to WRPC vide letter dated 12.05.2023 for views/observations within 10 days. However, no views were received from WRPC in this regard.

3.3.3 After detailed deliberations, the following was agreed w.r.t. the transmission schemes, subject to views/observations of WRPC. Subsequently, in the 47<sup>th</sup> WRPC meeting held on 15.06.2023, the subject scheme was deliberated. Minutes of WRPC meeting is to be issued.

Sl. No.	Name of the scheme	Mode of implementation
1.	Part A	TBCB

Gel
2.	Part A1	RTM
3.	Part B	To be reviewed.
4.	Part C	TBCB

## 3.3.4 Phase-V: Part A- Summary

Sl. No.	Name of the scheme and	Estimated Cost	Remarks	
	implementation timeframe	(₹ Crores)		
1.	Transmission System for Evacuation of	24,819	Recommended to be	
	Power from potential renewable energy		implemented	
	zone in Khavda area of Gujarat under		through TBCB	
	Phase-V (8 GW): Part A		route.	
	Tentative Implementation timeframe:			
	48 months for Bipole-1 (2x1500 MW)			
	and 54 months for Bipole-2 (2x1500			
	MW)			

## 3.3.5 Detailed scope of Part A Scheme is given below:

Sl. No.	Scope	Capacity/ Route length
1.	Establishment of 6000 MW, $\pm$ 800 kV KPS2 (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard*.	6000 MW, ± 800 kV KPS2 (HVDC) [LCC] Terminal station
2.	Establishment of 6000 MW, ± 800 kV Nagpur (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard*	6000 MW, ± 800 kV Nagpur (HVDC) [LCC] terminal station
3.	±800 kV HVDC Bipole line (Hexa lapwing) between KPS2 (HVDC) and Nagpur (HVDC) (1200 km) (with Dedicated Metallic Return) (capable to evacuate 6000 MW with overload as specified)	Route length: 1200 km.
4.	Establishment of 6x1500 MVA, 765/400 kV ICTs at Nagpur-S/s along with 2x330 MVAR (765 kV) & 2x125 MVAR, 420 kV bus reactors along with associated interconnections with HVDC Switchyard*. The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser so that 3x1500 MVA ICTs are placed in each section. The bus sectionaliser shall be normally closed and may be opened based on Grid	<ul> <li>765/400 kV, 1500 MVA ICT-6 (3 on each 400 kV section) (19 single phase units including one spare unit)</li> <li>765 kV ICT bays- 6 Nos.</li> <li>400 kV ICT bays- 6 Nos.</li> <li>(3 on each section)</li> <li>330 MVAR 765 kV bus reactor-2 Nos.</li> <li>125 MVAR 420 kV bus</li> </ul>

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl. No.	Scope	Capacity/ Route length
	requirement.	reactor-2 Nos. (one on each section)
	Future Provisions at Nagpur:	o 765 kV reactor bay- 2
	Space for:	Nos.
	<ul> <li>765/400 kV, 1500 MVA ICT- 4 (1 on 400 kV bus section-II &amp; 3 on future 400 kV bus section-III)</li> <li>765 kV line bays along with switchable line reactors – 10 Nos.</li> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 -set</li> <li>400 kV line bays along with switchable line reactor – 12 Nos.</li> <li>400 kV Bus sectionaliser- 1 Set</li> <li>400/220 kV ICT along with bays -9 Nos. (3 Nos. on 400 kV bus sections II &amp; 6 Nos. on future bus section-III)</li> <li>400 kV Bus Reactor along with bay: 4 No. (1 each on 400 kV bus sections I &amp; II and 2 on future 400 kV bus section-III)</li> <li>220 kV line bays: 16 Nos.</li> </ul>	<ul> <li>765 kV line bay- 4 Nos.</li> <li>765 kV line bay- 4 Nos.</li> <li>400 kV reactor bay- 2 Nos. (one on each section)</li> <li>400 kV Bus sectionaliser - 1 Set</li> <li>110 MVAR, 765 kV, 1- ph reactor (spare unit for line/bus reactor) - 1 No.</li> </ul>
	<ul> <li>220 kV Sectionalization bay: 2 set</li> </ul>	
	• 220 kV BC & TBC: 3 Nos.	
	• 80 MVAR, 765 kV, 1-ph reactor (spare unit for line reactor)-1	
5.	LILO of Wardha – Raipur 765 kV one D/c line	LILO route length: 30 km.
	(out of 2xD/c lines) at Nagpur	
6.	Installation of 240 MVAR switchable line reactor at Nagpur end on each ckt of Nagpur – Raipur 765 kV D/c line	<ul> <li>240 MVAR, 765 kV switchable line reactors- 2 Nos. (at Nagpur end)</li> <li>Switching equipment for 765 kV line reactor- 2 Nos. (at Nagpur end)</li> <li>80 MVAR, 765 kV, 1-ph reactor (spare unit for line reactor)-1 No.</li> </ul>

\* The 400 kV interconnections (along with all associated equipment/ bus extension, etc.) between HVDC & HVAC switchyards shall be implemented by the TSP

Note:

i. The 2x1500 MW poles shall emanate from 400 kV bus section 1 of KPS2 and terminate at bus section 1 of Nagpur. Similarly, the other 2x1500 MW poles shall emanate from 400 kV bus section 2 of KPS2 and terminate at bus section 2 of Nagpur.

- ii. HVDC System will be designed considering 100% power reversal capability. The rated power transmission capacity as well as the rated transmission voltage shall be defined and guaranteed at the rectifier end of the AC yard.
- iii. TSP of KPS2 shall provide space for the establishment of the HVDC system as per above scope.
- iv. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- v. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission System for Evacuation of	21	Approved to be
	Power from potential renewable energy		implemented under
	zone in Khavda area of Gujarat under		RTM by
	Phase-V (8 GW): Part A1		POWERGRID i.e.
	Implementation timeframe: Matching with implementation of Khavda Phase- V Part A scheme viz. Bipole-1 (2x1500 MW) ± 800 kV Nagpur (HVDC) [LCC] which is 48 months from SPV transfer.		owner of Wardha S/ s.

#### 3.3.6 Phase-V: Part A1- Summary

3.3.7 Detailed scope of Part A1 is given below:

Sl. No.	Scope	Capacity/ Route length
1.	Conversion of 330 MVAR	765 kV reactor bays- 2 Nos. & Conversion of
	Fixed LR at Wardha (on each	330 MVAR Fixed LR at Wardha (on each ckt of
	ckt of Wardha – Raipur 765	Wardha – Raipur 765 kV D/c line being LILOed
	kV D/c line being LILOed at	at Nagpur) into Bus Reactors through creation of
	Nagpur) into Bus Reactors at	2 new diameters and shifting of Reactors
	Wardha S/s	

Note:

i. POWERGRID shall implement two new diameters consisting of 1 main bay & 1 Tie bay at 765 kV level of Wardha S/s required in one-and-half breaker AIS scheme for termination of 2 Nos. of 330 MVAR Bus reactors & the same shall be extended in future for integration of 2<sup>nd</sup> main bay (future line with switchable line reactor) for diameter completion. 3.3.8 **Phase-V: Part B:** Augmentation of transformation capacity at KPS2 (GIS) by 1x1500 MVA, 765/400 kV ICT on Bus Section I (9<sup>th</sup>) and at KPS 3 (GIS) by 1x1500 MVA, 765/400 kV ICT on Bus Section-II (8<sup>th</sup>)

It was deliberated that the above ICTs would be required in the matching timeframe of VSC based HVDC (Part C) and hence would be reviewed and taken up subsequently.

3.3.9 CTUIL had proposed  $\pm 525$  kV VSC based HVDC system. It was deliberated that  $\pm 500$  kV HVDC systems are already existing in the country and tested tower design for  $\pm 500$  kV systems are already available. In order to reduce the time involved in engineering and testing, it was opined that already proven design of  $\pm 500$  kV may be adopted in this case also. Hence, the rating of HVDC system was revised to  $\pm 500$  kV, 2500 MW.

3.3.10 Summary of Phase-V: Part C scheme is given below:

Sl. No.	Name	of	the	scheme	and	Estimated Cost	Remarks	
	impleme	entation	n timefr	ame		(₹ Crores)		
1.	Transmi	ssion S	System	for Evacuat	ion of	12,000	Recommende	ed to
	Power from potential renewable energy			be imple	mented			
	zone in Khavda area of Gujarat under			through	TBCB			
	Phase-V (8 GW): Part C			route.				
	Tontativ	o Ima	lomont	ation time	fromo			
	remative implementation timerrame.							
	48 mont	hs fror	n SPV t	transfer				

3.3.11 Detailed scope of Part C is given below:

Sl. No.	Scope	Capacity/ Route length
1.	Establishment of 2500 MW, $\pm$ 500 kV KPS3 (HVDC) [VSC] terminal station (2x1250 MW) at a suitable location near KPS3 substation with associated interconnections with 400 kV HVAC Switchyard*	2500 MW, ± 500 kV KPS3 (HVDC) [VSC] Terminal station
2.	Establishment of 2500 MW, $\pm$ 500 kV South Olpad (HVDC) [VSC] terminal station (2x1250 MW) along with associated interconnections with 400 kV HVAC Switchyard of South Olpad S/s*	2500 MW, ± 500 kV South Olpad (HVDC) [VSC] terminal station
3.	Establishment of KPS3 (HVDC) S/s along with 2x125 MVAR, 420 kV bus reactors along with associated interconnections with HVDC Switchyard*. The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser to be kept normally OPEN. 400/33 kV, 2x50 MVA transformers for	<ul> <li> 400/33 kV, 1x50 MVA ICT along with bays- 2 Nos.</li> <li> 125 MVAR 420 kV bus reactor-2 Nos. (one on each section)</li> <li> 400 kV reactor bay- 2 Nos. (one on each section)</li> </ul>

Sl. No.	Scope	Capacity/ Route length
	exclusively supplying auxiliary power to HVDC terminal. MVAR	<ul> <li>o 400 kV Bus sectionaliser- 1 Set</li> </ul>
	Future Provisions at KPS3 (HVDC) S/s	
	Space for:	
	<ul> <li>400 kV line bays - 6 Nos. (3 on each section)</li> <li>400 kV reactor bay. 2 Nos. (one on each</li> </ul>	
	section)	
4.	KPS3 – KPS3 (HVDC) 400 kV 2xD/c (Quad ACSR/AAAC/AL59 moose equivalent) line along with the line bays at both substations	Route length- 2 km 400 kV GIS line bays - 4 Nos. at KPS3 (2 Nos. on each bus section) 400 kV GIS line bays - 4 Nos at KPS3 (HVDC) (2 Nos. on each bus section)
5.	±500 kV HVDC Bipole line between KPS3 (HVDC) and South Olpad (HVDC) (with Dedicated Metallic Return) (capable to evacuate 2500 MW)	Route length: 600 km

\* The 400 kV interconnections (along with all associated equipment/ bus extension, etc.) between HVDC & HVAC switchyards shall be implemented by the TSP

## Note:

- i. The 1250 MW pole-1 shall emanate from 400 kV bus section 1 of KPS3 (HVDC) and terminate at South Olpad S/s. Similarly, the 1250 MW pole-2 shall emanate from 400 kV bus section 2 of KPS3 (HVDC) and terminate at South Olpad S/s.
- ii. HVDC System will be designed with 100% power reversal capability as well as black start, automatic grid restoration & dynamic reactive power support capability.
- iii. The rated power transmission capacity as well as the rated transmission voltage shall be defined and guaranteed at the rectifier end of the AC yard.
- iv. TSP of KPS3 shall provide space for scope at Sl. No. 4 as per the above scope
- v. TSP of South Olpad S/s shall provide space for scope at Sl. No. 2 as per above scope
- vi. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- vii. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

26

## 3.4 400 kV Western Region Network Expansion scheme in Kallam area of Maharashtra

3.4.1 Transmission System for evacuation of power from RE Projects in Osmanabad area (1 GW) in Maharashtra is presently under implementation by Kallam Transmission Ltd. (expected by Oct'23). Further, augmentation of transformation capacity at Kallam PS by 2x500 MVA, 400/220 kV ICTs (3<sup>rd</sup>& 4<sup>th</sup>) along with 220 kV bays for RE interconnection is also under implementation which shall enable injection of additional 1 GW at 220 kV level of Kallam PS.

Additional connectivity has also been granted to M/s Torrent at 400 kV level (1 No. bay) and hence there is a cumulative requirement of evacuation of about 3.25 GW (2 GW at 220 kV level and 1.25 GW at 400 kV level) from Kallam PS. The subject Transmission system shall enable evacuation of upto 3.25 GW power from Kallam PS.

3.4.2 CTUIL stated that generally a minimum implementation schedule of 24 months is specified for transmission schemes. However, as a special case, considering the small length of LILO line and no visible forest/wildlife involvement, reduced implementation time-frame of 18 months may be specified in this case in order to match the commissioning of transmission scheme and associated RE generation.

3.4.3 After detailed deliberations, it was decided that the transmission scheme Western Region Network Expansion scheme in Kallam area of Maharashtra, will be implemented under TBCB route with an implementation timeframe of 18 months.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Western Region Network Expansion	160	Approved to be
	scheme in Kallam area of Maharashtra.		implemented
	Tentative Implementation timeframe:		through TBCB
	18 months from SPV transfer		route.

3.4.5 Detailed scope of the scheme is given below:

Scope of the Transmission Scheme	Capacity/ Route length
Ň	
0	
LILO of both circuits of Parli(M)	–LILO route length~ 15 km.
.Karjat(M)/Lonikand-II (M) 400 kV I	D/c

Gel

line (twin moose) at Kallam PS	
24 Nos. 400 kV line bays at Kallam PS for LILO of both circuits of Parli(M) – Karjat(M)/Lonikand-II(M) 400 kV D/c line (twin moose) at Kallam PS	400 kV line bays (AIS) – 4 Nos. (for Kallam PS end)
363 MVAR, 420 kV switchable line reactor (with NGR bypassing arrangement) on each ckt at Kallam PS end of Karjat – Kallam 400 kV D/c line (~140km.)	<ul> <li>63 MVAR, 420 kV switchable line reactor including Switching equipment - 2 Nos. (at Kallam end)</li> </ul>

Note:

- i. TSP of Kallam PS (Kallam Transmission Ltd.) shall provide requisite space at Kallam PS for above scope of work
- The 50 MVAR fixed line reactor on each ckt at Parli (M) end of Kallam Parli (M) 400 kV D/c line shall be converted into switchable (with NGR bypass arrangement & provision of inter-tripping scheme to trip the line reactors along with the main line breakers) by MSETCL in matching time-frame of the above scheme. MSETCL vide email dated 08.06.2023 has informed that conversion of fixed 50 MVAR line reactor at 400 kV Parli (M) (Girwali) end into switchable reactor is feasible.
- iii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- iv. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Gel

# 3.5 Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-2: 5.5 GW) (Jaisalmer/Barmer Complex)

- 3.5.1 The transmission scheme was earlier proposed for evacuation of about 7.5 GW power from Jaisalmer/Barmer Complex. The scheme was deliberated in the 12<sup>th</sup> NCT meeting held on 24.03.23. In the meeting, various issues like system strength (SCR), requirement of Barmer-I PS as well as high angular separation in the proposed 765 kV Jalore-Mandsaur D/C (length 320 kms) inter-regional transmission line were raised. Subsequently, various joint study meetings were held for review and phasing of transmission scheme among CEA, CTUIL and GRID-INDIA and revised studies were carried out.
- 3.5.2 Accordingly, revised studies were carried out incorporating the increased electricity demand of Rajasthan as suggested by Grid-India, and it was observed that the transmission system was adequate for evacuation of about 5.5 GW RE power (solar) in summer & winter scenario.
- 3.5.3 The modified transmission scheme was discussed and agreed in the 65<sup>th</sup> NRPC meeting held on 21.04.23. The scheme was further agreed in the 46<sup>th</sup> WRPC meeting held on 03.02.23.
- 3.5.4 Further, transmission scheme for evacuation of power from Neemuch/Mandsaur 2 GW WEZ was proposed as transmission system in Western Region whereas creation of Mandsaur 765 kV S/s was envisaged as a part of Rajasthan REZ Ph-IV (Part-2) Scheme. As deliberated in the 12<sup>th</sup> NCT meeting, it was decided to combine the transmission scheme for Neemuch/Mandsaur with Rajasthan Ph-IV Part- C Scheme which involves the creation of 765 kV Mandsaur S/s.
- 3.5.5 GRID-INDIA requested to review the reactive compensation of Sirohi PS Rishabdeo 765 kV D/c line (170 km) and Rishabdeo Mandsaur 765 kV D/c (160 km) line as reactive compensation seemed to be on the higher side. CTUIL stated that with the proposed line length reactive compensation on Sirohi PS- Rishabdeo 765 kV D/c line is about 73% and Rishabdeo-Mandsaur 765 kV D/c is about 78%. CTUIL also mentioned that in view of high voltages in night off-peak scenario specially for RE evacuation lines, reactive compensation is to be kept adequate to address reactive management issues, however, it was observed that the reactive compensation on Rishabdeo-Mandsaur 765 kV D/c line is about 78% which has some scope for reduction. Grid-India stated that if possible, reactive compensation of Rishabdeo-Mandsaur 765 kV D/c line may be reduced. Hence, it was decided that 330 MVAR line reactor at Rishabdeo end on above line may be replaced with 240 MVAR reactor.

3.5.6 After detailed deliberations, the following was decided w.r.t. the transmission schemes:

Sl. No.	Scheme	Remarks
1.	Part A	TBCB
2.	Part B	TBCB

Gel

3.	Part C	Scheme of 2 GW Neemuch / Mandsaur to be merged	
		with Part C. Combined scheme to be implemented	
		under TBCB.	
4.	Part D	TBCB	
5.	Part E	TBCB	
6.	Part F1	Part F1 and F2 to be combined.	
7.	Part F2	Combined scheme (Part F i.e. Part F1+F2) to be	
		implemented under TBCB.	
8.	Part G	Deferred. To be taken up based on GIB clearance of	
		dedicated transmission line associated with RE	
		generation at Fatehgarh-II PS along with GIB	
		clearance of Fatehgarh-II PS- Bhadla-III PS 400 kV	
		D/C line	
9.	Part H1	TBCB	
10.	Part H2	RTM	

## 3.5.7 **Part A: Summary**

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	2,206	Recommended to
	power from Rajasthan REZ Ph-IV		be implemented
	(Part-2: 5.5 GW) (Jaisalmer/Barmer		through TBCB
	Complex): Part A		route.
	Tentative Implementation timeframe:		
	24 months from SPV transfer		

## 3.5.8 Detailed scope of Part A scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
1	Establishment of 4x1500 MVA, 765/400 kV & 5x500 MVA, 400/220 kV Fatehgarh-IV (Section-2) Pooling Station along with 2x240 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor	<ul> <li>765/400 kV, 1500 MVA ICT- 4 Nos. (13x500 MVA including one spare unit)</li> <li>765 kV ICT bays- 4 Nos.</li> <li>240 MVAR, 765 kV Bus Reactor- 2 Nos. (7x80 MVAR including one spare unit)</li> <li>765 kV Bus reactor bays-2 Nos.</li> </ul>
	[Future space provisions already approved at Fatehgarh-IV in 8 <sup>th</sup> NCT meeting dated 25.03.22 would be utilized for the present scheme]	<ul> <li>765 kV line bays - 4 Nos. [for LILO of Fatehgarh-III - Beawer 765 kV D/c (2<sup>nd</sup>) line at Fatehgarh-IV (Section-2) PS]</li> <li>400/220 kV, 500 MVA ICT -5 Nos.</li> <li>400 kV ICT bays- 9 Nos.</li> <li>400 kV line bays - 2 Nos. [For Fatehgarh-IV (Sec-2) - Bhinmal (PG) D/c line]</li> <li>125 MVAR, 420 kV Bus Reactor-2 Nos.</li> <li>400 kV Bus reactor bays- 2 Nos.</li> </ul>

hd

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
2	Fatehgarh-IV (Section-2) PS – Bhinmal (PG) 400 kV D/c line (Twin HTLS) along with 50 MVAR switchable line reactor on each ckt at each end	<ul> <li>400 kV Sectionalisation bay: 1 set</li> <li>220 kV ICT bays- 5 Nos.</li> <li>220 kV line bays: 6 Nos. (for RE connectivity)</li> <li>220 kV BC (2 Nos.) and 220 kV TBC (2 Nos.)</li> <li>220 kV Sectionalisation bay: 1 set</li> <li>Route Length: 200 km</li> <li>50 MVAR, 420 kV switchable line reactors at Fatehgarh-IV (Section-2) PS – 2 Nos.</li> <li>50 MVAR, 420 kV, switchable line reactors at Bhinmal (PG) – 2 Nos.</li> <li>Switching equipment for 420 kV, 50 MVAR switchable line reactors at Fatehgarh-IV (Section-2) PS – 2 Nos.</li> <li>Switching equipment for 420 kV, 50 MVAR switchable line reactors at Bhinmal (PG) – 2 Nos.</li> </ul>
3	LILO of both ckts of 765 kV Fatehgarh- III- Beawar D/c line (2nd) at Fatehgarh-IV (Section-2) PS along with 330 MVAR switchable line reactor at Fatehgarh-IV PS end of each ckt of 765 kV Fatehgarh-IV- Beawar D/c line (formed after LILO)	<ul> <li>LILO length: 15 km</li> <li>330 MVAR, 765 kV switchable line reactors at Fatehgarh-IV (Section-2) PS – 2 Nos.</li> <li>Switching equipment for 330 MVAR, 765 kV switchable line reactors at Fatehgarh-IV (Section-2) PS – 2 Nos.</li> <li>110 MVAR (765 kV) spare reactor single phase unit at Fatehgarh-IV (Section-2) PS end – 1 No.</li> </ul>
4	2 Nos. of 400 kV line bays at Bhinmal (PG)	400 kV line bays - 2 Nos.

Note:

- i. Transmission system for evacuation of about 2 GW RE power from REZ in Rajasthan (20 GW) under Phase-III Part A1 at Fatehgarh-IV (Section-1) is under bidding.
- ii. Transmission system under Phase-IV (Part 2) is for evacuating 4-5 GW RE potential at Fatehgarh-IV (Section 2), which is utilising the future provision (approved in 8<sup>th</sup> NCT meeting dated 25.03.22) at Fatehgarh-IV approved under Phase-III scheme.
- iii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- iv. POWERGRID to provide space for 2 Nos. of 400 kV line bays at Bhinmal (PG) along with the space for switchable line reactors without any cost implications.
- v. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned
- vi. Switchable line reactors to be implemented with NGR bypass arrangement.
- vii. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

Gel

31

## 3.5.9 **Part B: Summary**

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	3,279	Recommended to
	power from Rajasthan REZ Ph-IV		be implemented
	(Part-2: 5.5 GW) (Jaisalmer/Barmer		through TBCB
	Complex): Part B		route.
	Tentative Implementation timeframe:		
	24 months from SPV transfer		

## 3.5.10 Detailed scope of Part B scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
1	Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Sirohi along with 2x240 MVAR (765 kV) & 2x125 MVAR (420 kV) Bus Reactor	<ul> <li>765/400 kV, 1500 MVA ICT- 2 Nos. (7x500 MVA including one spare unit)</li> <li>765 kV ICT bays-2 Nos.</li> <li>240 MVAR, 765 kV Bus Reactor-2 Nos. (7x80 MVAR including one spare unit)</li> </ul>
	<ul> <li>Future provisions:</li> <li>Space for <ul> <li>765/400 kV ICT along with bays- 4 Nos.</li> <li>765 kV line bays along with switchable line reactors – 10 Nos.</li> <li>765 kV Bus Reactor along with bay: 1 Nos.</li> <li>400 kV line bays along with switchable line reactor –4 Nos.</li> <li>400 kV line bays –4 Nos.</li> <li>400 kV Bus Reactor along with bay: 1 No.</li> <li>400 kV Bus Reactor along with bay: 1 No.</li> <li>400 kV Sectionalization bay: 2 sets</li> <li>400/220 kV ICT along with bay - 6 Nos.</li> <li>220 kV line bays -10 Nos.</li> <li>220 kV Sectionalization bay: 2 sets</li> </ul> </li> </ul>	<ul> <li>765 kV Bus reactor bays-2 Nos.</li> <li>765 kV line bays- 2 Nos. [for D/c line to Fatehgarh-IV (Section-2) PS]</li> <li>400 kV ICT bays- 2 Nos.</li> <li>400 kV line bays - 2 Nos. [for D/c line to Chittorgarh (PG) S/s]</li> <li>125 MVAR, 420 kV Bus Reactor-2 Nos.</li> <li>400 kV Bus reactor bays- 2 Nos.</li> </ul>
2	<ul> <li>220 kV BC (3 Nos.) &amp; TBC (3 Nos.)</li> <li>STATCOM (2x±300 MVAR) along with MSC (4x125 MVAR) &amp; MSR (2x125 MVAR) along with two number 400 kV bays.</li> <li>Fatehgarh-IV (Section-2) PS – Sirohi PS</li> </ul>	Route Length – 240 km
	765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at each end	<ul> <li>765 kV, 240 MVAR switchable line reactors at Fatehgarh-IV (Section-2) PS – 2 Nos.</li> <li>765 kV, 240 MVAR switchable line reactors</li> </ul>

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
3	Sirohi PS-Chittorgarh (PG) 400 kV D/c line (Quad) along with 80 MVAR switchable line reactor for each circuit at Sirohi PS end	<ul> <li>at Sirohi PS- 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Fatehgarh-IV (Section-2) PS - 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Sirohi PS - 2 Nos.</li> <li>Route Length ~160 km</li> <li>420 kV, 80 MVAR switchable line reactors at Sirohi PS - 2 Nos.</li> <li>Switching equipment for 420 kV, 80 MVAR switchable line reactors at Sirohi PS - 2 Nos.</li> </ul>
4	2 No. of 400 kV line bays at Chittorgarh (PG) S/s	400 kV line bays at Chittorgarh (PG) S/s - 2 Nos.
5	2 No. of 765 kV line bays at Fatehgarh-IV (Section-2) PS	765 kV line bays at Fatehgarh-IV (Section-2) PS – 2 Nos.

Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- ii. POWERGRID to provide space for 2 Nos. of 400 kV line bays at Chittorgarh (PG).
- iii. Developer of Fatehgarh-IV S/s (Section-2) to provide space for 2 Nos. of 765 kV line bays at Fatehgarh-IV(Section-2) PS along with the space for switchable line reactor
- iv. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned
- v. Switchable line reactors to be implemented with NGR bypass arrangement.
- vi. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

3.5.11 **Part C: Summary** 

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	2,708	Recommended to
	power from Rajasthan REZ Ph-IV (Part-		be implemented
	2: 5.5 GW) (Jaisalmer/Barmer Complex):		through TBCB
	Part C		route.
	Tentative Implementation timeframe: 24		
	months from SPV transfer		

3.5.12 Detailed scope of Part C scheme is given:

S Scope of the Transmission Scheme	Capacity/ Route length
<ul> <li>Establishment of 3x1500 MVA, 765/400 kV &amp; 5x500 MVA, 400/220 kV Mandsaur Pooling Station along with 2x330 MVAR (765 kV) Bus Reactors &amp; 2x125 MVAR, 420 kV Bus Reactor</li> <li>Future Provisions: Space for:</li> <li>765/400 kV ICT along with bays- 3 No.</li> <li>765 kV line bays along with switchable line reactors – 12 Nos.</li> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 -set</li> <li>400 kV line bays along with switchable line reactor – 12 Nos.</li> <li>400 kV line bays along with bays -5 Nos.</li> <li>400 kV Bus Reactor along with bay: 2 No.</li> <li>400 kV Bus Reactor along with bay: 2 No.</li> <li>400 kV Bus Reactor along with bays -5 Nos.</li> <li>400 kV Bus Reactor along with bay: 1 - set</li> <li>220 kV line bays: 11 Nos.</li> <li>220 kV Sectionalization bay: 1 - set</li> <li>220 kV BC and TBC: 1 Nos.</li> <li>STATCOM (± 300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125 MVAR) along with one 400 kV bay.</li> </ul>	<ul> <li>765/400 kV, 1500 MVA ICT – 3 Nos. (10x500 MVA single phase units including one spare unit)</li> <li>400/220 kV, 500 MVA ICT – 5 Nos. (3 Nos. on 220 kV bus section-1 &amp; 2 Nos. on 220 kV bus section-2)</li> <li>765 kV ICT bays – 3 Nos.</li> <li>400 kV ICT bays – 8 Nos.</li> <li>330 MVAR 765 kV bus reactor-2 Nos.</li> <li>(7x110 MVAR single phase units including one spare unit)</li> <li>765 kV bus reactor bay- 2 Nos.</li> <li>765 kV line bay- 2 Nos. (for Indore line)</li> <li>80 MVAR, 765 kV, 1-ph reactor (spare unit)-1 No.</li> <li>125 MVAR, 420 kV bus reactor-2 Nos.</li> <li>400 kV reactor bay- 2 Nos.</li> <li>220 kV ICT bays – 5 Nos.</li> <li>220 kV line bays – 7 Nos. (4 Nos. on bus section-1 and 3 Nos. on bus section-2)</li> <li>220 kV Bus Sectionaliser – 1 set</li> <li>220 kV BC bay – 2 Nos.</li> </ul>
Av330 MVAP, switchable line reactor (SLP) on	Route Length $\sim 200 \text{ km}$
each ckt at Mandsaur end of Mandsaur PS – Indore(PG) 765 kV D/c Line	<ul> <li>S30 MVAK, 765 KV switchable line reactor- 2 Nos.</li> <li>Switching equipment for 765 kV line reactor- 2 Nos.</li> </ul>
42 Nos. of 765 kV line bays at Indore(PG) for termination of Mandsaur PS – Indore(PG) 765 kV D/c Line	<ul> <li>765 kV line bays – 2 Nos. (for Indore (PG) end)</li> </ul>

Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after detailed survey
- ii. POWERGRID to provide space for 2 Nos. of 765 kV line bays at Indore S/s

- iii. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned
- iv. Switchable line reactors to be implemented with NGR bypass arrangement
- v. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

#### 3.5.13 Part D: Summary

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	2,227	Recommended to
	power from Rajasthan REZ Ph-IV (Part-		be implemented
	2: 5.5 GW) (Jaisalmer/Barmer Complex):		through TBCB
	Part D		route.
	Tentative Implementation timeframe: 24		
	months from SPV transfer		

#### 3.5.14 Detailed scope of Part D scheme is given below:

S. No.	Scope of the Transmission Scheme	Capacity/ Route length
1	Beawar- Mandsaur PS 765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at each end	<ul> <li>Route Length – 260 km</li> <li>765 kV, 240 MVAR switchable line reactors at Beawar – 2 Nos.</li> <li>765 kV, 240 MVAR switchable line reactors at Mandsaur PS – 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Beawar – 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Mandsaur PS – 2 Nos.</li> </ul>
2	2 No. of 765 kV line bays each at Beawar S/s & Mandsaur S/s	765 kV line bays - 4 Nos. (2 Nos. each at Beawer S/s and Mandsaur PS)

Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- ii. Developer of Mandsaur PS to provide space for 2 Nos. of 765 kV line bays at Mandsaur S/s along with the space for switchable line reactor.
- iii. Developer of Beawar S/s to provide space for 2 Nos. of 765 kV line bays at Beawar S/s along with the space for switchable line reactor.
- iv. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned
- v. Switchable line reactors to be implemented with NGR bypass arrangement
- vi. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

3.5.15	Part E:	Summary
--------	---------	---------

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	3,251	Recommended to
	power from Rajasthan REZ Ph-IV (Part-		be implemented
	2 :5.5 GW) (Jaisalmer/Barmer Complex):		through TBCB
	Part E		route.
	Tentative Implementation timeframe: 24		
	months from SPV transfer		

## 3.5.16 Detailed scope of Part E scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
	<ul> <li>Establishment of 765 kV Substation at suitable location near Rishabdeo (Distt. Udaipur) along with 2x240 MVAR (765 kV) Bus Reactor</li> <li>Future Provisions:</li> <li>Space for</li> <li>765/400 kV ICT along with bays- 5 No. along with spare unit</li> <li>765 kV line bays along with switchable line reactors - 6 Nos.</li> <li>765 kV Bus Reactor along with bay: 1 No.</li> <li>400 kV line bays along with switchable line reactor - 4 Nos.</li> <li>400 kV line bays - 4 Nos.</li> <li>400 kV Bus Reactor along with bay: 3 Nos.</li> <li>400 kV Sectionalization bay: 2 sets</li> <li>400/220 kV ICT along with bay - 6 Nos.</li> <li>220 kV Sectionalization bay: 2 sets</li> <li>220 kV Sectionalization bay: 2 sets</li> <li>220 kV BC (3 Nos.) &amp; TBC (3 Nos.)</li> <li>STATCOM (2 x ±300MVAR) along with MSC (4x125 MVAR) &amp; MSR (2x125 MVAR) along with two number 400 kV bays.</li> </ul>	<ul> <li>240 MVAR, 765 kV Bus Reactor- 2 Nos. (7x80 MVAR including one spare unit)</li> <li>765 kV Bus reactor bays-2 Nos.</li> <li>765 kV line bays - 6 Nos. [for 765 kV Sirohi PS- Rishabdeo – Mandsaur D/c line and LILO of one circuit of 765 kV Chittorgarh- Banaskanta D/c line at Rishabdeo S/ s]</li> </ul>
2	Sirohi PS- Rishabdeo 765 kV D/c line along with 330 MVAR switchable line reactor for each circuit at Sirohi end	<ul> <li>Route Length – 170 km</li> <li>765 kV, 330 MVAR switchable line reactors at Sirohi PS– 2 Nos.</li> <li>Switching equipment for 765 kV, 330 MVAR switchable line reactors at Sirohi PS– 2 Nos.</li> <li>110 MVAR (765 kV) spare reactor single phase unit at Sirohi PS – 1 No.</li> </ul>
3	Rishabdeo - Mandsaur PS 765 kV D/c line along with 240 MVAR switchable line reactor	Route Length – 160 km

Gel

	for each circuit at Rishabdeo end	<ul> <li>765 kV, 240 MVAR switchable line reactors at Rishabdeo – 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Rishabdeo – 2 Nos.</li> </ul>
4	LILO of one circuit of 765 kV Chittorgarh- Banaskanta D/c line at Rishabdeo S/s (20 km)	LILO route length~ 20 km
5	2 No. of 765 kV line bays each at Sirohi PS & Mandsaur S/s	• 765 kV line bays – 4 Nos. (2 Nos. each at Sirohi PS & Mandsaur PS)

#### Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- ii. Developer of Sirohi PS to provide space for 2 Nos. of 765 kV line bays at Sirohi PS along with the space for switchable line reactors, including spare unit.
- iii. Developer of Mandsaur PS to provide space for 2 Nos. of 765 kV line bays at Mandsaur PS.
- iv. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned
- v. Switchable line reactors to be implemented with NGR bypass arrangement.
- vi. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

3.5.17	<b>Part F: Summary</b>	(by	clubbing F1 & F2 Schemes)	
--------	------------------------	-----	---------------------------	--

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	2,735	Recommended to
	power from Rajasthan REZ Ph-IV (Part-2:		be implemented
	5.5 GW) (Jaisalmer/Barmer Complex):		through TBCB
	Part F		route.
	Tentative Implementation timeframe: 24		
	months from SPV transfer		

### 3.5.18 Detailed scope of Part F scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
1	Establishment of 3x1500 MVA, 765/400 kV & 2x500 MVA, 400/220 kV Barmer-I Pooling Station along with 2x240 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor <b>Future provisions:</b> Space for	<ul> <li>765/400 kV, 1500 MVA ICT- 3 Nos. (10x500 MVA including one spare unit)</li> <li>765 kV ICT bays-3 Nos.</li> <li>240 MVAR, 765 kV Bus Reactor-2 Nos. (7x80 MVAR, including one spare unit)</li> <li>765 kV Bus reactor bays-2 Nos.</li> <li>765 kV line bays- 2 Nos. (for D/c line to a start of the problem)</li> </ul>
	<ul> <li>765/400 kV ICT along with bays- 3 No.</li> <li>765 kV line bays along with switchable</li> </ul>	<ul> <li>400/220 kV, 500 MVA ICT -2 Nos.</li> <li>400 kV ICT bays- 5 Nos.</li> </ul>

Gel

### I/28785/2023

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
	<ul> <li>line reactors - 4 Nos.</li> <li>765 kV Bus Reactor along with bay: 1 No.</li> <li>400 kV line bays -4</li> <li>400 kV line bays along with switchable line reactor -4 Nos.</li> <li>400/220 kV ICT along with bays -8 Nos.</li> <li>400 kV Bus Reactor along with bay: 1 No.</li> <li>400 kV Sectionalization bays: 2 sets</li> <li>220 kV line bays for connectivity of RE Applications -10 Nos.</li> <li>220 kV Sectionalization bay: 3 sets</li> <li>220 kV BC (3 Nos.) &amp; TBC (3 Nos.)</li> <li>STATCOM (2x±300 MVAR) along with MSC (4x125 MVAR) &amp; MSR (2x125 MVAR) along with two number 400 kV bays</li> </ul>	<ul> <li>125 MVAR, 420 kV Bus Reactor-2 Nos.</li> <li>400 kV Bus reactor bays- 2 Nos.</li> <li>400 kV line bays - 2 Nos. [for D/c line to Fatehgarh-III(Section-2) PS]</li> <li>220 kV ICT bays- 2 Nos.</li> <li>220 kV line bays: 4 Nos. (for RE connectivity)</li> <li>220 kV BC (1 No.) &amp; TBC (1 No.)</li> </ul>
2	Fatehgarh-III (Section-2) PS – Barmer-I PS 400 kV D/c line (Quad)	Route Length ~50 km
3	Barmer-I PS– Sirohi PS 765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at each end	<ul> <li>Route Length ~ 200 km</li> <li>765 kV, 240 MVAR switchable line reactors at Barmer-I PS – 2 Nos.</li> <li>765 kV, 240 MVAR switchable line reactors at Sirohi PS – 2 Nos.</li> <li>Switching equipment for 765 kV 240 MVAR switchable line reactors at Barmer-I PS – 2 Nos.</li> <li>Switching equipment for 765 kV 240 MVAR switchable line reactors at Sirohi PS – 2 Nos.</li> </ul>
4	2 No. of 400 kV line bays at Fatehgarh-III (Section-2) PS	400 kV line bays at Fatehgarh-III (Section-2) PS - 2 Nos.
5	2 No. of 765 kV line bays at Sirohi PS	765 kV line bays at Sirohi PS – 2 Nos.

#### Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- ii. Developer of Sirohi PS to provide space for 2 Nos. of 765 kV line bays at Sirohi PS along with the space for switchable line reactor.
- iii. Developer of Fatehgarh-III PS (Section-2) to provide space for 2 Nos. of 400 kV line bays at Fatehgarh-III PS (Section-2).
- iv. Switchable line reactors to be implemented with NGR bypass arrangement
- v. Implementation of A, B, C, D, E, F, H1, H2 packages shall be aligned.

vi. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

## 3.5.19 Part G: Summary

Sl.	Name of the scheme and	Estimated	Remarks
No.	implementation timeframe	Cost	
		(₹ Crores)	
1.	Transmission system for evacuation	132	The scheme was agreed to
	of power from Rajasthan REZ Ph-		be deferred and it was
	IV (Part-2 :5.5 GW)		decided that the scheme
	(Jaisalmer/Barmer Complex): Part		would be taken up for
	G		implementation in the
			matching timeframe of
	Augmentation by 1x1500 MVA,		Fatehgarh-II PS- Bhadla 3
	765/400 kV ICT at Fatehgarh-II PS		PS 400 kV D/c line, once
			the transmission line is
			approved by the GIB
			Committee constituted by
			Hon'ble Supreme Court
			Committee.

## 3.5.20 Part H1: Summary

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	3,674	Recommended to
	power from Rajasthan REZ Ph-IV (Part-2:		be implemented
	5.5 GW) (Jaisalmer/Barmer Complex):		through TBCB
	Part H1		route.
	Tentative Implementation timeframe: 24		
	months from SPV transfer		

## 3.5.21 Detailed scope of Part H1 scheme is given below:

S N O	Scope of the Transmission Scheme	Capacity / line length km
	Establishment of 765/400 kV (2x1500 MVA), 400/22 kV (2x500 MVA) & 220/132 kV (3x200 MVA) Kurawar S/s with 2x330 MVAR 765	<ul> <li>765/400 kV, 1500 MVA ICT – 2 (7 single units of 500 MVA including one spare unit)</li> <li>400/220 kV, 500 MVA ICT – 2</li> </ul>

Gel

## File No.CEA-PS-12-13/3/2019-PSPA-II Division

S Scope of the Transmission Scheme	Capacity / line length km
N 0	
kV bus reactor and 1x125 MVAR,	• 220/132 kV, 200 MVA ICT – 3
420 kV bus reactor.	• 765 kV ICT bays- 2
Future Provisions:	• 400 kV ICT bays- 4
	• 220 KV ICI bays – 5 • 132 kV ICT bays – 3
Space for	<ul> <li>330 MVAR 765 kV bus reactor-2</li> </ul>
• 765/400 kV ICT along with bays- 4 no.	<ul> <li>125 MVAR 420 kV bus reactor-1</li> </ul>
• 765 kV line bays along with switchable line	• 765 kV reactor bay- 2
reactors – 8 nos.	• 765 kV line bays- 4
<ul> <li>765 kV Bus Reactor along with bay: 2 no.</li> <li>765 kV Sectionaliser bay: 1 set</li> </ul>	• 400 kV line bays- 4
<ul> <li>400 kV line bays along with switchable line</li> </ul>	• 400 kV reactor bay- 1 • 220 kV $PC = 1$
reactor $-8$ nos.	• $220 \text{ kV BC} = 1$ • $220 \text{ kV TBC} = 1$
• 400/220 kV ICT along with bays -6 nos.	• $132 \text{ kV TBC} = 1$
• 420 kV Bus Reactor along with bay: 3no.	• 110 MVAR, 765 kV, 1-ph reactor (spare
• 400 kV Sectionalization bay: 1- set	unit)-1
<ul> <li>220 kV line bays: 12 nos.</li> <li>220 kV Sectionalization have last</li> </ul>	• 80 MVAR, 765 kV, 1-ph reactor (spare
<ul> <li>220 kV Sectionalization bay. Tset</li> <li>220 kV BC and TBC: 1 no</li> </ul>	unit)-1
<ul> <li>220/132 kV ICT along with bays: 5 Nos.</li> </ul>	
• 132 kV line bays: 16 nos.	
• 132 kV Sectionalization bay: 1 set	
• 132 kV TBC- 1 no.	
• STATCOM (±300 MVAR) along with	
MSC (2x125 MVAR) & MSR (1x125 MVAP) along with 400 kV hav	
Mandsaur – Kurawar 765 kV D/c line	Route length: 235 km
240 MVAR switchable line reactors on each ckt	• 240 MVAR, 765 kV switchable line
at both ends of Mandsaur – Kurawar 765 kV D/c	reactor- 4 (2 for Mandsaur end and 2
line	<ul> <li>Switching equipment for 765 kV line</li> </ul>
	reactor- 4 (2 for Mandsaur end and 2
	for Kurawar end)
42 nos. of 765 kV line bays at Mandsaur S/s	• 765 kV line bays – 2 Nos. (for Mandsaur and)
kV D/c line	
LILO of Indore – Bhopal 765 kV S/c line at	LILO route length: 15 km.
Kurawar	
Kurawar – Ashtha 400 kV D/c (Quad	Route length: 65 km

hd

8	Scope of the Transmission Scheme	Capacity / line length km
N		
ACS	SR/AAAC/AL59 moose equivalent) line	
2 nc for t line	os. of 400 kV line bays at Ashtha (MP) S/s termination of Kurawar – Ashtha 400 kV D/c	400 kV line bays – 2 Nos. [for Ashtha (MP) end]
&LIL0 .c lin	O of one circuit of Indore – Itarsi 400 kV D/ e at Astha	LILO route length: 30 km
92 nc for I D/c	os. of 400 kV line bays at Ashtha (MP) S/s LILO of one circuit of Indore – Itarsi 400 kV line at Astha	400 kV line bays – 2 Nos. [for Ashtha (MP) end]
Shuj 0AA/	jalpur – Kurawar 400 kV D/c (Quad ACSR/ AC/AL59 moose equivalent) line	Route length: 40 km
12 no Ifor t .D/c	os. of 400 kV line bays at Shujalpur(PG) S/s termination of Shujalpur – Kurawar 400 kV line	400 kV line bays – 2 Nos. [for Shujalpur (PG) end]

Note:

- i. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- ii. MPPTCL has confirmed availability of space for 2 nos. 400 kV bays at Ashta (MP) S/s and for 2 nos. additional bays, MPPTCL has informed that adjacent land is private land and may be purchased by the project developer at their cost as per requirement.
- iii. Implementation of A,B,C,D, E ,F, H1 & H2 packages shall be aligned
- TSP of the subject scheme shall implement Inter-tripping scheme on Mandsaur Kurawar 765 kV D/c line (for tripping of the switchable line reactor at Mandsaur/Kurawar end along with the main line breaker).
- v. Switchable line reactors to be implemented with NGR bypass arrangement
- vi. Developer of Mandsaur S/s to provide space for 2 Nos. 765 kV line bays for Mandsaur Kurawar 765 kV D/c line.
- vii. POWERGRID to provide space for 2 Nos. 400 kV line bays at Shujalpur S/s for Shujalpur Kurawar 400 kV D/c line.
- viii. The implementation timeline mentioned above is tentative. Final Timeline would be indicated in the RfP Document.

#### 3.5.22 Part H2: Summary

Sl. No. Name of the scheme and	Estimated Cost	Remarks
--------------------------------	----------------	---------



	implementation timeframe	(₹ Crores)	
1.	Transmission system for evacuation of	0.45	To be awarded
	power from Rajasthan REZ Ph-IV		under RTM to
	(Part-2 :5.5 GW) (Jaisalmer/Barmer		BDTCL i.e. the
	Complex): Part H2		TSP owing the
	Provision of NGR bypass arrangement and		Indore – Bhopal 765
	inter tripping scheme on 240 MVAR SW		kV S/c line .
	LR at Bhopal end of Kurawar - Bhopal		
	765 kV S/c line (~60 km.): Part H2		
	Implementation timeframe: In		
	matching timeframe of H1 Scheme		

## 3.5.23 Detailed scope of Part H2 scheme is given below:

S	Scope of the Transmission Scheme	Capacity/ Route length
	1	
1	Provision of NGR bypass arrangement and inter tripping scheme on 240 MVAR Switchable Line Reactor at Bhopal end of Kurawar – Bhopal 765 kV S/c line (~Route length: 60 km)	NGR bypass arrangement and inter tripping scheme (Bhopal end)

hd

## 3.6 Requirement of additional FOTE of STM-16 capacity at Bhuj PS to cater to connectivity of RE Gencos.

- 3.6.1 To connect 6 number of RE generators (Inox, Vadava Desalpar, Narayanpar, Adani Ratadia, Renew Power, Alfanar Energy) directly to existing FOTE at Control Room of Bhuj PS maintaining MSP (1+1) and for making independent connectivity for upcoming generators at this station, Additional STM-16 capacity SDH equipment is required
- 3.6.2 The "Requirement of additional FOTE of STM-16 capacity at Bhuj PS to cater connectivity of RE Gencos", has been deliberated in 46<sup>th</sup> TCC/ WRPC meeting. WRPC concurred the proposal of "Requirement of additional FOTE of STM-16 capacity at Bhuj PS to cater connectivity of RE Gencos" at an estimated cost of Rs 60 Lacs.
- 3.6.3 After detailed deliberations, the scheme was approved to be implemented under RTM route by POWERGRID.
- 3.6.4 Summary of the scheme is given below:

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Requirement of additional FOTE of	0.6	Approved to be
	STM-16 capacity at Bhuj PS to cater to		implemented under
	connectivity of RE Gencos		RTM route by
	Implementation timeframe: 12 months		POWERGRID
	from date of allocation		

3.6.5 Detailed Scope of the Scheme is given below:

Sl. No.	Scope of the Scheme	Estimated Cost
1.	Supply and installation of 01 number 10 MSP (1+1) FOTE or 02 No. 5 MSP (1+1) FOTE (STM-16 capacity) at Bhuj PS.	Rs. 60 Lakhs

## 3.7 Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos.

- 3.7.1 To connect 6 number of RE generators (Inox, Vadava Desalpar, Narayanpar, Adani Ratadia, Renew Power, Alfanar Energy) directly to existing FOTE at Control Room of Bhuj PS maintaining MSP (1+1) and for making independent connectivity for upcoming generators at this station, Additional STM-16 capacity SDH equipment is required
- 3.7.2 The "Requirement of additional FOTE of STM-16 capacity at Bhuj II to cater connectivity of RE Gencos", has been deliberated in 46<sup>th</sup> TCC/ WRPC meeting. WRPC concurred the proposal of "Requirement of additional FOTE of STM-16 capacity at Bhuj II to cater connectivity of RE Gencos" at estimated cost of Rs 30 Lacs.
- 3.7.3 After detailed deliberations, the scheme was approved to be implemented under RTM mode by M/s PBTL.

Sl. No.	Name of the scheme and implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Requirement of additional FOTE of STM-	0.3	Approved to be
	16 capacity at Bhuj-II substation to cater		implemented
	connectivity of RE Gencos		under RTM
	Implementation timeframe: 12 months		mode by M/s
	from date of allocation		PBTL

3.7.4 Summary of the scheme is given below:

3.7.5 Detailed Scope of the Scheme is given below:

Sl. No.	Scope of the Scheme	Estimated Cost
1.	Supply and installation of 01 number 5 MSP (1+1) FOTE (STM-16 capacity) at Bhuj-II station.	Rs. 30 Lakhs

## 3.8 Congestion in ISTS communication link via Dehgam- Ranchhodpura- Santhalpur-Bhachau- Mundra

3.8.1 The communication link via Dehgam-Ranchhodpura-Santhalpur-Bhachau-Mundra was at STM-4 level. Further, this link was extended through Mundra-Bhuj-Santhalpur Repeater-Banaskantha at STM-16 level. The owner of these stations is POWERGRID. This communication network is being used for routing the data Bhuj-PS, Bhuj-II, Lakadia, CGPL Mundra and various RE generators connected to these stations to WRLDC/NLDC. Communication link via Dehgam-Ranchhodpura-Santhalpur repeater-Banaskantha is also used for routing inter regional data between WR-NR.

As on date, the STM-4 level bandwidth on Dehgam-Ranchhodpura-Santhalpur Repeater is almost 100% utilized and on Santhalpur repeater-Bhachau-Mundra is 75% utilized. Outage of these lines affects the telemetry of the entire Bhuj location and CGPL Mundra.

- 3.8.2 The "Upgradation of STM-4 communication link of Dehgam, Ranchhodpura, Santhalpur Repeater, Bhachau and CGPL Mundra to STM-16 capacity", has been deliberated in 46<sup>th</sup> TCC/ WRPC meeting held on 02-03 Feb 2023. WRPC concurred the proposal of "Upgradation of STM-4 communication link of Dehgam, Ranchhodpura, Santhalpur Rep, Bhachau and CGPL Mundra to STM-16 capacity" at estimated cost of Rs 1.5 Cr.
- 3.8.3 After detailed deliberations, the scheme was approved to be implemented under RTM route by POWERGRID.

Sl. No.	Name of the scheme and	Estimated Cost	Remarks
	implementation timeframe	(₹ Crores)	
1.	Upgradation of STM-4 communication	1.5	Approved to be
	link of Dehgam, Ranchhodpura,		implemented under
	Santhalpur Rep, Bhachau and CGPL		RTM route by
	Mundra to STM-16 capacity.		POWERGRID
	Implementation timeframe: 12 months		
	from date of allocation		

3.8.4 Summary of the scheme is given below:

#### 3.8.5 Detailed Scope of the Scheme is given below:

Scope of the Scheme	Estimated Cost

1. Supply and installation of 5 No. STM-16 SDH, 5	Rs. 1.5 Cr.
MSP $(1+1)$ for all the below mentioned stations-	
a) Dehgam	
b) Ranchhodpura	
c) Santhalpur Repeater	
d) Bhachau	
e) CGPL Mundra	

## 3.9 Transmission scheme for evacuation of power from Neemuch/Mandsaur 2 GW WEZ

- 3.9.1 SECI vide letter dated 23.06.2022 has informed that in order to provide round the clock (RTC) Power (with wind, solar and storage components), they have identified certain locations with high solar and wind potential where work on RE evacuation system may be taken up immediately. 2 GW Wind Potential at Neemuch/Mandsaur is one such prioritized RE Zone.
- 3.9.2 Accordingly, scheme was evolved to cater to the evacuation of power from Neemuch/Mandsaur 2 GW WEZ and was discussed in the 12<sup>th</sup> NCT meeting held on 24.03.2023. During the meeting, the establishment of 765 kV Mandsaur Pooling Station [Under Transmission system for Rajasthan REZ Phase-IV Part-2 (5.5 GW)] was agreed to be reviewed and it was decided that the proposal of creation of 400 kV and 220 kV levels at Mandsaur PS (under the subject scheme), would also be reviewed along with 765 the kV Pooling Station at Mandsaur.
- 3.9.3 After detailed deliberations, it was decided that the scheme shall be merged with Part C of the Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-2: 5.5 GW) (Jaisalmer/Barmer Complex) and would be implemented under TBCB route. Please refer para 3.5.

### 3.10 Change in implementation timeline of STATCOM and HVDC

3.10.1 Siemens and TATA Power had requested to increase the timeline of commissioning of STATCOMs from 24 months to 30 months on account of increased delivery period of Power Electronics, Control Cards, Air Core Reactors, Valve Cooling systems etc. globally e.g. for  $\pm 2x300$  MVAR STATCOM at any sub-station, time frame for implementation of STATCOMs to be as given below, in place of 24 months:

- $\pm$  300 MVAR (1<sup>st</sup>): 24 months
- $\pm$  300 MVAR (2<sup>nd</sup>): 30 months

3.10.2 After detailed deliberations, it was agreed that the base time shall remain 24 months for  $1^{st}$  STATCOM unit. For further STATCOM units, additional 3 months of time for each unit e.g. 27 months (for  $2^{nd}$  STATCOM unit) will be given.

3.10.3 Chairperson, CEA, stated that the list of components of STATCOM, not being manufactured in India, may be prepared and put up to the Technical Scoping Committee (TSC) Committee under Chairperson, CEA, constituted to inter-alia identify the identify the potential technologies that can be considered for indigenous development in the country, bring out the relevance of the technology for the future power sector. The Committee would in turn make recommendations to the Apex Committee, the High Level Committee under Hon'ble Minister of Power.

3.10.4 Similarly, Hitachi had requested to increase the timeline of commissioning of Bhadla-Fatehpur HVDC from 42 months to 49 months for Bipole I and 54 months for Bipole II, considering the present global uncertainties on supplies of components and their lead time.

After detailed deliberations, it was agreed that the timeline of commissioning of HVDC shall be increased by 06 months for Bipole-II i.e. if implementation timeline is 48 months for Bipole I, it should be 54 months for Bipole-II.

3.10.5 However, the changed timelines for implementation of HVDC & SATCOM schemes would be applicable only to the new schemes brought up in NCT henceforth.

3.10.6 Chairperson, CEA, also stated that rating of HVDC transmission system must be standardised by CEA so that delivery time is reduced.

### 4 Modification in the earlier approved/notified transmission schemes:

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

4.1.1 A comprehensive transmission scheme (400 kV Jhangi-Wangtoo-Panchkula D/c Corridor) for evacuation of power from two Hydro Electric Projects (HEPs) viz Tidong (150 MW) of Tidong Power Generation Private Limited (STATKRAFT) and Shongtong Karcham HEP (450 MW) of HPPCL in Himachal Pradesh was evolved. The transmission scheme was approved by MoP based on the recommendation by NCT for implementation through TBCB route. Subsequently, HPPCL had intimated that the commissioning date of Shongtong Karcham HEP (STKHEP) had been revised (preponed) from July'26 to July'25 and requested to review the timelines of the transmission system for evacuation of power from Shongtong Karcham HEP (STKHEP) in Himachal Pradesh due to the revised timeline of commissioning of STKHEP.

4.1.2 The revised scheme was also discussed in the 65<sup>th</sup> NRPC meeting held on 21.04.2023. During the NRPC meeting, MS, NRPC stated that all efforts may be made to reduce the time frame of the interim part to ensure that the generation is not stranded. Therefore, NRPC Forum recommended NCT to give consideration to generation project schedule and accordingly transmission system may be developed.

4.1.3 In the NCT meeting, CTUIL informed that based on the preliminary survey report for 400 kV Wangtoo-Panchkula D/c line, conductor in certain portion of the transmission line may need to be of different configuration (due to very high altitude encountered in certain sections) in order to avoid Corona inception gradient. The cost of the transmission scheme may also increase. Accordingly, CTUIL was requested to confirm change in conductor configuration if any along with revised cost of the scheme based on the survey report and submit the same within two weeks.

## 4.2 Revised timeframe of the transmission scheme "Transmission system for evacuation of power from Luhri Stage-I HEP"

4.2.1 The transmission system for evacuation of power from Luhri Stage-I HEP was agreed in the 8<sup>th</sup> meeting of NCT held on 25.03.2022 with the following scope of works:

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
1.	Establishment of 7x105 MVA, 400/220 kV Nange GIS Pooling Station along with125 MVAR (420kV) Bus Reactor at Nange (GIS) PS (1-Ph units along with and genera unit)	<ul> <li>315 MVA, 400/220 kV ICT: 2 Nos.</li> <li>(7x105 MVA including 1 spare ICT)</li> <li>400 kV ICT bays: 2 Nos.</li> </ul>
	Future provisions: Space for	220 kV ICT bays: 2 Nos.
	<ul> <li>400/220 kV ICIS (SIS MVA with single phase units) along with associated bays: 3 Nos.</li> <li>400 kV line bays along with in the bays along with a solution in the bays along with with a solution in the</li></ul>	400 kV, 125 MVAR Bus Reactor-1 No. 400 kV Bus Reactor bay- 1 No. 400 kV Line Bays- 2 Nos.
	<ul> <li>switchable line reactor: 3 Nos.</li> <li>220 kV line bays: 10 nos</li> </ul>	
2.	Nange (GIS) Pooling Station – Koldam 400 kV D/c line (Triple snowbird) (only one circuit is to be terminated at Kol Dam while second circuit would be connected to bypassed circuit of Kol Dam – Ropar/Ludhiana 400 kV D/c line)	Route length: 40 km
3.	1 No. of 400 kV line bay at Koldam S/s for termination of Nange (GIS) Pooling Station – Koldam 400 kV linealongwith125 MVAR (420kV) Bus Reactor at Koldam S/s (1-Ph units along with one spare unit)	400 kV Line Bays- 2 Nos. 400 kV, 125 MVAR Bus Reactor- 1 No. 400 kV Bus Reactor bay- 1 No.
4.	Bypassing one ckt of Koldam –	

Gel

Sl. No.	Scope of the Transmission Scheme	Capacity/ Route length
	Ropar/Ludhiana 400 kV D/c line (Triple snowbird) at Koldam and connecting it with one of the circuit of Nange- Koldam 400 kV D/c line(Triple snowbird), thus forming Nange- Ropar/ Ludhiana one line (Triple snowbird)	
5.	1x50 MVAR switchable line reactor at Ropar end of Nange- Ropar/ Ludhiana 400 kV line	400 kV, 50 MVAR Line Reactor- 1 No. 400 kV Reactor Bay- 1 No.

- 4.2.2 The above mentioned transmission scheme was notified in Gazette dated 02.06.2022 and RECPDCL was appointed as the BPC of the transmission scheme. The transmission scheme is currently under bidding with the implementation timeframe of 24.04.2025 (in matching timeframe of Luhri Stage-I HEP).
- 4.2.3 SJVNL vide letter dated 17.02.2023 informed that Luhri Stage-I HEP is likely to be commissioned by August, 2026, hence the time frame of Luhri Stage-I may be considered as 31.08.2026. The same was acknowledged in a meeting convened by CEA on 07.03.2023. Accordingly, it was decided that the timeframe of the transmission scheme "Transmission system for evacuation of power from Luhri Stage-I HEP", would be revised to 31<sup>st</sup> August, 2026.
- 4.2.4 NCT noted the same.
- 4.3 Delinking of 400 kV Fatehgarh-II- Bhadla-III D/c line from transmission scheme "Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1"
- 4.3.1 The transmission scheme "Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1" was agreed in the 5<sup>th</sup> meeting of the NCT held on 25.08.2021 and 02.09.2021, with the following scope of works:
  - Establishment of 2x1500 MVA 765/400 kV & 3x500 MVA 400/220 kV pooling station at Bhadla-3
  - Fatehgarh-2 PS Bhadla-3 PS 400 kV D/c line
  - Bhadla-3 PS Sikar-II S/s 765 kV D/c line

- 4.3.2 The above mentioned transmission scheme was notified in the Gazette dated 06.12.2022 and PFCCL was appointed as the BPC of the transmission scheme. As the transmission scheme is falling under core GIB area, PFCCL approached the Committee formed by Hon'ble Supreme Court for obtaining the necessary GIB clearance.
- 4.3.3 Subsequently, a meeting was held on 01.05.2023 under the chairmanship of Secretary, MoP, to review the progress of under construction/ under bidding/ planned Transmission Projects for evacuation of Renewable Energy (RE) projects, wherein it was highlighted that the GIB clearance for Fatehgarh-2 PS Bhadla-3 PS 400 kV D/c line has not been received due to which the bidding process for the transmission scheme is getting delayed. Considering that, Secretary, MoP, directed that the process of delinking of 400 kV Fatehgarh-II- Bhadla-III D/c line from Phase-III Part-B1 may be carried out at the earliest and a separate package may be formed comprising 400 kV Fatehgarh-II- Bhadla III D/c line.
- 4.3.4 The same was deliberated in a meeting convened by CEA on 10.05.2023, wherein PFCCL (BPC) was requested to delink the 400 kV Fatehgarh-II- Bhadla-III D/c line as directed by Secretary, MoP. Further, it was recommended that for timely completion of the bidding process, bidders may be given 4 weeks of time for bid submission by the BPC, since the transmission scheme (Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1) is already under the bidding process for the past few months and also linked with other transmission schemes under Phase-III.

4.3.5	In	view	of	above,	the	modification	in	the	scope	of	the	transmission	scheme
	"Tr	ansmi	ssio	n system	n for	evacuation of	pov	ver fi	om RE	Z ir	n Raj	asthan (20 GV	V) under
	Pha	ase-III	Part	B1" is a	as fo	llows:							

SI. No.	Existing Scope	Revised Scope
1.	<ul> <li>Establishment of 2x1500 MVA 765/400 kV &amp; 3x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVAR (765 kV) Bus Reactor &amp; 2x125 MVAR (420kV) Bus Reactor</li> <li>765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)</li> <li>765 kV ICT bays - 2 Nos.</li> <li>400/220 kV, 500 MVA ICT - 3 Nos.</li> <li>765 kV line bays - 2 Nos.</li> <li>400 kV ICT bays - 5 Nos.</li> <li>220 kV ICT bays - 3 Nos.</li> <li>400 kV line bays - 2 Nos.</li> <li>220 kV line bays - 2 Nos.</li> <li>330 MVAR Bus Reactor-2 Nos. (7x110 MVAR, including one spare</li> </ul>	<ul> <li>Establishment of 2x1500 MVA, 765/400 kV &amp; 3x500 MVA, 400/220 kV pooling station at Bhadla-3 along with 2x330 MVAR (765 kV) Bus Reactor &amp; 2x125 MVAR (420 kV) Bus Reactor</li> <li>765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)</li> <li>765 kV ICT bays - 2 Nos.</li> <li>400/220 kV, 500 MVA ICT - 3 Nos.</li> <li>765 kV line bays -2 Nos.</li> <li>400 kV ICT bays - 5 Nos.</li> <li>220 kV ICT bays - 3 Nos.</li> <li>220 kV line bays: 5 Nos.</li> <li>330 MVAR Bus Reactor-2 Nos. (7x110 MVAR, including one spare unit)</li> <li>765 kV reactor bay- 2 Nos.</li> <li>125 MVAR, 420 kV bus reactor - 2 Nos.</li> </ul>
	unit)	

## I/28785/2023

## File No.CEA-PS-12-13/3/2019-PSPA-II Division

# 174

Sl.	Existing Scope	Revised Scope
110.		
	<ul> <li>765 kV reactor bay- 2 Nos.</li> <li>125 MVAR, 420kV bus reactor - 2 Nos.</li> <li>420 kV reactor bay - 2 Nos.</li> </ul> Future provisions: Space for <ul> <li>765/400 kV ICTs along with bays: 2 Nos.</li> <li>765 kV line bay along with switchable line reactor: 6 Nos.</li> <li>765 kV line bay: 4 Nos.</li> <li>765 kV Bus Reactor along with bays: 2 Nos.</li> <li>400/220 kV ICTs along with bays: 10 Nos.</li> <li>400 kV line bays: 8 Nos.</li> <li>400 kV line bays: 8 Nos.</li> <li>400 kV line bays along with switchable line reactor: 6 Nos.</li> <li>400 kV line bays: 10 Nos.</li> <li>400 kV line bays: 12 Nos.</li> <li>220 kV line bays: 12 Nos.</li> </ul>	<ul> <li>420 kV reactor bay - 2 Nos.</li> <li><u>Future provisions:</u> Space for</li> <li>765/400 kV ICTs along with bays: 2 Nos.</li> <li>765 kV line bay along with switchable line reactor: 6 Nos.</li> <li>765 kV line bay: 4 Nos.</li> <li>765 kV Bus Reactor along with bays: 2 Nos.</li> <li>400/220 kV ICTs along with bays: 10 Nos.</li> <li>400 kV line bays: 8 Nos.</li> <li>400 kV line bays: 8 Nos.</li> <li>400 kV Bus Reactor along with bays: 2 Nos.</li> <li>400 kV line bays: 10 Nos.</li> <li>400 kV line bays: 2 Nos.</li> <li>400 kV Bus Reactor along with bays: 2 Nos.</li> <li>20 kV Sectionalization bay: 2 sets</li> <li>220 kV Sectionalization bay: 2 sets</li> <li>220 kV Sectionalization bay: 2 sets</li> </ul>
	• 220 KV sectionalization bay: 2 sets	
2.	<ul> <li>Fatehgarh-2 PS – Bhadla-3 PS 400 kV D/</li> <li>c line (Quad moose) along with 63</li> <li>MVAR Switchable line reactor for each circuit at both ends of Fatehgarh 2-</li> <li>Bhadla-3 400 kV D/c line</li> <li>400 kV 63 MVAR switchable line reactor – 4 Nos.</li> <li>Switching equipment for 400 kV 63 MVAR switchable line reactor – 4 Nos.</li> </ul>	Deleted
3.	<ul> <li>400 kV line bays at Fatehgarh-2 PS for</li> <li>Fatehgarh-2 PS – Bhadla-3 PS 400 kV D/</li> <li>c line</li> <li>400 kV line bays - 2 Nos.</li> </ul>	Deleted
4.	Bhadla-3 PS – Sikar-II S/s 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of	Bhadla-3 PS – Sikar-II S/s 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-

Gel

### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl. No.	Existing Scope	Revised Scope
5.	<ul> <li>Bhadla-3 PS – Sikar-II S/s 765 kV D/c line</li> <li>Switching equipment for 765 kV 330 MVAR switchable line reactor – 4 Nos.</li> <li>765 kV, 330 MVAR Switchable line reactor- 4 Nos.</li> <li>765 kV line bays at Sikar-II</li> <li>765 kV line bays at Sikar-II</li> <li>765 kV line bays – 2 Nos.</li> </ul> Note: <ul> <li>i. Provision of suitable sectionalization shall be kept at Bhadla-3 at 400 kV &amp; 220 kV level to limit short circuit level.</li> <li>ii. POWERGRID to provide space for 2 Nos. of 400 kV line bays along with space for switchable line reactors at Fatehgarh-2 S/s. iii. 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. iv. Space provision for future 2 Nos. 220 kV Bus Coupler bay and 2 Nos. Transfer Bus Coupler Bay shall be</li></ul>	<ul> <li>3 PS – Sikar-II S/s 765 kV D/c line</li> <li>Switching equipment for 765 kV 330 MVAR switchable line reactor – 4 Nos.</li> <li>765 kV, 330 MVAR Switchable line reactor- 4 Nos.</li> <li>765 kV line bays at Sikar-II</li> <li>765 kV line bays at Sikar-II</li> <li>765 kV line bays – 2 Nos. Note:</li> <li>i. Provision of suitable sectionalization shall be kept at Bhadla-3 at 400 kV &amp; 220 kV level to limit short circuit level.</li> <li>ii. Deleted</li> <li>iii. 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.</li> <li>iv. Space provision for future 2 Nos. 220 kV Bus Coupler bay and 2 Nos. Transfer Bus Coupler Bay shall be kept for bus switching scheme requirement.</li> </ul>
	requirement.	

4.3.6 After detailed deliberations, the revised scope of the scheme was approved by NCT. Revised scope of the scheme "Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1" is as follows:

Revised	Scope
---------	-------

Establishment of 2x1500 MVA 765/400 kV & 3x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor

- 765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)
- 765 kV ICT bays 2 Nos.
- 400/220 kV, 500 MVA ICT 3 Nos.
- 765 kV line bays -2 Nos.
- 400 kV ICT bays 5 Nos.
- 220 kV ICT bays 3 Nos.
- 220 kV line bays: 5 Nos.
- 330 MVAR Bus Reactor-2 Nos. (7x110 MVAR, including one spare unit)

#### **Revised Scope**

- 765 kV reactor bay- 2 Nos.
- 125 MVAR, 420kV bus reactor 2 Nos.
- 420 kV reactor bay 2 Nos.

#### Future provisions: Space for

- 765/400 kV ICTs along with bays: 2 Nos.
- 765 kV line bay along with switchable line reactor: 6 Nos.
- 765 kV line bay: 4 Nos.
- 765 kV Bus Reactor along with bays: 2 Nos.
- 400/220 kV ICTs along with bays: 10 Nos.
- 400 kV line bays: 8 Nos.
- 400 kV line bays along with switchable line reactor: 8 Nos.
- 400 kV Bus Reactor along with bays: 2 Nos.
- 400 kV Sectionalization bay: 2 sets
- 220 kV line bays: 12 Nos.
- 220 kV Sectionalization bay: 2 sets

Bhadla-3 PS – Sikar-II S/s 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-3 PS – Sikar-II S/s 765 kV D/c line

- Switching equipment for 765 kV 330 MVAR switchable line reactor 4 Nos.
- 765 kV, 330 MVAR Switchable line reactor- 4 Nos.

765 kV line bays at Sikar-II

- 765 kV line bays 2 Nos. Note:
- i. Provision of suitable sectionalization shall be kept at Bhadla-3 at 400 kV & 220 kV level to limit short circuit level.
- ii. 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.
- iii. Space provision for future 2 Nos. 220 kV Bus Coupler bay and 2 Nos. Transfer Bus Coupler Bay shall be kept for bus switching scheme requirement.
- 5 Comprehensive presentation by CTU apprising NCT of measures taken for ensuring development of an efficient, co-ordinated and economical ISTS for smooth flow of electricity.

CTUIL has prepared the rolling plan for 2027-28, which will be presented in the next NCT meeting.

### 6 Five-year rolling plan for ISTS capacity addition.

CTUIL has prepared the rolling plan for 2027-28, which will be presented in the next NCT meeting.

## 7 Any other issues, with permission of chair

The meeting ended with thanks to the chair.

hd

## Summary of the deliberations of the 14<sup>th</sup> meeting of NCT held on 09<sup>th</sup> June, 2023

I. ISTS communication schemes approved by NCT for implementation under RTM Route:

Sl. No.	Name of Transmission	Implement	Implement	Implemen	Estimated
	Scheme	ation Mode	ation	ting	Cost
			timeframe	Agency	(Rs Cr)
1.	Requirement of additional	RTM	12 months	POWER	0.6
	FOTE of STM-16 capacity			GRID	
	at Bhuj PS to cater to				
	connectivity of RE Gencos				
2	Requirement of additional	RTM	12 months	M/s	0.3
۷.	FOTE of STM 16 capacity		12 months		0.5
	at Rhui-II substation to			IDIL	
	at Diluj-II substation to				
	Gencos				
	Uclicos				
3.	Upgradation of STM-4	RTM	12 months	POWER	1.5
	communication link of			GRID	
	Dehgam, Ranchhodpura,				
	Santhalpur Rep, Bhachau				
	and CGPL Mundra to				
	STM-16 capacity				

**II.** ISTS schemes costing less than Rs. 100 Crs. approved by NCT:

Sl. No.	Name of Transmission	Implement	Implement	Allocated	Estimated
	Scheme	ation Mode	ation	to	Cost
			timeframe		(Rs Crs)
1.	Transmission System for	RTM	Matching	POWER	21
	Evacuation of Power from		with	GRID	
	potential renewable energy		implement		
	zone in Khavda area of		ation of		
	Gujarat under Phase-V (8		Khavda		
	GW): Part A1		Phase-V		
			Part A		
	Brief Scope:		scheme		
	Conversion of 330 MVAR		viz.		
	Fixed LR at Wardha (on		Bipole-1		
	each ckt of Wardha –		(2x1500		
	Raipur 765 kV D/c line		MW) ±		

### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Cost Rs Crs)
Rs Crs)
0.45

- **III.** ISTS Transmission schemes, costing between Rs 100 Crore to Rs 500 Crore, approved by NCT:
  - (a) The transmission schemes approved by NCT under RTM route is given below:

Sl. No.	Name of Transmission	Impleme	Implement	Allocated to	Estimated
	Scheme	ntation	ation		Cost
		Mode	timeframe		(Rs. Crs)
1.	Augmentation of	RTM	21 months	POWERGRID	123.12
	transformation capacity by				
	1x1500 MVA (3rd),				
	765/400 kV ICT at				
	Maheshwaram (PG)				
	substation in Telangana				

### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl. No.	Name of Transmission	Impleme	Implement	Allocated to	Estimated
	Scheme	ntation	ation		Cost
		Mode	timeframe		(Rs. Crs)
2.	Transmission System for	RTM	24 months	Khavda –	216
	Evacuation of Power from			Bhuj	
	potential renewable energy			Transmission	
	zone in Khavda area of			Ltd.	
	Gujarat under Phase-IV (7			(Subsidiary	
	GW): Part E1			of Adani	
				Transmission	
				limited)	
3	Transmission System for	RTM	24 months	KPS3	216
	Evacuation of Power from		2 • • • • • • • • • • • • • • • • • • •	Transmission	210
	potential renewable energy			Limited	
	zone in Khavda area of			(Subsidiary	
	Gujarat under Phase-IV (7			of	
	GW): Part E3			POWERGRI	
				D)	
				,	
4.	Transmission System for	RTM	24 months	POWERGRI	235
	Evacuation of Power from			D	
	potential renewable energy				
	zone in Khavda area of				
	Gujarat under Phase-IV (7				
	GW): Part E4				

(b) The transmission schemes approved by NCT to be implemented through TBCB route is given below:

Sl.	Name of Transmission	Implem	Tentative	Allocate	Estimate	Survey
No.	Scheme	entation	Impleme	d to	d Cost	Agency
		Mode	ntation		(Rs. Crs)	
			timefram			
			e			
1.	Western Region	TBCB	18	RECPD	160	RECPDC
	Network Expansion		months	CL		L
	scheme in Kallam area					
	of Maharashtra					

The broad scope of above ISTS scheme, approved by NCT for implementation through TBCB route to be notified in Gazette of India is as given below:

Gel
S1.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation		Coordinator
	timeframe		
1.	timeframe Western Region Network Expansion scheme in Kallam area of Maharashtra Tentative Implementation Timeframe: 18 months from transfer of SPV	<ul> <li>i. LILO of both circuits of Parli(M) – Karjat(M)/Lonikand-II(M) 400 kV D/c line (twin moose) at Kallam PS</li> <li>ii. 4 Nos. 400 kV line bays at Kallam PS for LILO of both circuits of Parli(M) – Karjat(M)/Lonikand- II(M) 400 kV D/c line (twin moose) at Kallam PS</li> <li>iii. 63 MVAR, 420 kV switchable line reactor (with NGR bypassing arrangement) on each ckt at Kallam PS end of Karjat – Kallam 400 kV D/c line (~140 km)</li> </ul>	RECPDCL
		(Detailed scope as approved by 14 <sup>th</sup> NCT and subsequent amendments	
		thereof)	

- **IV.** ISTS Transmission schemes, costing greater than Rs 500 Crore recommended by NCT to MoP:
  - (a) The ISTS transmission schemes recommended by NCT to MoP are given below:

Sl.	Transmission Scheme	Implem	Tentativ	Survey	BPC	Estimated
No.		entatio	e	Agency		Cost
		n Mode	Impleme			(Rs. Crs)
			ntation			
			timefram			
			e			
1.	Transmission System for	TBCB	24	RECPDCL	RECPDC	4,091
	Evacuation of Power		months		L	
	from potential renewable		from			
	energy zone in Khavda		SPV			
	area of Gujarat under		Transfer			
	Phase-IV (7 GW): Part A					
2.	Transmission System for	TBCB	24	PFCCL	PFCCL	4,766
	Evacuation of Power		months			
	from potential renewable		from			

Gel

Sl. No.	Transmission Scheme energy zone in Khayda	Implem entatio n Mode	Tentativ e Impleme ntation timefram e SPV	Survey Agency	BPC	Estimated Cost (Rs. Crs)
	area of Gujarat under Phase-IV (7 GW): Part B		Transfer			
3.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C	TBCB	24 months from SPV Transfer	RECPDCL	RECPDC L	5,340
4.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part D	TBCB	24 months from SPV Transfer	PFCCL	PFCCL	3,455
5.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part E2	TBCB	21 months from SPV Transfer	RECPDCL	RECPDC L	697
6.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-V (8 GW): Part A	TBCB	48 months for Bipole-1 and 54 months for Bipole-2 from SPV Transfer	RECPDCL	RECPDC L	24,819
7.	Transmission System for Evacuation of Power	TBCB	48 months	PFCCL	PFCCL	12,000

Gel

Sl. No.	Transmission Scheme from potential renewable energy zone in Khavda area of Gujarat under Phase-V (8 GW): Part C	Implem entatio n Mode	Tentativ e Impleme ntation timefram e from SPV Transfer	Survey Agency	BPC	Estimated Cost (Rs. Crs)
8.	Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex): Part A	TBCB	24 months from SPV Transfer	RECPDCL	RECPDC L	2,206
9.	Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex): Part B	TBCB	24 months from SPV Transfer	PFCCL	PFCCL	3,279
10	Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex): Part C	TBCB	24 months from SPV Transfer	CTUIL	RECPDC L	2,708
11	.Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex): Part D	TBCB	24 months from SPV Transfer	CTUIL	PFCCL	2,227
12	2. Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex): Part E	TBCB	24 months from SPV Transfer	RECPDCL	RECPDC L	3,251

Gel

01	<b>—</b> · · <b>—</b> 1	× 1	-	<i>a</i>	DDG	
SI.	Transmission Scheme	Implem	Tentativ	Survey	BPC	Estimated
No.		entatio	e	Agency		Cost
		n Mode	Impleme			(Rs. Crs)
			ntation			
			timefram			
			e			
13	Transmission system for	TBCB	24	PFCCL	PFCCL	2,735
	evacuation of power		months			
	from Rajasthan REZ Ph-		from			
	IV (Part-2 :5.5 GW)		SPV			
	(Jaisalmer/Barmer		Transfer			
	Complex): Part F (By					
	clubbing Part F1 & F2)					
14	Transmission system for	TBCB	24	RECPDCL	RECPDC	3,674
	evacuation of power		months		L	
	from Rajasthan REZ Ph-		from			
	IV (Part-2 :5.5 GW)		SPV			
	(Jaisalmer/Barmer		Transfer			
	Complex): Part H1					

(b) The broad scope of ISTS schemes recommended by NCT to MoP for implementation through TBCB mode, to be notified in Gazette of India is as given below:

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
1.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7GW): Part A Tentative Implementation Timeframe: 24 months	<ul> <li>i. Creation of 765 kV bus section-II at KPS3 (GIS) along with 765 kV Bus Sectionaliser &amp; 1x330MVAR, 765 kV Bus Reactors on Bus Section-II</li> <li>Bus section – II shall be created at 765 kV &amp; 400 kV level both with 3x1500 MVA, 765/400 kV ICTs at Bus Section-II</li> <li>ii. Creation of 400 kV bus section-II at KPS3 (GIS) along with 400 kV Bus Sectionaliser &amp; 1x125MVAR, 400 kV Bus Reactors on Bus Section-II and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection</li> </ul>	RECPDCL

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		<ul> <li>iii. KPS3 (GIS) – Lakadia (AIS) 765 kV D/C line</li> <li>iv. 2 Nos. of 765 kV line bays each at KPS3 (GIS) &amp; Lakadia (AIS) for KPS3 (GIS) – Lakadia (AIS) 765 kV D/C line</li> <li>v. ±300 MVAR STATCOM with 1x125 MVAR MSC, 2x125 MVAR MSR at KPS3 400 kV Bus section-2</li> <li>vi. KPS1 (GIS)– Bhuj PS 765 kV 2<sup>nd</sup> D/C line</li> <li>vii. 2 Nos. of 765 kV line bays each at KPS1 (GIS) – Bhuj PS 765 kV 2<sup>nd</sup> D/C line</li> <li>viii. 330 MVAR, 765 kV switchable line reactors at KPS3 end of KPS3 (GIS) – Lakadia 765 kV D/C line (with NGR bypass arrangement)</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	Coordinator
2.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>i. Establishment of 2x1500 MVA, 765/400 kV &amp; 2x500 MVA, 400/220 kV GIS S/s at a suitable location South of Olpad (between Olpad and Ichhapore) with 2x330 MVAR, 765 kV &amp; 1x125 MVAR, 420 kV bus reactors.</li> <li>ii. Vadodara(GIS) – South Olpad (GIS) 765 kV D/C line</li> <li>iii. 240 MVAR switchable line</li> </ul>	PFCCL

hel

#### I/28785/2023

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		<ul> <li>reactors on each ckt at Vadodara(GIS) end of Vadodara(GIS) –South Olpad(GIS) 765 kV D/C line (with NGR bypass arrangement)</li> <li>iv. 2 Nos. of 765 kV line bays at Vadodara(GIS) for Vadodara(GIS) – South olpad(GIS) 765 kV D/C line</li> <li>v. LILO of Gandhar – Hazira 400 kV D/c line at South Olpad (GIS) using twin HTLS conductor with minimum capacity of 1700MVA</li> </ul>	
		per ckt at nominal voltage vi. Ahmedabad – South Olpad(GIS) 765 kV D/c line	
		<ul> <li>vii. 240 MVAR switchable line reactors on each ckt at Ahmedabad &amp; South Olpad (GIS) end of Ahmedabad – South Olpad(GIS) 765 kV D/c line (with NGR bypass arrangement)</li> </ul>	
		viii. 2 Nos. of 765 kV line bays at Ahmedabad S/s for Ahmedabad – South Olpad(GIS) 765 kV D/c line	
		(Detailed scope as approved by 14 <sup>th</sup> NCT and subsequent amendments thereof)	
3.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C	<ul> <li>i. Establishment of 4x1500 MVA 765/400 kV &amp; 2x500 MVA 400/220 kV Boisar-II (GIS) with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor. [2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and</li> </ul>	RECPDCL

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
	Tentative Implementation timeframe: 24 months from SPV transfer	2x500MVA, 400/220 kV ICTs shall be on 400 kV bus section- II. 2x125MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition.]	
		<ul><li>ii. South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li></ul>	
		<ul> <li>iii. 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> </ul>	
		<ul> <li>iv. 240 MVAR switchable line reactors on each ckt at South Olpad(GIS) &amp; Boisar-II(GIS) end of South Olpad(GIS) – Boisar-II(GIS) 765 kV D/c line (with NGR bypass arrangement)</li> </ul>	
		v. LILO of Navsari(New) – Padghe(PG) 765 kV D/c line at Boisar-II	
		vi. Boisar-II (Sec-II) – Velgaon(MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	
		<ul> <li>vii. 2 Nos. of 400 kV line bays at Velgaon(MH) for termination of Boisar-II – Velgaon(MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> </ul>	
		viii. LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS	

Gel 64

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		conductor with minimum capacity of 1700 MVA per ckt at nominal voltage ix. 80 MVAR switchable line reactors at Bosar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO	
		x. ±200MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar-II and ±200MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II	
		<ul> <li>xi. ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari(New)(PG) S/s with 1 No. of 400 kV bay (GIS)</li> </ul>	
		(Detailed scope as approved by 14 <sup>th</sup> NCT and subsequent amendments thereof)	
4.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part D	<ul> <li>i. Establishment of 2x1500 MVA 765/400 kV &amp; 3x500 MVA 400/220 kV Pune-III (GIS) S/s with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor.</li> </ul>	PFCCL
	Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>ii. Boisar-II – Pune-III 765 kV D/c line</li> <li>iii. 330 MVAR switchable line reactors at Pune-III end of Boisar-II – Pune-III 765 kV D/c line (with NGR bypass</li> </ul>	

Gel

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		<ul> <li>arrangement).</li> <li>iv. 2 Nos. of 765 kV line bays at Boisar-II for termination of Boisar-II – Pune-III 765 kV D/c line</li> <li>v. LILO of Narendra (New) – Pune(GIS) 765 kV D/c line at Pune-III</li> <li>vi. 330 MVAR switchable line reactors at Pune-III end of Narendra (New) – Pune-III (GIS) 765 kV D/c line (with NGR bypass arrangement).</li> <li>vii. LILO of Hinjewadi - Koyna 400 kV S/c line at Pune-III(GIS) S/s</li> <li>viii. 80 MVAR, 420 kV switchable Line Reactors on each ckt at Pune-III (GIS) – Koyna 400 kV line formed after above LILO (with NGR bypass arrangement).</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	
5.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part E2 Tentative Implementation timeframe: 21 months from SPV transfer	<ul> <li>i. Augmentation of transformation capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus Section-I (5<sup>th</sup> &amp; 6<sup>th</sup>) &amp; 2x1500 MVA, 765/400 kV ICT on Bus section-II (7<sup>th</sup> &amp; 8<sup>th</sup>) &amp; 2 Nos. 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent</li> </ul>	RECPDCL

Gel

### 190

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		amendments thereof)	
6.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-V (8 GW): Part A Tentative Implementation timeframe: 48 months for	<ul> <li>i. Establishment of 6000 MW, ±800 kV KPS2 (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard</li> <li>ii. Establishment of 6000 MW, ±800 kV Nagpur (HVDC) [LCC]</li> </ul>	PFCCL
	Bipole-1 (2x1500MW) and 54 months for Bipole-2 (2x1500MW)	terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard	
		<ul> <li>iii. ±800 kV HVDC Bipole line (Hexa lapwing) between KPS2(HVDC) and Nagpur (HVDC) (1200 km) (with Dedicated Metallic Return) (capable to evacuate 6000 MW with overload as specified)</li> </ul>	
		<ul> <li>iv. Establishment of 6x1500 MVA, 765/400 kV ICTs at Nagpur S/s along with 2x330 MVAR (765 kV) &amp; 2x125 MVAR, 420 kV bus reactors along with associated interconnections with HVDC Switchyard. The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser so that 3x1500 MVA ICTs are placed in each section. The bus sectionaliser shall be normally CLOSED and may be opened based on Grid requirement.</li> </ul>	
		v. LILO of Wardha – Raipur 765 kV one D/c line (out of 2xD/c	

Gel 67

Sl. No.	Name of Scheme & Implementation timeframe	Broad Scope	Bid Process Coordinator
		<ul> <li>lines) at Nagpur.</li> <li>vi. Installation of 240 MVAR switchable line reactor at Nagpur end on each ckt of Nagpur – Raipur 765 kV D/c line.</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	
7.	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-V (8GW): Part C Tentative Implementation timeframe: 48 months from SPV transfer	<ul> <li>i. Establishment of 2500 MW, ±500 kV KPS3 (HVDC) [VSC] terminal station (2x1250 MW) at a suitable location near KPS3 substation with associated interconnections with 400 kV HVAC Switchyard</li> <li>ii. Establishment of 2500 MW, ±500 kV South Olpad (HVDC) [VSC] terminal station (2x1250 MW) along with associated interconnections with 400 kV HVAC Switchyard of South Olpad S/s</li> <li>iii. Establishment of KPS3 (HVDC) S/s along with 2x125MVAR, 420kV bus reactors along with associated interconnections with HVDC Switchyard. The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser to be kept normally OPEN.</li> <li>400/33 kV, 2x50 MVA transformers for exclusively supplying auxiliary power to HVDC terminal.</li> <li>iv. KPS3 – KPS3 (HVDC) 400 kV</li> </ul>	RECPDCL

Gel

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		<ul> <li>AL59 moose equivalent) line along with the line bays at both substations</li> <li>v. ±500 kV HVDC Bipole line between KPS3(HVDC) and South Olpad (HVDC) (with Dedicated Metallic Return) (capable to evacuate 2500 MW)</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	
8.	Transmission system for         evacuation of power from         Rajasthan REZ Ph-IV (Part-2         :5.5       GW)         (Jaisalmer/Barmer         Complex): Part A         Tentative Implementation         timeframe: 24 months from         SPV transfer	<ul> <li>i. Establishment of 4x1500 MVA, 765/400 kV &amp; 5x500 MVA, 400/220 kV Fatehgarh-IV (Section-2) Pooling Station along with 2x240 MVAR (765 kV) Bus Reactor &amp; 2x125 MVAR (420 kV) Bus Reactor</li> <li>ii. Fatehgarh-IV (Section-2) PS – Bhinmal (PG) 400 kV D/c line (Twin HTLS) along with 50 MVAR switchable line reactor on each ckt. at each end</li> <li>iii. LILO of both ckts of 765 kV Fatehgarh-III- Beawar D/c line (2nd) at Fatehgarh-IV (Section- 2) PS along with 330 MVAR switchable line reactor at Fatehgarh-IV PS end of each ckt of 765 kV Fatehgarh-IV- Beawar D/c line (formed after LILO)</li> <li>iv. 2 Nos. of 400 kV line bays at Bhinmal (PG)</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	PFCCL

Gel

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
9.	TransmissionsystemforevacuationofpowerfromRajasthanREZPh-IV(Part-2:5.5GW)(Jaisalmer/BarmerComplex):Part	<ul> <li>i. Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Sirohi along with 2x240 MVAR (765 kV) &amp; 2x125 MVAR (420 kV) Bus Reactor</li> </ul>	RECPDCL
	Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>ii. Fatehgarh-IV (Section-2) PS – Sirohi PS 765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at each end</li> </ul>	
		<ul><li>iii. Sirohi PS-Chittorgarh (PG) 400 kV D/c line (Quad) along with 80 MVAR switchable line reactor for each circuit at Sirohi PS end.</li></ul>	
		iv. 2 No. of 400 kV line bays at Chittorgarh (PG) S/s	
		v. 2 No. of 765 kV line bays at Fatehgarh-IV (Section-2) PS	
		(Detailed scope as approved by 14 <sup>th</sup> NCT and subsequent amendments thereof)	
10.	TransmissionsystemforevacuationofpowerfromRajasthanREZPh-IV(Part-22:5.5GW)(Jaisalmer/BarmerComplex):Part C	<ul> <li>i. Establishment of 3x1500 MVA, 765/400 kV &amp; 5x500 MVA, 400/220 kV Mandsaur Pooling Station along with 2x330 MVAR (765 kV) Bus Reactors &amp; 2x125 MVAR, 420 kV Bus Reactor.</li> </ul>	PFCCL
	Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>ii. Mandsaur PS – Indore(PG) 765 kV D/c Line</li> <li>iii. 1x330 MVAR, 765 kV switchable line reactor (SLR) on each ckt at Mandsaur end of Mandsaur PS – Indore (PG) 765</li> </ul>	

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		<ul> <li>kV D/c Line</li> <li>iv. 2 Nos. of 765 kV line bays at Indore(PG) for termination of Mandsaur PS – Indore(PG) 765 kV D/c Line</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	
11.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part- 2 :5.5 GW) (Jaisalmer/Barmer Complex): Part D Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>i. Beawar- Mandsaur PS 765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at each end</li> <li>ii. 2 Nos. of 765 kV line bays each at Beawar S/s &amp; Mandsaur S/s</li> <li>(Detailed scope as approved by 14<sup>th</sup> NCT and subsequent amendments thereof)</li> </ul>	RECPDCL
12.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part- 2 :5.5 GW) (Jaisalmer/Barmer Complex): Part E Tentative Implementation timeframe: 24 months from SPV transfer	<ul> <li>i. Establishment of, 765 kV Substation at suitable location near Rishabdeo (Distt. Udaipur) along with 2x240 MVAR (765 kV) Bus Reactor</li> <li>ii. Sirohi PS- Rishabdeo 765 kV D/ c line along with 330 MVAR switchable line reactor for each circuit at Sirohi end</li> <li>iii. Rishabdeo - Mandsaur PS 765 kV D/c line along with 240 MVAR switchable line reactor for each circuit at Rishabdeo end</li> <li>iv. LILO of one circuit of 765 kV Chittorgarh-Banaskanta D/c line at Rishabdeo S/s</li> <li>v. 2 Nos. of 765 kV line bays each</li> </ul>	PFCCL

Gel 71

#### I/28785/2023

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division

Sl.	Name of Scheme &	Bro	bad Scope	Bid Process
No.	Implementation timeframe			Coordinator
			at Sirohi PS & Mandsaur S/s	
		(De 14 <sup>tt</sup> am	etailed scope as approved by <sup>h</sup> NCT and subsequent endments thereof)	
13.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part- 2 :5.5 GW) (Jaisalmer/Barmer Complex): Part F [by clubbing Part F1 & F2] Tentative Implementation timeframe: 24 months from SPV transfer	i. ii. iii.	Establishment of 3x1500 MVA, 765/400 kV& 2x500 MVA, 400/220 kV Barmer-I Pooling Station along with 2x240 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor Fatehgarh-III (Section-2) PS – Barmer-I PS 400 kV D/c line (Quad) Barmer-I PS– Sirohi PS 765 kV D/c line along with 240 MVAR switchable line reactor for each	RECPDCL
		iv. v.	circuit at each end 2 Nos. of 400 kV line bays at Fatehgarh-III (Section-2) PS 2 Nos. of 765 kV line bays at Sirohi PS	
		(De 14 <sup>tt</sup> am	etailed scope as approved by <sup>h</sup> NCT and subsequent endments thereof)	
14.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part- 2 :5.5 GW) (Jaisalmer/Barmer Complex): Part H1 Tentative Implementation timeframe: 24 months from SPV transfer	i. ii.	Establishment of 765/400 (2x1500 MVA), 400/220 (2x500 MVA) & 220/132 kV (3x200 MVA) Kurawar S/s with 2x330 MVAR, 765 kV bus reactor and 1x125 MVAR, 420 kV bus reactor. Mandsaur – Kurawar 765 kV D/ c line.	PFCCL
		iii.	240 MVAR switchable line	

hel

#### I/28785/2023

#### File No.CEA-PS-12-13/3/2019-PSPA-II Division

# 196

Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	Implementation timeframe		Coordinator
		reactors on each ckt at both ends of Mandsaur – Kurawar 765 kV D/c line.	
		<ul> <li>iv. 2 Nos. of 765 kV line bays at Mandsaur S/s for termination of Mandsaur – Kurawar 765 kV D/ c line.</li> </ul>	
		v. LILO of Indore – Bhopal 765 kV S/c line at Kurawar.	
		vi. Kurawar – Ashtha 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line.	
		<ul> <li>vii. 2 Nos. of 400 kV line bays at Ashtha (MP) S/s for termination of Kurawar – Ashtha 400 kV D/ c line.</li> </ul>	
		viii. LILO of one circuit of Indore – Itarsi 400 kV D/c line at Astha	
		<ul> <li>ix. 2 Nos. of 400 kV line bays at Ashtha (MP) S/s for LILO of one circuit of Indore – Itarsi 400 kV D/c line at Astha</li> </ul>	
		<ul> <li>x. Shujalpur – Kurawar 400 kV D/</li> <li>c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> </ul>	
		<ul> <li>xi. 2 Nos. of 400 kV line bays at Shujalpur(PG) S/s for termination of Shujalpur – Kurawar 400 kV D/c line</li> </ul>	
		(Detailed scope as approved by 14 <sup>th</sup> NCT and subsequent amendments thereof)	

V. Modification in the earlier approved/notified transmission schemes:

#### (a) Revised timeframe of the transmission scheme "Transmission system for evacuation of power from Luhri Stage-I HEP"

The timeframe of the transmission scheme "Transmission system for evacuation of power from Luhri Stage-I HEP", would be revised to 31<sup>st</sup> August, 2026, in the matching timeframe of Luhri Stage-I HEP.

#### (b) Delinking of Fatehgarh-II- Bhadla-III 400 kV D/c line from transmission scheme "Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1":

Revised scope of the scheme "Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part B1" is as follows:

#### **Revised Scope**

Establishment of 2x1500 MVA 765/400 kV & 3x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor

• 765/400 kV 1500 MVA ICTs: 2 Nos.

(7x500 MVA including one spare unit)

- 765 kV ICT bays 2 Nos.
- 400/220 kV, 500 MVA ICT 3 Nos.
- 765 kV line bays -2 Nos.
- 400 kV ICT bays 5 Nos.
- 220 kV ICT bays 3 Nos.
- 220 kV line bays: 5 Nos.
- 330 MVAR Bus Reactor-2 Nos. (7x110 MVAR, including one spare unit)
- 765 kV reactor bay- 2 Nos.
- 125 MVAR, 420kV bus reactor 2 Nos.
- 420 kV reactor bay 2 Nos.

Future provisions: Space for

#### **Revised Scope**

- 765/400 kV ICTs along with bays: 2 Nos.
- 765 kV line bay along with switchable line reactor: 6 Nos.
- 765 kV line bay: 4 Nos.
- 765 kV Bus Reactor along with bays: 2 Nos.
- 400/220 kV ICTs along with bays: 10 Nos.
- 400 kV line bays: 8 Nos.
- 400 kV line bays along with switchable line reactor: 8 Nos.
- 400 kV Bus Reactor along with bays: 2 Nos.
- 400 kV Sectionalization bay: 2 sets
- 220 kV line bays: 12 Nos.
- 220 kV sectionalization bay: 2 sets

Bhadla-3 PS – Sikar-II S/s 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-3 PS – Sikar-II S/s 765 kV D/c line

- Switching equipment for 765 kV 330 MVAR switchable line reactor 4 Nos.
- 765 kV, 330 MVAR Switchable line reactor- 4 Nos.

765 kV line bays at Sikar-II

• 765 kV line bays -2 Nos.

#### Note:

- iv. Provision of suitable sectionalization shall be kept at Bhadla-3 at 400 kV & 220 kV level to limit short circuit level.
- v. 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.
- vi. Space provision for future 2 Nos. 220 kV Bus Coupler bay and 2 Nos. Transfer Bus Coupler Bay shall be kept for bus switching scheme requirement.

\*\*\*

Gd

Annex-I

#### List of Participants of the 14th meeting of NCT

#### <u>CEA:</u>

- 1. Sh. Ghanshyam Prasad, Chairperson, CEA and Chairman, NCT
- 2. Sh. A. K. Rajput, Member (Power Systems)
- 3. Sh. Ajay Talegaonkar, Member (E&C)
- 4. Sh. Ishan Sharan, Chief Engineer (PSPA-I)
- 5. Sh. Upendra Kumar, Chief Engineer (PCD)
- 6. Sh. B.S. Bairwa, Director (PSPA-II)
- 7. Sh. Deepanshu Rastogi, Deputy Director (PSPA-II)
- 8. Sh. Manish Maurya, Deputy Director (PSPA-II)
- 9. Sh. Pranay Garg, Deputy Director (PSPA-II)
- 10. Sh. Kanhaiya Singh Kushwaha, Assistant Director (PSPA-I)
- 11. Sh. Ajay Malav, Assistant Director (PSPA-II)

#### MoP:

1. Sh. Om Kant Shukla, Director (Trans.)

#### MNRE:

1. Sh. Tarun Singh, Scientist D

#### SECI:

- 1. Sh. Sanjay Sharma, Director
- 2. Sh. R.K. Agarwal, Consultant

#### CTUIL:

- 1. Sh. P.C. Garg, COO
- 2. Sh. Ashok Pal, Deputy COO
- 3. Sh. Jasbir Singh, CGM
- 4. Sh. Sourov Chakraborty, CGM
- 5. Sh. P.S Das, Senior GM
- 6. Sh. V Thiagarajan, Senior GM
- 7. Sh. Kashish Bhambhani, GM
- 8. Sh. Sandeep Kumawat, DGM
- 9. Sh. Chinmay Sharma, Chief Manager
- 10. Sh. Pratyush Singh, Chief Manager

#### **GRID India:**

- 1. Sh. Rajiv Porwal, ED
- 2. Sh. Surajit Banerjee, CGM
- 3. Sh. Vivek Pandey, GM
- 4. Sh. Priyam Jain, Manager

#### Expert Member:

- 1. Ms. Seema Gupta
- 2. Dr. Radheshyam Saha

रजिस्ट्री सं. ही एल - 33004/99

REGD, No. D. L.-33004/99



सी.जी.-डी.एस -अ.-06092023-248580 CG-DL-E-46092023-248580

> असाराष्ट्रण EXTRAORDINARY

भाग ।|—-श्वण्ड ३—-उप-मण्ड (ii)

PARTH-Section 3-Sub-section (ii)

शासिकार से प्रकाशित

PUBLISHED BY AUTHORITY

स, 3733] No. 3733] नई दिस्सा, सोमनार, सितस्वर, ३, 2023/माज 13, 1945 NEW DELTH, MONDAY, SEPTEMBER 4, 2023/BHADRA 13, 1945

विद्युत मंत्राखय

अधिसूचन⊺

वर्ट दिल्ली, 29 अगस्त, 2023

**का.स. 3894(स).**....केन्द्र समकार, विद्युत अधिनिषण, 2003 (2003 की संख्या 36) की धारा 63 के अन्यति परिचालित दिशा-निर्देशों के पैरा 3 के उप-पैरा 3.2 द्वारा प्रदन शकियों का प्रयोग करते हुए, परिषण संबंधी राष्ट्रीय समिति की 14वीं बैठक की लिफार्टिशों पर, पारेषण स्क्रीमों के लिए परिषण स्क्रीमों के नाम के निभित्त दशरए अनुसार, निम्नलिखित बोली-प्रक्रिया शास्वयक्तों (बीपीगी) की नियक्ति करनी है:

ক ম		पारेथण स्क्रीम का नाम एव	कार्यक्रेव	होली प्रक्रिया समन्त्रयक
	चरण 11 से विद्युर गंधावित् गांधावत् कार्य केंद्र	रण 15 (7 गीगावांट) के अंगगैत बुजरात के वावहा क्षेत्र में संप्रावित नवीकरणीय कवा क्षेत्र विद्युत की निकासी के सिए परिवण प्रयातीः भाष ए भावित्र वार्यान्तरन की समय-गीमाः एरुगीवी अनरण य 24 महीने आप खायडा चरप न 5 (7) विविदेव मार्वाट) के भाग थी, मी एवं डी के साथ मिलान को लेव		वारईसी पावर डचलपमेंद एंग कराण्टेंसी शिथिदेव
v	15. H.	पारेषण स्कीम का कार्य क्षेत्र	अमला/मार्ग की लंबाई	
		765 খানী তম নক্ষ্মৰতাওৱৰ গাঁচ 1x330	केणीएन3 765 गणी बस	
		गमवी एआर, क्रम केल्शनना में 765 केवी बरा	मेक्शनन्त्र में बन सम्भनन्ता -	
		रिएकटरो सहित केपीएस3 (जीआईएस) मे	1 सेंट	
		765 केवी बस सेक्शन- II का निर्माण	1500 एमबीए, 765/400 केवी	
		3x1500 एमबीए. अस सेनशन-II मे	आईर्म'टी-3	

Col

THE GAZETTE OF INDIA : EXTRAORDINARY

Page 11	
M	

	/ub/400 केवी आईमीटी दीनों के नाथ अस	330 एम बीएआर, 7 <b>65 के</b> बी वज्य
	संद-।। का निर्धाण 765 केरी और 409 केर्ब	िग्गुकटर-1
	⇒तर थर किया जाएग	765 नेवी सिएनटर घ-1
		765 केवी आईमीटी बे-3
2	आरई अंतरसपर्क के लिए 400 केवी यस	केमीएम3 में क्रम मेकशत-11 400
	नेक्श्रानसङ्ख्या गर्थ 1x125 एमसीएआर वर्ग	केकी अस संबंधनजाइ तर-1 मेंद
	गंक्शन-11 मेपन 400 करेंगे ने नथा 420 केवी	125 एमबीएजा/, 420 केवी जॅस
	वस सिम्बर्ट्स सहित केपीछल 3 (जीव ईएस)	P+(#27+1
	ों Ann केती चम भेक्शन-11 का चिर्माण	400 के.बी? सिंग्ल्सर सं-1
		400 केनी आईसीटी वे-3 (उपरोक
		(a) () पर आईनीटी के लिए)
		100 টামী তারন জি-3 মণ্ডধা
		(आरङ अंडच्च्च्य्र्य के लिए)
3.	ोशीएम3 (जोआदेएस) लाकॉइया	पार्च की लम्बाई.185 कि.मी.
_	(एआईएम) 765 केवी ही/मी संखन	
4.	केपीमगढ (जी जाईम्प्य)-लकाडिथा (एअडेम्प्य)	∞ 765 केली लाइत वे
	765 केवी डी/सी लाइन के लिए केपीएस3	(जीअडेण्म)-2 (केपीएम3
	(जीअईएस) और लकाडिया (एअइंएस)	छोर बस सेक्शन-॥ में)
	प्रत्येक में दो765 केवी लाइन बे	<ul> <li>765 केनी लाइन वे</li> </ul>
		(एआईएस)-2 (लकडिया
		छोर पर) )
5.	1x125 एमवीएआर एमएनसी के साथ <i>±</i> 300	<ul> <li>± 300 एमवीएआर स्टैटकॉम</li> </ul>
	एमबीएआर स्टेटकॉम, केर्नाएस3 400 केवी वस	(1x125 एमबीएआर
	सेक्शन-II मे 2x125एमवीएआर एमएसआर	एमण्सन <sup>•</sup> 2x125
		एमबीएआर एसएसआर के
	17	साथ)
		• 400 केवी ये-1
6	केपीएस 1 (जीआईएस) - भूज पीएम 765	मार्ग की ल्प्स्बाई 110
0.	केवी द्वितीय डी/सी लाइन	कि.मी.
7	केनीएस1 (जीआईएस) - भूज पीएस 765	• 765 कवी लाइन बे
	केवी डी/सी लाइनके लिए केपीएस1	(जीआईएस)-2 (केपीएस1
	(जीआईएम) और भज पीएम प्रत्येक में दो	छोग बस सेक्शनग्-।। में)
	765 केवी लाइन वे	• 765 केबी लाइन वे
		(एआईएम)-2 (भूज छोर मे)
á	केचीगान3 (जीआईएन) - लक्क्षेडिया 765 केवी	<ul> <li>330 एमनीएआर, 765 केनी</li> </ul>
	डी/सी नाइन (एनजें(आर जाइप)स व्यवस्था ले	स्विचेत्रल लाइन रिएक्टा-२
	माथ) - क केनीएम3 छोर पर 330	<ul> <li>765 ने बी लाइन फिएक्टर के</li> </ul>
	- सबीएआर स्विचेयल जोडन मिएक्टर	लिस मिवलिंग उपकरन-2
		⇒ केपीलस3 (जीआईएस) ग्रोग घर
		। 5x110 एसलीएआर स्पेकर

\_

10.16.1			
1.	- वस-एउ-हाफ देशन क्लीम में ज्यान (डींधाईमर) की प्	) करन के लिए आवश्यक - <sup>3</sup>	
	(केन) को भी हीएलची इस्म स्टिपादिस किये" जाएएफ		11
. n	कंपीएन3 का रीगमती रूम मंख्या 1,2.4,5 और 8 में 9	र्णकल्पिन कार्य के लिए स्थान	11
	प्रधान गरेगा।		11
m.	्वर्ममान स्क्रीम के ठीएलगी द्वारा केपीएस3 के कम सं	त्या 5 में विनिदिष्ट स्टेटकार	7
	(एम्राम्सनी/एम)(सआर के साथ) की भम्ध"पना के लिए :	गतीरेक मुचि की व्यवस्था के	T .
	ालगी और केमीलम3 के टीएलगी द्वारा Aidकाम की त	महर्षि के लिए एक 400 केवे	11
	ये के लिए स्थान प्रदान किया। राग्या		11
TIV.	ेक्सी एस ६ और जुल भीगम का कीम्प्स थे उस संख्या 7	भे गरिकलिएत जार्च थे। हिंग	
	व्यान प्रदान करेगा।		11
N.	्वतंसण स्कीम ∉। टीग्मणी जानोन्ध्यत के लिग वन-ए	इ. <u>हाफ वेकर एआईए</u> स <del>- क</del> ीर	11
	े के 5 शक्स के और 1 राष्ट्र के (प्रत्येक स्वाप्त के <sup>66</sup> 17) में 3	(नः ती(2)-765 केनी स्वास <sup>3</sup>	
	<ul> <li>निर्माण के लिए उकाडिका एम/एस में सर्व अत्रिरिधः</li> </ul>	भूमि की व्यवस्था करेंगा एव	Ċ.
	लक*चिया एस/एस (एम क्रम पोएना 4 पर⊢पर दे`(2) 7	165 ग्रेवी लाइन वे केपीण्म3	
	लकाहिया 766 केवी दी/मी आइने ग जुड़ हे और इसे भ	विका में। काम पर्णना के लिए	
	्रुभंग मुख्य के (स्थित्वेचन लाइन दिएक:) के गांध भाषी	ाष्ट्रण) के एकीकरण के लिए	T
	आगे बह्र"या जाएगा।		
VI.	्रहणः एक्लिकित लाइन की जंबाई अनुमार्गतेन हे क्योंचि	मरीक लंबाई विन्तुभ भवेशण	T
	के बाद धाम की जाएगी		11
VII.	ाउपर्युक्त इल्लिखित कार्याल्यपन की समय-अवधि अन	निक हैं। अंत्रिक समय <b>-अंव</b> ी	Ŭ .
	आरम्प्रहोग इस्ताचित में अर्थया जामगी।		
बरण बिद्धुत	प्र (7 <b>सीमाबांट) के तहत गुजरात के जायता क्षेत्र में संभॉ</b> <b>ही निकासी के लिए पारेलग प्रणाली: साम वी</b> त कार्याल्ययल समय अवस्थि, गणपीकी अनरण और स्वार;	<b>वित गर्वाकरणीय कर्जा क्षेत्र</b> 9 मॅग्टलन्1४ (? ग्रीगावाट)	से मीएफसी भंद सिमिटेड
<b>बरण</b> बिद्धुत सम्माव	२ (7 जीवाबांट) के तहत गुजरात के कायता क्षेत्र में संभी की निकासी के लिए पारेलग प्रणाली: भाग वी त रायोत्स्वयन समय अवस्ति: एतापीथी अनरण और खार जी और टी के साथ पिलान में 24 महीने	<b>वित गर्वाकरणीय कर्जा क्षेत्र</b> १ मॅल्लना४ (१ ग्रीगावाट)	से मीएफसी भेख लिमिटेड ÷
वरण विद्युत सः । । व कार्यक्षेत्र	(7 गीवाबांट) के तहत गुजरात के कायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग वी त कार्यालयल समय अवसिंट एलपीथी अतरण और खाल की और डी के खाथ पिलाल में 24 महीने	<b>वित गर्वाकरणीय कणा क्षेत्र</b> १ मंग्रेलना४' (? गीगावाट)	से पीएफसी थेल लिमिटेड न
<b>वरण</b> विद्युत संगावि मार्ग् कार्यक्षेत्र	र (7 गीवाबांट) के सहत गुजरात के क्रायता क्षेत्र में संभा त्री निकासी के लिए पारेलग प्रणाली: भाग वी त रायोल्ययन समय अवस्थि: एलपीपी अनस्थ और कार की और टी के साथ पिलान से 24 पहींने पारेलग स्क्रीम का कार्यक्षेत्र	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> १. मॅग्लून-१४ (? शीगावाट) अस्मतार्थकमी	से मीएफसी भंद चिमिटेड =
वरण विद्युत सभावि कार्यक्षेत्र इ.स.	(7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग वी त कार्याल्यल समय अवस्ति: एलपीकी अतरण और खाल जी और डी के खाथ पिलाल में 24 महीने पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर. 765 कवी आग 1x126	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> १ मॅग्लून-१४' (7 गीगावार) <b>10 मनवार्याकेमी</b> 10 765/400 केले-	से पीएफसी थेस लिमिटेड ÷
वरण विद्युत समावि कार्यक्षेत्र इ.स.	Y ( <b>7 गीवाबांट) के लहत गुजरात के कायता क्षेत्र में संभा</b> की निकासी के लिए पारेषण प्रणाली: भाग वी त राजील्यल समय अवसिंट एलपीकी अनरण और खाश की और डी के साथ पिलान से 24 महीने पारेषण स्क्रीस का कार्यक्षेत्र पारेषण स्क्रीस का कार्यक्षेत्र 2x330 एनवीएआर, 765 केवी आग 1x125 एमवीएंआर, 420 तेवी बन हिएल्टनो के साथ ओलगीक	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> 9 फीएल-13' (7 थींथावाट) <b></b>	से मीएफसी थंद चिमिटेड ≑
वरण विद्युत संभावि मार्ग ग कार्यक्षेत्र	(7 गीवाबांट) के तहत गुजरात के बावता क्षेत्र में संभा की निकासी के लिए परिषण प्रणाली: भाग वी त राजाल्ययन समय अवस्ति: एलपीची अनरण और खार जी और ही के बाथ पिलान में 24 पहींने पारेवण स्क्रीम का कार्यक्षेत्र परवण स्क्रीम का कार्यक्षेत्र 2x330 एनवीएआर, 765 कवी आग 1x125 एमवीएआर, 420 तेवी बन हिएल्टरों के साथ ओलपीच के दक्षिण में (ओलगीन और उत्तरापुर के योव) उपयुक्त	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> त गॉएल्स-1२' (7 वींगावार) <b>जनता/किमी</b> = 765/400 केली 1x1500 प्रज्वीण ज ईसीटी-2 (एक स्पेप)	से मीएफसी केर लिमिटेड
वरण विद्युत सभावि मार्ग कार्यक्षेत्र इ.स.	२ (7 गीवाबांट) के तहत गुजरात के झावडा क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग वी त रायोल्स्यल समय अवस्ति: एलपीथी अतरण और खार की और डी के साथ किसान से 24 महीने पारेषण स्क्रीम का कार्यक्षेत्र पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर, 765 कवी आग 1x125 एमबीएआर, 420 तेवी बन सिएल्टरों के साथ ओलपीथ के दक्षिण में 'ओलगी' और उक्तरापुर के योच) उपयुक्त स्थान पर 2x1500 एमबीए, 765/400 केवी और स्थान पर 2x1500 एमबीए, 765/400 केवी और	<b>वित नवीकरणीय कर्जा क्षेत्र</b> अ मॅस्ट्रेन-१४' (7 वीथावाट) <b></b>	से मीएफसी कर लिमिटेन
वरण विद्युत संगावि कार्यक्षेत्र इ.स.	<ul> <li>२ (7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाती: भाग वी त रायोत्स्वयन समय अवस्ति: एतापीथी अतरण और खार जी और टी के साथ पिलान में 24 पहींने पारेषण स्क्रीम का कार्यक्षेत्र पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एनवीएआर, 765 कवी आग 1x125 एमवीएआन, 420 तेवी बन रिएल्टरों के साथ ओलगीव के दक्षिण में (ओलगीत और उत्तरापुर के योव) उपयुक्त स्थान पर 2x1500 एमवीए, 765/400 केवी और 2x500 एमवीए, 400/220 कवी जीआईएन एएएएन जी</li></ul>	वित नवीकरणीय ऊर्जा क्षेत्र स गॅल्ल-१४ (7 वीवावाट) - जिन्द्र - 765/400 केली १४1500 स्टबॉग ब ईसीटी-2 (एक स्टेप्स इकाई शहित /x500 स्पर्वार, एकन जरण	से मीएफसी केर लिमिटेड
वरण विद्युत संभावि कार्यक्षेत्र इ.स.	२ (7 गीवाबांट) के तहत गुजरात के बावता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग वी त रायोल्यल समय अवस्ति एलपीथी अतरण और खाश जी और डी के साथ किलान में 24 पहींने पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर, 765 कवी आग 1x126 एमबीएआर, 420 तेवी बग ऐएल्टर्श के साथ ओलपीथ के दक्षिण में (ओलपीट और उक्तरापुर के सीच) उपयुक्त स्थान पर 2x1500 एमबीए, 765/400 केवी औप 2x500 एमबीए, 400/220 कवी जीआईएस एए/एस की स्थापना	वित नवीकरणीय ऊर्जा क्षेत्र प्रमन्न-१४' (7 वीगावार) प्रमनारकिमी = 765/400 केन्नि १४1500 म्ह्रवी अ ईमीटी-2 (एक स्पेप) उकाई शहित /x500 म्ह्रवीर, मुक्रन जरण उकाइगी)	से पीएफसी केर लिमिटेड
वरण विद्युत मणाव मणण कार्यक्षेत्र	У (7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग वी त राग्योत्सयल समय अवसिंट एलगीथी अतरण और खाश जी और डी के साथ पिलान से 24 महीने पारेषण स्क्रीस का कार्यक्षेत्र पारेषण स्क्रीस का कार्यक्षेत्र 2x330 एनवीएआर. 765 कवी आग 1x125 एमवीएआर, 420 तेवी बन हिएल्स्टो के साथ जेलगीध के तक्षिण में (ओलगीत और उक्तरापुर के यीव) उपयुक्त स्थान पर 2x1500 एमवीए, 765/400 केवी और 2x500 एमवीए, 400/220 कवी जीआईएन एएटल की स्थापना वावी प्रावकान	<b>दित नवीकरणीय कर्जा क्षेत्र</b> () मंग्रेल्स-1V (? वीथावाट) () <b>() प्रमुद्धार्यकर्मा</b> () 765/400 किसी () 181500 () अवींग () अर्ड () अर्ड () अर्ड () प्रकृत () () () () अर्जार () प्रकृत () (	से मीएफसी ≢स लिमिटेड ≑
वरण विद्युत मणाव मार्ग कार्यक्षेत्र	२ (7 गीवाबांट) के तहत गुजरात के बावता क्षेत्र में संभा की निकासी के लिए परिषण प्रणाली: भाग वी त रायोल्यल समय अवस्ति एलपीकी अतरण और खाश जी और डी के साथ किसान में 24 महीने पारेवण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर, 765 कवी आग 1x126 एमबीएआर, 420 तेवी बग रिएल्टर्श के साथ ओलपीक के दक्षिण में (ओलपीन और उच्यापुर के सीच) उपयुक्त स्थान पर 2x1500 एमबीए, 765/400 केवी और 2x500 एमबीए, 400/220 कवी कीआईएस एम/देव की स्थापना वाबी प्रावसान के सिक स्थान	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> () मीएल-1\' (? वीवाबार) () <b>एमसा/फेमी</b> () 765/400 फेसी () 1500 प्रश्नवींग () अर्डमीटी-2 (एक स्प्रेप) () उकाई शहित //x500 () एकन जरण () उकाइग) () 400/220 केसी, 500 () एक्सीए आइमीटी - 2	से मीएफसी केर लिमिटेड
वरण विद्युत मणाव कार्यक्षेत्र ह सं	У (7 गीवाबांट) के तहत गुजरात के झावडा क्षेत्र में संभा दी निकासी के लिए पारेषण प्रणाली: भाग वी न रायोल्स्यल समय अवस्ति: एगपीथी अतरण और खाश की और टी के साथ फिलान में 24 महीने पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर, 765 कवी आग 1x125 एमबीएआर, 420 तेवी बन सिएल्स्टो के साथ ओलनीब के त्रश्तिण में (ओलनीन और उक्तरापुर के यौच) उपयुक्त स्थाप पर 2x1500 एमबीए, 765/400 केवी और 2x500 एमबीए, 400/220 कवी जीआईएन एगर्टल की स्थापना मानी प्रावधान के सिए स्थाप () 765/400 कवा आईसीरी साइंट बेन्ब	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () गॅरएल-1\' (7 वीथावार) () ग्रिंग्ल-1\' (7 विधार) () ग्रिंग्ल-1\' (7 वीथावार) () ग्रेंग्ल-1\' (7 व्रेंग्ल-1\' (7 वीथावार) () ग्रेंग्ल-1\' (7 वाथा) () ग्रेंग्ल-1\' (7 वीथावार) () ग्रेंग्ल-1\' (7 वाथावार) () ग्रेंग्ल-1\' (7 वायात) () ग्रेंग्ल-1\	से मीएफसी कर लिमिटेन ≑
वरण विद्युत संगावि कार्यक्षेत्र कार्यक्षेत्र	२ (7 गीवाबांट) के सहत गुजरात के झावडा क्षेत्र में संभा दी निकासी के लिए पारेषण प्रणाती: भाग गी त रायोत्स्वयन समय अवधि: एलगीथी अनरण और खाश जी और टी के बाथ पिलान में 24 महीने पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एनवीएआर, 765 कवी आग 1x125 एमवीएआर, 420 तेवी बन सिएल्टरों के साथ जेलगीड के श्वरिण में (जोलगीत और उत्तरापुर के यांच) उपयुक्त स्थान पर 2x1500 एमवीए, 765/400 केवी और 2x500 एमवीए, 400/220 कवी जीआईएस एएटल की स्थापना वावी प्रस्तकान के सिंध स्थान व 765/400 कवा आईसीरी आहेर वेन्ध ने पिवचवन लाइन सिएल्टरों महित 765 केवी	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> () गॅएल्व-15' (7 वींगावार) () गॅएल्व-15' (7 वींगावार) () <b>एल्वन्ना</b> () 765/400 फेले () 1500 () वर्षी () 1500 () वर्षी () 1500 () वर्षी () वर्षे () प्रावीर, () एक्वन्न () 200 () प्रावीर, () इर्षोर्ट्स, () 200 () कर्षी आईसीर्ट्स, () 200 () कर्षी आईसीर्ट्स, () 200 () कर्षी आईसीर्ट्स, () 200	से मीएफसी कर लिमिटेट
वरण विद्युत मणावि कार्यक्षेत्र ह सं	२ (7 गीवाबांट) के सहत गुजरात के झावडा क्षेत्र में संभा दी निकासी के लिए पारेषण प्रणाली: भाग वी त रायोल्यल समय अवस्ति एलपीथी अतरण और खाश जी और डी के साथ किलान में 24 महीने पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एनवीएआर, 765 कवी आग 1x125 एमवीएआर, 420 तेवी बन सिएल्टरों के माथ ओलपीथ के दक्षिण में (ओलपीन और उक्तरापुर के यीच) उपयुक्त स्थान का 2x1500 एमवीए, 765/400 केवी औप 2x500 एमचीए, 400/220 कवी जीआईएस एएएएस जी स्थापना वावी प्रवद्यान के सिंह स्थान त 765/400 कवा आईसीरी आहेर वेन्य त स्विचवल यादन सिएल्टरों महिन 765 केवी जाइन थे न्ह	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () गीएल-1\' (7 वीगावार) () गीएल-1\' (7 वीगावार) () प्रमुद्धार्थक्रमी () 765/400 केवी () 1500 () अर्वी () अर्डमीटी-2 (एक स्पेप) () उकाइमी () प्रकार गहित () 2500 () प्रवीर, गहमीटी - 2 () 65 केवी आईमीटी वे-2 () 400 केवी आईमीटी वे-2	से पीएफसी केर लिमिटेड
वरण विद्युत मणाव कार्यक्षेत्र ह सं	<ul> <li>V (7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाली: भाग गी न रायोल्स्यन समय अवसिंट एलगीथी अनरण और खाश जी और टी के साथ फिलान में 24 पहींने </li> <li>पारेषण स्क्रीम का कार्यक्षेत्र पारेषण स्क्रीम का कार्यक्षेत्र 2x330 एमबीएआर, 765 कवी आग 1x125 एमबीएआर, 420 नेवी बन सिएल्टरी के साथ ओलगीथ के श्वीण में 'ओलगी' और उक्तर पुर के यौंच' उपयुक्त स्वान पर 2x1500 एमबीए, 765/400 केवी और 2x500 एमबीए, 400/220 कवी कीआईएन एएटल की स्वापना वावी प्रावकान किसिए स्वान के सिए स्वान के सिप स्वान के सिए स्वान के सिए के सिए के सिल के सिए के सिए के सिल के सिल के सिए के सिल के सिए के सिए के सिल के सिए के सि सिल के सिल के सिल के सिल के सि सिल के सि सि सिल के सि सि</li></ul>	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () गॅरएल-1\' (7 वीथावार) () ग्रिंग्ल-1\' (7 विवि ) ग्रिंग्ल-1\' (7 वीथावार) () ग्रिंग्ल-1\' (7 विवि ) ग्रिंग्ल-1\' (7 वीथावार) () ग्रेंग्ल-1\' (7 विवि ) () ग्रेंग्ल-1\' (7 विव ) () ग्रेंग्ल-1\' (7 व्र ) ()	से मीएफसी कर सिमिटेन
वरण विद्युत मणाव कार्यक्षेत्र कार्यक्षेत्र	<ul> <li>२ (7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणाती: भाग गी त रायोत्स्वयन समय अवधि: एलगीथी अनरण और खार जी और टी के बाथ पिलान में 24 पहींने </li> <li>पारेवण स्क्रीम का कार्यक्षेत्र पारेवण स्क्रीम का कार्यक्षेत्र </li> <li>2x330 एनवाएआर. 765 बजी आग 1x125 एमवीएआर, 420 तेवी बग सिएल्टरों के साथ जेलगीय के रक्षिण में (जोलगीत और उत्तरापुर के यांच) उपयुक्त स्थान पर 2x1500 एमवीए, 765/400 केवी औग 2x500 एमवीए, 400/220 केवी जीआईएस एएटएस की स्थापना वाबी प्रावधान के सिथ स्थाप्त </li> <li>त 765/400 कवा आईसीरी साहेट वेन्ध </li> <li>व येवचवल लाइन सिएलरगे महित 765 केवी लाइन के न्ह </li> <li>व प्रतित 765 केवी वस निएकर?: 2 </li> <li>त 765 केवी येक्शलसा(जर वे: 1 - सेट)</li> </ul>	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> () मंग्रिल-1\' (7 वीवावार) () मंग्रिल-1\' (7 वीवावार) () म्वडिंग्व-1\' (7 वीवावार) () कडिंग्व-1\' (7 वीवावार) () कडिंग्व-1 () कडिंग्व-1 () कडिंग्व-1 () कडिंग्व-1 () कडी कडिंग्वीरी वे-2 () कडी आईमीटी वे-2 () कडी आईमीटी वे-2 () 220 कडी आईमीटी वे-2 () 220 कडी आईमीटी वे-2 () 220 कडी बॉर्ग्न वे-1 () 330 () म्वडीएआर, 765	से मोएफसी अंद लिमिटेन
वरण विद्युत मणाव कार्यक्षेत्र कार्यके	<ul> <li>२ (१ गीवाबांट) के सहत गुजरात के झावडा क्षेत्र में संभा ही निकासी के लिए पारेषण प्रणाली: भाग वी न रायोल्स्यल समय अवस्थिः एलपीथी अनरण और खार री और डी के साथ किसान से 24 महीने</li> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> <li>2x330 एमबीएआर. 765 कवी आग 1x125 एमबीएआर. 420 नेवी बग हिएल्टरों के साथ ओलपीथ के तकिए से ओलगीन और उकरापुर के यीच। उपयुक्ष स्मान का 2x1500 एमबीए. 765/400 केवी औप 2x500 एमबीए. 400/220 कवा जीआईएन एएएएस की स्थापना नावीं प्रस्तकान के सिथ स्थाप ० 765/400 कवा आईसीरी साहेट वेन्ध ० मिवचवल लाइन हिएल्टरों महित 765 केवी लाइन वे - 8 ० जे महिन 765 केवी वन रिएक्टरें 2 ० 765 केवी नेक्शनसाट सर वे: 1 - सर ० स्थिपेवल लाइन एएक्टर सहित 400 केवी</li> </ul>	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () गीएल-1\' (7 वीथावार) () गीएल-1\' (7 वीथावार) () क्रिन्- 1x1500 ) अर्था () अर्डमीटी-2 (एक न्देपर) () अर्डमीटी-2 (एक न्देपर) () अर्डमीटी-2 (एक न्देपर) () अर्डमीटी-2 (एक न्देपर) () अर्डमीटी-2 () विद्या क्रिक्ति () () () () प्यचीए, आइमीटी () - 2 () विद्य केली आईमीटी () - 2 () विद्य केली आईमीटी () - 2 () 220 केली आईमीटी () - 2 () 220 केली आईमीटी () - 2 () 220 केली वार्टमीटी () - 2 () केली वार्ट पिएक: -2	से मोएफसी ७३ लिमिटेड ≑
वरण विद्युत मणाव मणण कार्यक्षेत्र	<ul> <li>V (7 गीवाबांट) के सहत गुजरात के झावडा क्षेत्र में संभा ही निकासी के लिए पारेषण प्रणाली: भाग गी न रायोल्स्यन समय अवधि: एगपीथी अनरण और खाश जी श्री र टी के साथ पिलान से 24 महीने</li> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> <li>2x330 एनवीएआर. 765 कवी आग 1x125 एमवीएंआर, 420 नेवी बन सिएल्स्टो के साथ जेलगीव के श्वीण में (ओलगीत और उच्चापुर के यौच) उपयुक्त स्थान पर 2x1600 एमवीए, 765/400 केवी और 2x500 एमवीए, 400/220 कवी कीआईएन एगटल की स्थापना वावी प्रावकान हिसेप स्थाप ० 765/400 कवा आईसीरी आहेर वेन्ध्र नाइन वे - 8 ० के गहिन 765 केवी वस रिपक्ट! 7 ० 765 केवी परणज्यादजर वे: 1 - मेर ० स्थियवल लाइन सिएक्टर सहित 400 केवी जाइन वे - 8</li> </ul>	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () मंग्रेल्स-1\' (7 वीथावार) () मंग्रेल्स-1\' (7 वीथावार) () मंग्रेजिय (7 वीथावार) () मंग्रेजिय (7 वीथावार) () मंग्रेजिय (7 वीथावार) () मंग्रेजिय (7 विंग्रेजिय) () मंग्रीएआर, 765 () मंग्री वास चिएक:2 () 125 एमजीएआर, 420	से मोएफसी अंद लिमिटेड
वरण विद्युत मणावि माणण कार्यक्षेत्र	<ul> <li>२ (7 गीवाबांट) के तहत गुजरात के बायता क्षेत्र में संभा की निकासी के लिए पारेषण प्रणासीभ अनरण और खार जी और टी के साथ पिलान में 24 पहींने <ul> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> <li>पारेषण स्क्रीम का कार्यक्षेत्र</li> </ul> </li> <li>2x330 एनवाएआर. 765 बजी आग 1x125 एमवीएआर, 420 वेंचे बग रिएल्टरों के साथ ओलगीक के दक्षिण में 'ओलगीन और उक्तरापुर के बीच) उपयुक्त स्थान पर 2x1500 एमवीए, 765/400 केवी औग 2x500 एमवीए, 400/220 केवी जीआईएन एएटएल की स्थापना वाबी प्रावधान के सिथ स्थान <ul> <li>त65/400 कवा आईसीरी साहेट वेन्ध ताइन के न्द्र</li> <li>व सिथ स्थान <ul> <li>त65/400 कवा आईसीरी साहेट वेन्ध ताइन के न्द्र</li> <li>व महिन 765 केवी वस टिएक्टरी महिट 765 केवी नाइन के न्द्र</li> <li>त65 केवी नेक्शलम्थाइजर के 1 - मेर <ul> <li>तिर्वचवल लाइन रिएक्टर सहित 400 केवी लाइन के न्द्र</li> <li>के वीडन विद्यावर की आईसीरी - 400 केवी लाइन के न्द्र</li> </ul> </li> </ul></li></ul></li></ul>	<b>वित नवीकरणीय ऊर्जा क्षेत्र</b> () गीएल-1\' (? वीवावार) () गिएल-1\' (? वीवावार) () विद्युत्त- कर्ज- () विद्युत्त- कर्ज- क्राइं वहित / 2502 () प्रवीर्ट वहित / 2502 () प्रवीर्ट वहित / 2502 () प्रवीर्ट वहित / 2502 () प्रवीर्ट वुक्त, 502 () व्यक्त, वाईसीटी वे- 220 केजी वाईसीटी वे- 220 केजी वाईसीटी वे- 220 केजी वार्ट प्रवीर्ट वे- 330 () प्रवीर्ट वार, 765 () केवी वस पिएक:2 () 125 () प्रवीर्ट वार, 420 () केवी वस पिएक:-1	से मोएफसी कंस लिमिटेड
वरण विद्युत मणाव कार्यक्षेत्र कार्यके	<ul> <li>(? गीवाबांट) के तहत गुजरात के बावता क्षेत्र में संभा ति नगयोल्सन समय अवधिः एगपीधी अनरण और खाश ही और टी के साथ फिलान में 24 महीने</li> <li>पारेवण स्क्रीम का कार्यक्षेत्र</li> <li>पारेवण स्क्रीम का कार्यक्षेत्र</li> <li>पारेवण स्क्रीम का कार्यक्षेत्र</li> <li>2x330 एमबाएआर. 765 कवी आन 1x125 एमबीएआर, 420 नेवी बन सिएल्स्सी के माथ ओलगीध के त्रियेग में ओलगीत और उक्तरापुर के यौग। उपयुक्त स्थापना मानी प्रावधान के स्थित में ओलगीत और उक्तरापुर के यौग। उपयुक्त स्थापना मानी प्रावधान के सिए स्थापना त 765/400 कवा आईसीरी साहेट वेन्ध त स्विचवल लाइन सिएक्टरी यदित 765 केवी लाइन वे - 8 त्रे महिन 765 केवी वस सिएल्टरी महिन 765 केवी लाइन वे - 8 त्रे महिन 400/220 केवी आईसीरी न हाइन वे - 8 त्रे महिन 400/220 केवी आईसीरी न त हम वे - 8</li> </ul>	<b>दित नवीकरणीय ऊर्जा क्षेत्र</b> () गीएल-1\' (7 वीथावार) (7 वीथावार) (7 वीथावार) (7 वीथावार) (7 वीथावार) (7 वीथाक्रमी (7 वीथाक्रमी) (7 वीथ् (एकन न्देप्र) (7 ववीर, एकन न्देप्र) (7 ववीर, एकन न्देप्र) (7 ववीर, एकन न्देप्र) (7 ववीर, आइमीर, 2 (7 विठ केवी आईमीरी वे-2 (7 विठ केवी आईमीरी वे-2 (7 व्यवी आईमीरी वे-2 (7 व्यवी आईमीरी वे-2 (7 व्यवी आईमीरी वे-2 (7 व्यवी वार विएक:3-2 (7 व्यवी वार विएक:3-2 (7 व्यवी वार विएक:3-2 (7 व्यवी वार विएक:3-2 (7 व्यवी वार विएक:3-2) (7 व्यवी वार विएक:3-1) (7 व्यवी वार विएक:3-1)	से मोएफसी फंस लिमिटेड

hel

Ł

VZETTE OF	INDIA .	ENTRAORDINAR	Y

[PAR2 II-SEC, 300]

_		
	6 220 केवी लाइन के: 18	5.400 केनी मिएक्टर देन1
	3 220 केवी संस्थालमाइजेशन के 1 में 2	∉ 400 केती लाइन य- 4
	220 केंबी वीची: 1	<ul> <li>110 एमडीएआर, 755</li> </ul>
	💦 ु 2500 मनाकर, ± 500 केंग्री साहव, <b>जेलपीड</b>	केत्री, 1-शीगच रिएक्टर
	(एववीडींगी) (धीएमगी) रॉबिनल स्टेशन	(स) इन्द्रणम् - विकल्प्स् / - लि
	(2x1250 श्रेगाबाद) की भन्धाणना	लिए स्पेयर युत्तिद्र)न
1	बरोदरा (जीआईम्म)-भाउथ आलपाइ (जालाइम्ल) 765	भार्ष की लंबाई: 140 किसी
	केची शोजी माडन	
8	बडोंदरा (जीआईएम) गाउथ ओलपाउ (जीआईएम)	<ul> <li>240 एम-किएआल, 765</li> </ul>
	765 केवी ऑफ्सॉ लाइन (धनजीआर बाइँघान व्यवस्था क	केवी मितनेवल लाइट
	साथ के जहांदश (जीआईएम) के छोंग पर प्रत्येक श्रीकेटी	निगुक्टर- 2
	<b>पर</b> 240 प्रस्तीएआर स्विचेतन नाइन रिएक्टर	<ul> <li>765</li></ul>
		िंग्लर के मिए
		रिजनिंग उपनेरण -2
		<ul> <li>म्येयर के रूप में</li> </ul>
		्रम्पचीग के लिए
		वडोदरा (जीआईएस) में
		1x8C एमवीएआर
		रपेगर बम रिएक्टर
		उपलब्ध है
4	पडोदरा (जीआईएस)-साउथ ओलपौड (जीआईएस) 765	• 765 केवी लाइन
	बडी डी/सी लाइनके लिए दो 765 केवी जाइन के	(जीआईएस) वे - 2
		(वडोदरा छार पर)
5	नाममात्र बोल्टेज पर 1700 एमतीए प्रति सीकेटी की	लीलो माग की लयारे ~
	न्यूनतम क्षमता के साथ ट्विन एचटीएलएस कंडक्टर का	10 किमी।
	डपयोग करके दक्षिण ओलपौड (जीआईएस) में राधार-	
	हजीस 400 केवी टी/सी लाइन का लीलो	
6.	अहमदाबाद-दक्षिण ओल्पौड (जीआईएस) 765 केवी	मार्ग की लवाउँ 250
	डी/सी लाइन	किमी:
7.	अहमदाबाद - दक्षिण आंलपैड (जीआईएस) 765 केवी	• 240 एमबीएआर, 765
	ी/सी लाइन (एनजी प्रार बाईपास व्यवस्था के साथ) वे	केवी स्विचेबल लाइन
	अहमदाबाद और दक्षिण ओलपैट (जीआईएस) के छोर पर	रिएकटर-4 [अहमदाबाद
	क्रयेक सीकेटी पर 240 एमबीएआर स्वित्तेवल गावन	द्योर के लिए 2 और
	रिएक्टर	दक्षिण भालपड
		(जीआउंग्स) छार के लिए
		2]
		• 765 केवी लाइन 'रेएभ्टर
		क लिए स्विचिंग उपकरण
		- 4 [अहमदाबाद छार
		लिए 2 आर दाक्षण
		आलपेड (जंग्आइएस) खार रेज िन्न २१
		कालए 2]
		• 1x80 एमवार्ग्आग, 765
		कवा 1-णएच स्पयर
		लाइन गिएक्टर - 1
		(दक्षिण ओलपेंड छोर क
		ालए

Gel

8	अहमदाबाद-दक्षिण ओलपेट (जीआईएस) 76 डी/मी लाइन के लिए अहमदावाद एस/एस मे 76 लाइन बे 2	<ul> <li>1x80 एमवीएआर. 765 केवी 1-नीएव स्पेयर लाइन रिएफ्टर लकाड़िया- जहमदाबाद लाइन (खात्रडा चरग- II भाग-ख़ स्कीम के अतर्गत) के लिए लार्यात्यित किया जा रहा है जिसे स्पेयर के रूप में उपयोग किया जाएगा।</li> <li>5 केवी</li> <li>765 केवी लाइन वे (एआईएस) - 2 (अहमदाबाद छोर पर)</li> </ul>	
_			
टिप्पणी	: जडोदरग एस/एभ का तीएसकी ऊपर निए गण व विभू स्थान उपसन्ध कराएय।	मांच 3 और 4 पर परिकल्पित कार्य के	
П.	अहमदाजाद एक्षतएम का शिष्ट्मधी। ऊपर दिए आर्य के निएरक्षान उपरुख कराएगा।	गण् क्रमांक 2 और 8 पर परिकल्पित	
<u> </u> 111.	्रपण इभिवस्त्रित जाइन की लवाई अनुमारित है भे साद प्राय की प्राप्ती	रेक्योंकि गरीक लेखाई 'वेंस्तृत रावधर	
112	उत्पर उतिनाखित कार्यन्वधन समयअवाध अस्थ दल्लायेज में इसिन की झाएगी।	।या हा आहम्म समयभवारी ऑस्प्फिया	P.D
चरण विद्युत मधा मात्र कार्यक्षेत्र	-19 (7 बी <b>वावाट) क तहत मुजरात क</b> खावड़ा क्षेत्र इ. <b>की चिकासी के लिए घारेखण प्रणाली : भाग सी</b> बिल कार्यालयन समय अवधि: एनपीथी अंतरण मेतान में 24 महीने नरण-(9 (7 गींगाबाट)	भ सभावित नवाकरणाव ऊला कार क और घावड़ा के भाग ए, की और टी के	कारहरता चावर केवसपर्मेंट एंड कसल्टेंसी लिमिटेड
底).	पारेखण स्कीम का कार्यक्रेप	क्षणमासग	
	(x1500 एमबीए, 765/400 केवी आप 2x500 एमबीए, 2X330 एमवीएआर महिन 400/220 केवी वीडमरना (जीज्यईएम) एस/एस 765 देवी दर रिएफ्स 141 2X125	785/400 केवी 1500 एककीए बाईसी2ी- 4 (एक स्पेयन १७-१९ महिन 13x500 एमवीए एकक परण इकाइयो)	
	एमचीएआर. ३20 केवी वन रिम्फ्डरो औ स्थापना	400/220 विली, 500 एमनीम, अर्डमीटी - 2	
	(2x1500 गण्योए, 765/400 केली आईसीटी) प्रत्येक 400 कवी मेक्शन गए हॉने और	765 केवी ऑर्डमीटी वे-4 4410 कवा ऑर्डमीटी वे-6(जम	
	2x530 एमर्डाण, 400/220 केवी आईमीटी 400 नेजी जम संस्थाननी पर होंगे? 2x125	लग्नधनन्तं पर 2 आर दस संख्यानन्ति पर 4) 400 सन्ती २० संस्थरप्रस्थान्त्र १ हेर	
	गमत्तीगआर बन्ध रिगवरद गरेर होग कि प्रेल्पेन पर इन वम सिरक्सर रक्षी जागगा। 400 बे.बी.	100 कवा कर्म सरम्मगाउलका मध 220 केवी आईसीटी के 2 220 केवी डोगी के - 1	
	वस संकलनमाइसर के सामान्य इस से जुला दिश्वीने में रख्या जामता) नक्तिया के मानसम्बद्धः	330 उम्मवीएआर, 765 केवी अम 12म्महर-2	
	[44] M. Sand, M. L. 2000, M. 2010, 1 (197).		

hd

б	THE GAZETTE OF INDIA : EVERAORDINARY	IPART II—SIL	.811
	<ul> <li>766/400 केवी आईमीटी व सहित. 2</li> <li>नियंखेयल लाइन निरुष्टरों के सहर 765 केवी निराप्तर 4- 2</li> <li>नियंखेयल लाइन निरुष्टरों के सहर 765 केवी निराप्तर 4- 2</li> <li>ने भड़िन 765 केवी बंध निराप्तर 2</li> <li>765 केवी निराधर 4 वे- 2 (प्रलेक बंध वेक्यों केवल लाइन रिएक्टर के माथ 400 केवी लाइन दे- 8</li> <li>ने नहिन 400/220 केवी आईभीटी -6</li> <li>के सहित 420 केवी बंध निराप्तर 2</li> <li>220 केवी निर्मान 1 (हिंगन दे: 1 केव 200 केवी निर्मान 1 (हिंगन दे: 1 केव 200 केवी निराय 1 हिंग्ल्य 200 केवी निर्मात 1 (हिंगन दे: 1 केव 200 केवी निर्मान 1 (हिंगन दे: 1 केव 200 केवी निर्मान 1 (हिंगन दे: 1 केव 200 केवी नी मैंग: 1</li> </ul>		
	राउध ऑनपैद (जीआडीएग) - योडमर -11 मार्ग की बवाई: 226 किंगी (तीआटाएम) 768 केंनी डी/मी जाइन		
	दक्षिण ओलपैड (जीआईएन) - वोइगर- 11 785 केवी लाइन के (जीआईएम) - 2 (जीआईएन) 785 केवी डीट्रॉंट लाइन के (दक्षिण ओलपैड लोड के लिए) समापन के लिए साउध ओलपैड (जीआईएस ) में दो 765 केवी लाइन बे		
	<ul> <li>साउथ ओलपेड (तीआईएग) - बोटमर -II</li> <li>(जीआईएम) 765 केवी डी/मी लाटन (एनजीअर वार्डगाम व्यवस्था के माथ) के साउथ ओलपैड (जीआईएस) और बोडमर- II</li> <li>(जीआईएम) होर पर प्रत्येक मीकेटी पर 240</li> <li>एमबीएआर स्विचेवल लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर के लिए प्रिंबीएआर स्विचेवल लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर के लिए प्रिंबीएआर स्विचेवल लाइन रिएक्टर</li> <li>765 केवी लाइन रिएक्टर के लिए प्रवर्षिंग उण्करण - 4 (बोटसर -II (जीआईएम) के लिए 2 और साउथ ओल्पैट (जीआईएम) के लिए 2)</li> <li>1x80 एमबीएआर, 765 केवी 1- पीएव स्पंचर लाइन रिएक्टर - 1 (बोटसर-II छोर के लिए)</li> <li>1x80 एमबीए शर, 765 केवी 1- पीएच स्पंचर लाइन रिएक्टर - 1 (बोटसर अंहमदाबाट-दक्षिण ओल्पैड (जीआईएम) 765 केवी 1- पीएच स्पंचर लाइन रिएक्टर अंहमदाबाट-दक्षिण ओल्पैड (जीआईएम) 765 केवी लाइन (खाबड़ा चरए-IV भाग बी म्हीम के तहन) के लिए प्रतायित है जिसे दक्षिण ओलपैड (जीआईएम) एम/एस स्पेयर के रूप मे प्रयांग किया जाएगा।</li> </ul>		
	बोइसर-II में नवसारी (नया) का लीलो - लीलो मार्ग की लवाई: 25 किमी. प्रदर्ध (पीजी) 765 केवी डी/सी लाइन		
	वार्डसर- II (सेक्शन- II) - बेलगांव (एमएच) मार्ग की लवार्ड. 10 किमी. 400 केवी डी/सी (काड एसी:एसआर/एएएसी/एएल59 मूज समगुल्य) लाइन बोडसर- II - बेलगांव (एमएच) 400 केवी 400 केवी लाइन बे (जीआईएस) - 2		
	डी/भी (क्वाड एसीएमआर/ एएएसी/ एएल59 (बेलगाव (एमएन) छोर के लिए)		

hel

	मग लमहल्क) लाइन के नमाधल के लिए	
	वेजगाव (एमएच) में 2 400 नेवी साहन वे	
R	नाममात्र जील्टेज पर 1700 प्रथवीए प्रांगे	शीओ मांग की लंगाई -65 किमी.
	গ্ৰিম্ট কা অসমৰ প্ৰমাৰ কামাণ বুহৰা	
	त्महोत्तराम केंद्रमार हा उपयोग करते.	
	हार्ग्वहरूमाः ।। (भेषशन- ।) जगलेश्वर अव लीलो	
	्यडचे (एस) 400 ≹ बी डी/गी लादभ	
9.	उपरोध-हिलों के बाद बनाई गईबोईरू - 11	<ul> <li>80 एगयीएआए. 420 कर्ब।</li> </ul>
	वाभन्तंश्वन 400 केवी ही/मी राउन	श्विचेवल लाइन किण्फ्टर जिरामें
	(एनजीआर बाईपास अवस्था के गाथ) के	स्विति नगरत्वा की आगित है -
	वीमरना छोग पर 80 एमयीएआर रिवलवल	2
	য়াওন হিন্দেই	
	बोइसर, II के 400 केंग्री वेम <b>संज्ञान-</b> IC पर	<ul> <li>400 কলা মন্গল-1 पर ±2001</li> </ul>
	2×125 ज्यवरिएआर एमएलमी, 1x125	एमध्यपुत्रात सरस्काम (एमस्पत्रा)
	एभवीरगुआर एमएसआर के साथ 1 200	ण्यम् अत्र कर्ताश]
	इसनीत्त्आर म्हेरकॉम और कोइसर- II के 400	<ul> <li>400 केवरे ये - मेक्शन-1, घर 1</li> </ul>
	(√ वग गज्यात- ।। गर 2):125 स्थवागआर के कार्यत — ित्या गर्माआर	: 400 केवी मेफान- II पर ±200
	्यात्म्भगाः, १४१२६ - एमबाएआर एमएसआर जन्म	• महीद्यभाग स्टेनकोग (एसएमगी)/
	SCALISE FEAD CHAILCALL COCALIN	म्मम्मआर के आध
		400 <del>देनी</del> के अन्यत-2 पर 1
	- the line of the second second	* *100 *11 × 1 × 1 × 1 × 1
1163	्वर 200 प्रया थे (शाश्राः प्रत्या के स्वान	(गावानमी/गावागाआर के साथ)
	सबसाय (अया) (१९००) एसट्य २०२०० वया। जन्म एक ४७४२६ जन्मनिय्यम् एमएएयस्	<ul> <li>400 रेन्नी के - 1</li> </ul>
	2.496 <del>सम्प्रीय प्र</del> त्यामानी के सार्थ <del>त</del> 300	
	ार्य्यक्रियाः ( ग्रेटनोम्	
ज्यणी		
sacar.	वन-गंड-हाथ, देवल एकीम में आभा (जीआईएस)	के पुरा करने के लिए अमेकिन के (येज)
	को भी टोमनमी दास निम्मादिन किया था (मा)	
	एमएमईटी(भीएल पडमे (एग)-बीडगर- 11.400	भेबी डी/मी साइन (अर्थान लिपी चिन्ह
	के लेकर पहने (एस) हरू)) के शेष आगे हैं। रीके	इक्टरिंग तनेमा ऑट: परफे, (१२म), जैंगा
	জি নিচা নাতন কী মগধ মীমা কৈ খলবল আ	वश्यल हो, में 480 नेकी वे का नवनुश्रंग
	उन्नयन भी नण्डता। एमएगइरीक्षीधूल न लाइन व	ि अधिकतम क्षमता की गुष्टि की हैं जिस
	वातलेश्वर-पडचे (यम) 400 केवी डी/नी लाउन	क मांजूदा रावश्य में 1700 मुम्बीभ प्रति
	कर्षित के ≈ण में उल्लीगरेंस पर विचार करत हुए -	ाः २-इ.स्.स्टाग्ग क साथ हो।सल् १कथा <b>जा</b>
	अव्यत है।	and the second states of the second states and
	ग् <b>मपुस</b> ईरोभीपुर, बोइसर, (( (आइएनटीएस)) २००० - २००१ - २००१ - विक्रेस ( (आइएनटीएस)	्रतामा पर तादसक मन्त्रलगाव 220 कर्न्सकोय के संस्थत मन्द्रलगाव 220
	स्त्री रो/सी मानून के दाना सफिरी ने जिली (ए	लाक उन्हलालाः का यादशारम् ॥ गा महायाणा नेपालनीतारक राज्यप्रका जी जन्मत स्वारण
	220 4-41 जाआउएम ज क माथ बाउगर-IL (श	silentini sutie at geometri
	अनुरूप कारण- वत काणा।	ती कुछ संस्था 3 और 4 पर <b>प्रसिद्ध पिन</b>
	भाउन आलग्द (आआदण्म) एगरण्म का दाएम जन्दे के दिया दयाल जालक का आणि	and the second se
	न्त्राच का लग् स्थान अन्त्रव्य करणात्र । स्वत्य गर्दरीयी एवं देववाले एव एव से का सक	n 7 वर्ष परिक्रलिम्ड कार्य के लिए स्थान
	ALTERN SYMPTON ANALYSIS A SALARS	
	्रान्त्रका अन्यत्ताः जित्तान् क्रमंशी स्टब्स् २० मेन्द्रवर्धा स्टब्स् जेल्लीय	र (जीआईएस) - वोडमण्नी (जीआईएस)
	785 à.ft टी/मा जाइन (महथ लाइन ब्रहर के	भाश्व दोनों छोर पर स्विच करने योग्य
	THE ALL STREET, STREET	

Gel

	THE GAZETTE OF UNDA . F.	A DE TORIZINAN I	The second second
VÜ	ऊपर उच्चित्तवित साहन की तंत्राई अनुसानित है क्यों जन्म याथ की जामगी।	कि गरीक लंबाई सिल्ल्स भ <b>र्वेक्षण</b> वे	
VIU	अपर उक्तिनम्बिङ कार्यास्वयन नमथ अवधि अनेनिम जन्म केन में यंग्रेज की जामगी।		
-	And which is a set of state of		00
चरण विद्युत संभावि कार्यक्षे	ः (7 मीमाबाट) के तहत पुजरात के खायडा क्षेत्र में र की निकासी के सिए पारेषण प्रणाली: भाष की ते कियान्वचन सकय अवसि: एसपीवी अतरण ने 24 पर् ब	तं <b>भाषित नवीकरणीय ऊर्णा क्षेत्र स</b> े होते	षोएफसी कसाल्ट लिमिटेड
भूत, स्रोत	पहोत्वच स्कीम का कार्यकेश	ामता	
	2x330 एमबीएआर, 785 केबी बस सिएकश्म और 2x125 एमसीएफर, 420 केवी बस सिएकर,	765/400 केवी, 1500 एमयीए जडेमीटी-2 (एक सीयर यूचिट	
	त्रदित 2x1500 एमथाए, 766∨400 कथा आ 3x566, एसवीए, 406√220 केवी पुणेन⊞ ्रश्ने-द्राइंग्र्स्स, प्रस/एस की स्थापना।	वाहुन र xauv (२०१२) व00/220 केवी, 500 एमसीए आईमीरी - 3	
	भावी प्रावधान. निम्नलेखित के लिए स्थान ्र वे सन्तित 765/400 केवी आईसीरी-4	765 केबी आईसीटी वे- 2 400 केवी आईसीटी वे- 5 220 <del>केकी</del> आईसीटी वे- 3	
	<ul> <li>स्वित्रेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 8</li> <li>ते सहित 765 केवी बस रिएक्टर 2</li> </ul>	220 केवी बीसी थे - 1 330 एमवीएआर, 765 केवी	
	<ul> <li>765 केवी सेक्शनलाइज़र वे: 1-सेट</li> <li>सिंबचेबल लाइन रिएक्टर के साथ 400 केवी लाइन वे - 12</li> </ul>	त्रग रिएक्टर-२ 125 एमदीए <i>त्रार</i> , 420 कवी बस रिएक्टर-२	
	<ul> <li>क्रे 400/220 केवो आईसीटी -5</li> <li>के सहित 400 केवी वस रिणक्टर : 2</li> <li>400 केवी सेक्शनलाइजर के 1 मेट</li> </ul>	765 केवी रिएक्टर बे- 2 765 केवी लाइन बे- 6	
	<ul> <li>220 केवी लाइन बे: 12</li> <li>220 केवी संक्शनलाइजेशन बे: 1 सेट</li> </ul>	400 केवी रिएक्टर वे- 2 400 केवी लाइन बे- 2	
	ः 220 केवी वास्पः 1 ः एमएससी (3x125) एमवीएआर) और एमएसआर (1x125) एमवीएआर) के साथ स्टेटवॉम (±300) एमवीएआर): 1 वे	110 एमबीएआर. 765 केवी. 1-पीएच रिएक्टर (लाइन/बस रिएक्टर के लिए अतिरिक्त यूनिट)-1	
	स्टरेन 400 केवी: 1 e 80 गम्मदीएआर, 765 केवी, 1-गीएव रिएक्टर (लाइन निण्कर) के लिए अगिरिक्त बुलिस)-1		
2	वाईसरन्त - पूर्णना। 765 केवी झी/मी लाइन	कार्य मेंग लंबाई, 200 भिन्नी	

ग्वण्ड	: 3(ii)] भारत का राजपत्र असंधारण	
3	बोइसर - II - पूणे- III 765 केवी डी/सी लाटन (एन्टर्जीआर बाईपाम व्यवस्था के साथ) के पुणे- III छोर पर 330 एमवीएआर स्वित्तेवल लाइन रिएक्टर रिएक्टर रिएक्टर अप स्वित्तिग उपकरण 2 - पुणे-III (जीअर्डारग) में पा के रूप में उपयोग के लि उपलब्ध 1x110 एमवीएआ रेपेसर यम सिएक्टर	वी वे. गर गर
4	वोइसर- ॥ -गुणे- ॥ 765 केबी डी/गी लाइन के • 765 केवी लाइन बे समापन के लिए बोइसर- ॥ में दो 765 कवी (जीआईएस) - 2 (बोईसर-॥ लाइन बे छोर के लिए)	r r
5	नरेद्र (नया) का लीलो - पुणे (जीअन्डेएस) पुणे III लीलो मार्ग की लवाई: 10 किमी. पर 765 केवी डी/सी लाइन	
6.	<ul> <li>स्पेद्र (त्यू) - पुणे- {।। ( जीआईण्म) 765 केवी</li> <li>330 एमवीएआर, 765 केवी</li> <li>डी/भी अडन (एनजीशर बाईपास व्यवस्थ। के सिवचेवल लाइन रिएक्टर-2</li> <li>765 केवी लाउन रिएक्टर के लिए स्विचेवल लाइन रिएक्टर)</li> <li>स्विचेवल लाइन रिएक्टर)</li> <li>सुणे ।।। (जीआईण्म) में रपेसर के रूप में उपयोग के लिए उपलब्ध 1x100 एमवीएआर स्पेयर बम रिएक्टर</li> </ul>	
7	पुणे-III (जीआईएस) एस/एस में हिंजेवाडी-कोयना लीखो मार्ग की लवाई 40 किमी. 400 केवी एम/सी लाइन का लिलो	
8.	उपर्युक्त लीलो (एनजीआर बाईपास व्यवस्था के साथ) के बाद बनाई गई पुणे-III (ई'आईएस)- बोधन 400 केवी एस/सी लाइन के छोर पर पुणे-III (जीआईएस) में 80 एमबीएआर. 420 केवी सिंबचेबल लाइन रिएक्टर	चे. <b>ग</b> , ज
टिप्पणी	वन-एंड हाफ ब्रेकर स्कीम में व्यास (जीआईएस) को पूरा करने के लिए आतश्य बे(बज) को भी टीएसपी द्वारा निष्पदित किया जाएगा।	<del></del>
ii.	पुणे (जीआईएस) के पुणे (जीआईएस) और पर मुख्य वाटन ब्रेकर के साथ 33 एमवीएआर स्विचेबल लाइन रिएक्टर की ट्रिपिंग के लिए इंटर-ट्रिपिंग स्तीम के लि तर्क - नरेंद्र (स्पू) 765 केवी डी/सी लाइन को पुड़े -3 मे नरेंद्र (स्यू) - पुणे (जीआईए 765 केवी डी/सी लाइन के लिलों के बाद लाइन के स्वामी दारा क्रियास्वित कि जाएगा।	30 गर् ब्या
iii.	्रम्पण एमाण्यईटीसीपल पुणे-III एस/एस की मिलान समय-सीमा में पुणे III (जीआईएक एस/एस में 5 220 केवी जीआईएस वे के साथ निश्नलिखित 220 केवी लाइनों व निर्णालित कोगा	न) को

Gel

	THE GAZETTE OF INT	MA EXTRAORDINARY	PARTIE SEC. 3
	<ul> <li>तेजुरी-फुल्मुगी के दोनों गर्किलों क कंडस्टर (स्तिन केया ममतुख्य) समगुध्य) ने माथ श्रेज लादन एलआईम्मको एक्टीप्लम्म क को टनिल करता है।</li> </ul>	ध सित्रो पूर्णन⊞ एग/एम में एवटीएनएस के साथ एवडीएलएम कडकरन (दिवन वेज्ञा मेनशन अर्थान् लिखे प्याखर फुन्सुंगी और क्लर (टिबन जेवा एमकक्ष) के स'थ जेजुनी	
	ञ, जादेङ शहर ः एणे पीडी Ⅲ 220 के साथ(दिवन तेवा समनक)	केवी एव <i>ळ</i> ी लाइन ए <b>४टीएला</b> ए। जेळकर	
197	कोडमर-॥ मन/म्भ का टीम्समी इ.म. संख्य उपलब्ध कराम्सा।	n ७ गए परिश्वन्तिंगर कार्य के लिए जगहें	
1.0	अगर प्रान्तविक्ष माइन की लंबाई अनुसानि के बाद प्राप्त की जामगी।	त्त हे क्योंकि गरीक तवाई किस्तृश अविधाण	
νι.	क्तर उम्भिरस्तित कार्याल्यम्न समय अवधि « उम्नादेज में इंग्लिटकी बाएगी।	अनं?ित है। अंतिम नघय अ≉धि आरएफणी	
<b>चरण</b> ा । विद्युत भ अतंतिस	(ह गीगाबाट) के वंतर्गत गुवरांत के आवत । निकासी के सिए परिषण प्रचाली: भाग हैं2 कार्यात्यका ममय अवधिः एलपीवी अंतरण थे	ा <b>क्षेत्र स संभावित नवीकरणीय कर्जा क्षेत्र</b> से 121 महीने	भारदेसी पावर डेकलपमेंट फ्रि केसल्टेंसी सिमिटेड
ात सर्वे अन्त सर्वे	वरिषय बोजना का कार्यक्षेत्र	त्तवसा	
	(जीआदोग्गत) में 2×1560 एम्प्वीए, वस् भेक्शर-1 (5वर्ग स 6वां) पर 765/400 केवीए आईसीरी, वम मेक्शन-11 (7वां स 6वां) एस 765/400 श्वेग्म् आईसीरी औ- औवर्ड अंगरभाष्त्रों के लिम् यम मैंव्रशन-1 में 3 400 केवीए और आगई अंतरमंघर्ड के लिंग वस मेक्शन-11 में 3 400 सेवीए ने क मबद्धन।	<ul> <li>शईमीटी-4</li> <li>765 केबी बे-4 (2 ऑडेमीटी के लिए)</li> <li>पुणं व्याम (प्रत्यक बम संक्शन म एक)</li> <li>जीर शेग 2 आईपीटी को अनिस्थित के (उन्येक मंज्यत में एक) में ममाप्त किंगा बाएगा)</li> <li>[4 आईपीटी बे (प्रत्येक संक्शन पर 2) और 5 एउन के (बस संक्शन -1 पर 2)</li> </ul>	
		आग वा (गलनन) (१९३) के गलन्तर इस संस्थानना पर 1 में व्यास गुमा करने केलिज्]	
Sada	h.	आग वा (गलनन) भर 3) के गलन्दर इस संस्थानना पर 1 में स्थास गुमा करने के लिए)	
िडियाए	ि टीएनयो वन-एड-हाफ ब्रेकर त्कीभ में फेमीग पूर्व ध्यास (बन मेक्शन । पर 1 और बस में ज्यास (जीआईएए) को पूरा करने के विए आ	आग वा (गलनन) पर 3) के गलनगर इस संक्ष्णनना पर 1 ने व्यास गुमा करने के लिए) मा2 (जीआईएस) के 765 केवी स्तर पर <b>दी</b> क्रिशनना पर 1) दिश्व <sup>47</sup> रेवन करेगा, जिसमें क्रथ्यक 7 मुख्य वे और 1 टार्ट-ने शामिल है।	
ियमा	ो: टीएनयो बन-एड-टाफ ब्रेकर स्क्रीध में पेपींग पूर्ज ध्याम (बन पंक्शन । गण 1 और बस में ज्यास (जीआईएए)) को पूरा बरन के विए आ टोएबपी जन-एड-दाफ ब्रेकर स्क्रीध है केने यांच पूर्ण व्यास (उस वेक्शरन) घर 2 और जिसमें आग्ध (जीआईएन) को पुरा करने के शामिल है। जसके जीअंग्स जिप्तकर को टीएएपी ज	आग वा राजनवन्ता पर 3) के से ख्यारंग इस सेक्शनना पर 1 वे व्यास गुमा करने के लिए] स्विश्वनना पर 1) दिश्व विवे स्वर गर <b>दी</b> केक्षतना पर 1) दिश्व विवे स्वर गर <b>दी</b> प्रेयद (जी आईएम) के 400 केवी स्वर <b>प्रेर</b> उम्र संक्शनना पर 3) कियान्त्रित करेगा. इ निरु आबंध्यक 2 युख्य के और 1 टाई-के करोक सबझेत कार्त को परा करने के लिए	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ी: टीएनयो बन-एड-टाफ ब्रेकर त्यतिभ में प्रेपींग एवं ध्याम (बत पंच्यत । पर 1 और बम में ज्यास (जीआईएए)) को पूरा करने के विए आ टोएम्प्यी जन-एड-टाफ ब्रेकर त्यति हे केंद्रे यांच पूर्ण व्यास (इस वेक्श्रान्न) पर 2 और जिसमें आत्म (जीआईएन) को पूरा करने के शामिल हैं। इसके जीतेरिक, केरीएस2 का टीएपणी उ जगह उपसब्ध करपएगा। केरीयम्ने के जगह में अप्रकार के जिए क्य	आग वा (संगतना) गर 3) के ग स्वयान इस संक्ष्णतना पर 1 ने व्यास गुम नगने के लिए] सिश्चतना पर 1) दियाण्टित को गा, जिसमे कथ्यक 7 मुख्य वे और 1 टार्ट-वे शामिल हैं। एए2 (जी प्रार्टग्म) के 400 केवी स्वय <b>प्रा</b> क्रम संक्शतना पर 3) कियाचिल करेगा. 5 सिए आवश्यक 2 मुख्य वे और 1 टार्ड-वे करोन- सबर्द्धल कार्ज को प्रा नगने के लिए ( संवशतना प 2 400 केवी वे और आग्दी	
iv.	ि टीएनचो बन-एड-हाफ ब्रेकर स्थीम में केपी। पूर्ज ध्यास (बन मेक्शन । गए 1 और बस में ज्यास (जीआईएए) को पूरा बरन के विए आ टोएसपी चन-एड-हाफ ब्रेक्न स्कीभ हे केम वांच पूर्ण व्यास (इस बेक्शनन) पर 2 और तिसमें आत्म (बीआईएन) को पूरा करने के शामिल हैं। इसके अतिरिक्त, केपीएस2 का टीएएपी उन्न नाम्ह उपनच्च करीएएए। बेचीएम2 में आरई जेनरसपके का निए बन जनस्वार्य के लिए वल मेक्शननों में एक बेध	आग वा राजनवन्तु (२८३) कर स्टब्स क इस सेक्शनना पर 1 वे व्यास गुम करने कुलिए] स्विथित हो पर 1) दिश्व विवे स्वर पर दी वेश्वनना पर 1) दिश्व विवे त्वरेगा, जिससे वश्वक 7 मुख्य वे और 1 टार्ट-वे शामिल हैं। एफ् 2 (जी प्रार्ट्यम् ) के 400 केवी स्वर प्रद वस डोक्शनना पर 3) कियाचिल करेगा. इ सिए आबध्यक 2 मुख्य वे और 1 टार्ड-वे करोक सबर्द्धन कार्न को प्रस करने के लिए ( मंत्रशनना म 2 400 केवी वे और कार्य्ड 30 केवी हे पहले से ही कार्याण्डिन किए जा	

hd

.

संधा	चित नार्दाच्यान अमय अनुश्चिः एसगोर्चः दुग <del>भिन्ने नवे सिन्द्र स्वति</del>	गफर ने भाइ	सलना का तर, बहा महात भग	districture of the low
वाडा	和국 2호 2에트 50 작용1학			
गुधा म	(a)).		वसरा	1
10.0		sneo inn	गर + 800 इंची केनीमहाउ	1
1	100 करता एजवाएसा स्वचल्ड र न य	क्रावर्ण नगाः ( <del>क्रायो न</del> म्मी)	वित्यस्ती। इन्द्रियस्य संशल	
	비슷 같은 아파가 아파 이 나는 것이다. 아파	liv son story	land of location and	1
	(period) (period frames) (period) states			1
	P a summer			1
-	ात्र केल्ल <del>जन्मित</del> हिन्द्र सर्वे के साथ	5000 XM	गर + 800 केले साउध	1
2.	ADD and reaction the date at the	विविधिः सम्बद्धः विविधिः (भार	जोई सीऽाई(एयमी) उर्नितन्।	
	्रम् प्रियो के संस्थित 200 करने साम ह	देशन देशन	and of L court of	1
	(गुलवाहाल) (गुलवाहा) राजवात करता स्वयंहाल केल्लाका 8000 वेगानाह की 1			1
	dx1500 en ars), 0000 entrais e			
-	भारत स्थान केलीमान्द्री (मन्त्रनी सीम) और जन्मपर	मार्ग की लंबा	ई: 1200 कि.मी	1
3.	कपाएस∠ (एचवाडाला) आर गणपुर (एचनीर्नची) के तक्ष्य +900 फेनी			1
	(ग्रेजेड ना) के मध्य 2000 जिने करनी राषिकरणोज जारत (टेक्सा लैपर्जिंग)			1
	(1200 किमी) (मर्मानि, चेरेलिक रिटर्न के			1
	(1200 किमा) (नमापर नहाराज रहन			
	स्विथे) (जस्व कि निवासी में सथस)			1
H	2000 मगावाट का गिकाला के स्टाम)	0	765/400 화국 1500	
4	नगर्भ गर्भावन न 0x1000 व्यवस्थित		णमवीग आईसीटी-6 (प्रत्येक	1
	765/400 कथा आद्य द एक्सर क		400 केवी अनभाग पर 3)	
	ास्यच्याः के साथ महायक कार्यनेक प्रसन्न २४२२० मार्थमाथार (765 देवी)		ाक स्पेयर यनिट महित 19	
	साह- 2x350 (मपालुआर (700 मन)) जोन 2,425 प्रान्तीप्रथम 420 केनी बस		गकल चरण यनिटे)	
	जार 2x125 जूनवालुवार, न20 जवा र न	, í	, 765 केवी आईसीटी बे- 6	
	नग को 400 केती तम मेक्शनलाइजर के 1		400 ोबी आईसीटी बे- 6	
	बेस हे 400 हैला रेत लेगा लोड है है।		(प्रत्येक सेक्शन पर 3)	
	किया जाम्बा तार्वि पत्चेक सेक्शन सेक्शन	, L	330 एमर्वाएआर 765 केवी	
	1994 जाड्या गांध के देखें के लगाए जा. 2×1500 प्रस्तीए आईसीट ज लगाए जा.		बस रिए∺टर-2	
	प्रका वस सेक्शनलाइजर सामान्य १५ से बद	c	125 इमबीएआर 420 केवी	
	र्म्या और जिन की आवश्यकता के आधार		बस रिएक्टर-2 (प्रत्येक	
	पर सोला जा सकता है।		भेक्सन घर एक)	
	गावपर में भाषी प्रायवान :		765 केवी सिएक्टर के- 2	
	निम्नलिशित के लिए स्थान :		165 केवी लारत वे- 4	
			400 तेजी फिल्ल्स के 2	
	आईमीटो-व (410) केटी यन		(क्रम्नेक संख्यान पर मुक्)	
	भेक्रातनाः पर्वतिर्धे 400		400 केनी जन सेक्शतजाडजा	
	केनी यस क्षेत्रशत-(।। पर 3)		1.42	
	् स्वित्तेवन लाइन मिल्लटरां गहित	0	10 एमकीएआर, 765 केले.	
	785 बेजी लाइन के - 10		ं पीएन रिएक्टर (भारत/बस	
	<ul> <li>वे महित 765 केवी चन गरेएक:</li> </ul>		विएकटः ने तिए त्येसर	
100			12	

hd

#### THE GAZETTE OF INDIA : UX TRAORDINARY

**212** [PART II—SEC. 3(11)]

**,** 1

	् स्विचब्रल् लाइन् रिएक्टर साहत		
	400 केवी लाइन वे - 12		
	<ul> <li>400 केवी बग सेक्शनलाइज़र- 1</li> </ul>		
	गेट		
	्र वेसहित 400/220 केवी आईसीटी		
- 1	9 (400 के बी बरू सेक्शन-11 पर 3		
	एव भाती बस सेक्शन-III पर 6)		
	ं वे महित 400 केवी वस सिएक्टर:		
	4 (400 कवी वस सेक्शन I एवं II	1 1	
	पर 1 और भावी के 400 केवी बस		
	सेक्शन-Ⅲ पर 2)		
	220 केवी लाइन बे. 16	1	
	<ul> <li>220 केवी सेक्शनलाइज़ेशन वे: 2</li> </ul>		
	मेट		
	🕤 220 केवी बीसी एवं टीबीसी: 3		
	ठ 80 एमबीएअर, 765 केबी, ⁴-		
	पीएच रिएक्टर (लाइन सिएक्टर के		
	लिए सोयर यूनिट)-1		
5	नागपर में वर्धा - रायपर 765 के वी एव	r लील <sup>+</sup> मार्ग की लंबाई: 30 किमी.	
	डी/सी लाइन (2xडी/मी लाइनों में स) क	т	
	लियो		
6.	नागपुर-रायपुर 765 कवा डा/सा लाउने व	• 240 एमबाएजर, 700 जला	
	पत्यक सीकटी पर नागपुर छार पर 24	) • स्वयंग जाइन रण्डना द (तर्मान्द्र दीव गर्भ)	
	एमवीएआर स्विचेबल लाइन रिएस्टर के	(नागपुर छार पर) २०६ रे <del>फी जन्म रोपन</del> रह के जिस	
	सम्थापना	• 705 कवा लाइन रिएकटर का लिए	
		ाव चग ऽपस्थर - ∠ (गाग ुर छार	
		11(1)	
		(년) 00 m <del>: 10 m - 765 3 1</del> 4	
		पर) • 80 एमवीएआर, 765 केवी, 1-	
		पर) • 80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के	
		पर) • 80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिइ)-1	
* 17	न्त्रवीडीसी एव एचवीएसी स्विचयाई के	पर) • 80 एमवीएआर, 765 केवी, 1- पीएच सिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1 मध्य 400 केवी अंटरसम्पर्क (सभी सहाधक	
* ए उपस्	ग्तवीडीसी एव एचवींएसी स्विचयाई के म्क√वस एक्सटेंशन अ*दि सहित) टीएसपी द्व	पर) • 80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1 मध्य 400 केवी अंत्र्रेस्स्पर्क (सभी सहाधक राकार्योन्धित किया जाएगा।	
* ए उपस् टिप्या	ग्तवीडीसी एव एचवींएसी स्विचयाई के म्कस/बस एक्सटेंशन अॉर्द सहित) टीएसपी ढ <b>गी:</b>	पर) • 80 एमवीएआर, 765 केवी, 1- पीएच सिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1 मध्य 400 केवी अंत्र्रेस्ट्रेस्ट्रेस्ट्रेस् राकार्यान्धित किया जाएगा।	
* ए उपस् टिप्पर	जवीडीसी एव एचवीएसी स्विचयाई के कर/बस एक्सटेंशन अपि सहित) टीएसपी ढ <b>पी:</b>	पर) • 80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1 मध्य 400 केवी अंतरुसम्पर्क (गभी सहाधक रा कार्यान्वित किया जाएगा। के 400 केवी बस सेक्शन 1 से निकरेंगे और	
* ए उपस् टिप्या	ग्तवीईीसी एव एचवीएसी स्विचयाई के स्वर/वस एक्सरेंशन अपि सहित) टीएसपी द्व पी: 1. 2x1500 नेगाबाट के खरे केपीएम 2 नागप के अप प्रेस्शन 1 पर मागप दे	<ul> <li>पर)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंतरुसस्पर्क (सभी सहाधक रा कार्यान्धित किया जाएगा।</li> <li>के 400 केवी बस सेक्शत 1 से निकरेंगे और विद्यूमी प्रकार, अन्य 2x1500 मगावार कार्या</li> </ul>	
* ए उपम् टिप्पा	विडिसी एव एचवीएमी स्विचयाई के कः/वस एक्सटेंशन अपि महित) टीएसपी ट <b>पी:</b> 1. 2×1500 नेगाबाट के खारे केमीएम 2 नागपुर के अम मंद्रशन 1 पर ममाप्त हो केनिएम2 के 400 की बंग संदर्शन	<ul> <li>पर)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर युनिट)-1</li> <li>मध्य 400 केवी अंत्ररसम्पर्क (गभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी बस सेक्शन 1 से निकरेंगे और गाइसी प्रकार, अन्य 2x1500 मगावाट क वर्षे के किकरेंगे और नायपुर के यह मेक्शन2 प्रय</li></ul>	
* ए उपम टिप्यप ;	वित्रीईसी एव एचवीएमी स्विचयाई के कर/बस एक्सरेंशन अदि सहित) टीएसपी ढ <b>पी:</b> : 2×1500 नेमाबाट रे खरे केपीएम 2 नागपुर के अप प्रेक्शन 1 पर ममाप्त ह कारिएम2 के 400 कर्वा कर मेक्शन 2 मामपूर के 400 कर्वा कर मेक्शन 2	<ul> <li>पर)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंतररसम्पर्क (गभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और पीइसी प्रकार, अन्य 2x1500 मगावाट क को र ये किकरेंगे और तमपूर के यह सेक्शन2 प्रार</li></ul>	
* ए उपम टिप्या	म्बवीडीसी एव एचवीएसी स्विचयाई के म्बर/बस एक्सटेंशन आदि सहित) टीएसपी ढ <b>पी:</b> 1. 2×1500 नेगाबाट रे खरे केपीएल 2 नागपुर के अप प्रेक्शन 1 पर ममाप्त ह अप्रीएम्ट2 के 400 कवर कर मेक्शन 2 मपाप डोगे।	<ul> <li>पर)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केनी अंतरुसम्पर्क (सभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>मे 400 केनी बस सेक्शन 1 से निकरेंगे और माद्रमी प्रकार, अन्य 2x1500 मगावाट क वर्षे से निकरेंगे और नागपुर के यह मेक्टन2 प्रस राजकेन करना की गगह में रखने जा विजयन</li></ul>	
* ए उपस टिप्या	त्ववीडीसी एव एचवीएमी स्विचयाई के कः/वस एक्सटेंशन अपि महित) टीएसपी ट्र <b>गी:</b> 1. 2×1500 नेगाबाट के खरे केमीएस 2 नागपुर इ. यम मंद्रशन 1 पर ममाप्त हो केमीएम2 के 400 कवी कर संदर्शन 2 नेपाम होगे। 2. ज्ववीडीमी प्रत्तमी की 100% गवा	<ul> <li>पर)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर युनिट)-1</li> <li>मध्य 400 केवी अंत्र्यसम्पर्क (गभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी बस सेक्शन 1 से निकरेंगे और पाइसी प्रकार, अन्य 2x1500 मगावाट क वर्षे रा निकरेंगे और नागपुर के यह मैक्टन2 पर विवर्सन स्टान को इयान में रखने हए डिनाइन रा के प्राप्त कर परिष्ठण ने कर के पर्व</li></ul>	
* ए उपम् टिप्पा	वित्रीईसी एव एचवीएमी स्विचयाई के कः/बस एक्सरेंशन अदि सहित) टीएसपी ढ <b>पी:</b> : 2×1500 नेगाबाट रे खरे केपीएम 2 नागपुर के अम मेक्सन 1 पर ममाप्त ह अगीएम्ट के 400 कवी कम संकान 2 मपान डोगे। : एचवीईमी प्रताली की 100% णवा वित्रा जाएनादिरेट विद्युत गारेपण ध्रम	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएच रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंतररसम्पर्क (गभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और गाइसी प्रकार, अन्य 2x1500 मगावाट क को रा विकरेंगे और वयपुर के यह सेक्शन 2 पर रावर्सन क्षमता को ध्यान में रखने ठए डिनाइन ता के माथ-सार्फ रुट्य पार्थण वात्त्रज को एसी के राज यह राजानी.</li> </ul>	
* ए उपम टिप्पा	म्बबीडीसी एव एचवीएसी स्विचयाई के स्वर/बस एक्सरेंशन अपि सहित) टीएसपी ढ <b>पी:</b> : 2×1500 नेगाबाट रे खरे केपीएल 2 नागपुर के अप मंक्शन 1 पर ममाप्त ह केपीएल2 के 400 तबर कर संकार केपीएल2 के 400 तबर कर संकार केपीएल2 के 400 तबर बार समय दे केपीएल2 के 400 तबर बार समय दे केपीएल2 के 400 तबर बार समय दे केपीएल2 के 200 तबर बार पर परिप्राय किया जाएगारिटेर विद्युत गारेपण अप याई के रेक्टिफायर सोर पर परिप्रायन	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- पीएन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केनी अंतररसम्पर्क (सभी सहाधक रा कर्यान्धित किया जाएगा)</li> <li>मे 400 केनी कम सेक्शन 1 से निकरेंगे और नेपट्रमी प्रकार, अन्य 2x1500 मगावाट क को रा विकरेंगे और नापएर के यह मेक्टन2 पर विवर्मन रुप्तना को ध्यान में रखते हुए डिनाइन ता के माथ-गार स्टंड पार्थण वाल्टन के एसी और नाएरी ही नागी।</li> </ul>	
∗ π उपम टिप्या	विडीसी एव एचवीएमी स्विचयाई के कः/बस एक्सरेंशन अपि महित) टीएसपी ट्र <b>गी:</b> 2×1500 नेगाबाट के खरे केमीएल 2 नागपुर के अम मंद्रशन 1 पर ममाप्त हो केमीएल2 के 400 कवी कर संदर्शन के स्वान डोगे। एचवीडीसी प्रताली की 100% एका बिटा जाएगारिटेर विद्युत गांग्यम ध्रम याई के मेक्टफायर डोर पर परिप्त कॉर्यज्ञ ) केम्मएल2 का टाएसपा उपरंक्त कॉर्यज्ञ	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- एंग्रिन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>भध्य 400 केती अंटरसम्पर्क (सभी सहाधक र कर्यान्धित किया जाएगा)</li> <li>मे 400 केती कम सेक्शत 1 से तिकरेंगे और राहमी प्रकार, अन्य 2x1500 मगावाट क को शा विकरंगे और तयपुर के यह सेक्श्तर2 पर राहमेंन स्टम्ता को ध्यान में रखने हुए डिनाइन ता के माथ-साथ रहे पारचण उल्लिक के एसी और नाएंगे ही नागी।</li> <li>र के अनुसार एवडीडोंगी प्रणानी की संसाधना</li> </ul>	
* ए उपम टिप्प :	वित्री इसी एव एचवीएसी स्विचयाई के का/बस एक्सरेंशन अदि सहित) टीएसपी इ जी: 2×1500 नेगाबाट रे खरे केपीएस 2 नागपुर के अप प्रेक्शन 1 पर समाप्त ह अगीएस2 के 400 कवी कर नेक्शन 2 नागपुर के 400 कवी कर नेक्शन 2 नागपुर 2 के 400 कवी कर नेक्शन 2 मपान डीगे। एचवीडिंसी प्रताली की 100% पावा विद्या जाएगारिटेट विद्युत गारेपण ध्रम याई के नेक्टिफायर होर पर परिभाषिन याई के नेक्टिफायर होर पर परिभाषिन केलाएर2 का टाएसपा उपरोक कार्यले के जिए जगह इपरस्थ करेगा।	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- एएक रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंतररसम्पर्क (सभी सहाधक रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और रा कर्यान्धित किया जाएगा।</li> <li>के 400 केवी जम सेक्शन 1 से निकरेंगे और रा कर्यान्धित का स्थान 1 से निकरेंगे और रा कर्यान्ध्र के स्थापना ता के माथ-साथ राख्या वाल्टल का पुनी और करती की जागगी।</li> <li>के बनुसार एववीडोंगी प्रणामी की मेस्सापना</li> </ul>	
* ए उपम टिप्पा	म्बबीडीसी एव एचवीएसी स्विचयाई के स्वर/बस एक्सटेंशन अदि सहित) टीएसपी इ <b>पी:</b> 2×1500 नेगावाट रे खरे केपीएस 2 नागपुर के अप मंक्शन 1 पर ममाप्त हो केपीएस2 के 400 तबर कर संक्शन 2 नपाम होगे। एचवीडीसी प्रत्यती की 100% पावर बिट्या जाएगारिटेट विद्युत परिपर भग् विद्या जाएगारेटेट विद्युत परिपर भग् विद्या जाएगारेटे के केप्र	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- एएन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केनी अंतररसम्पर्क (सभी सहाधक रा कर्यान्धित किया जाएगा)</li> <li>मे 400 केनी कम सेक्शन 1 से निकरेंगे और नेपट्रमी प्रकार, अन्य 2x1500 समावाट क को श दो निकरेंगे और नागएर के यह सेक्श्रेन्2 पर विवर्मन रुक्ता को ध्यान में रखने हुए डिनाइन ता के माथ-साथ स्टंड पार्थण वाल्टल के पुनी और नाएश के जागी।</li> <li>के अनुमार एववीडींगी प्रणामी की मंस्यापना के ई ल्यांके गरीक लबाई विम्तन नर्मेक्षण के</li> </ul>	
× π उपम टिप्या ;	विडीसी एव एचवीएमी स्विचयाई के कः/बस एक्सरेंशन अपि महित) टीएमपी इ <b>गी:</b> 2×1500 नेगाबाट के खरे केमीएम 2 नागपुर के अम मंद्रशन 1 पर ममाप्त हो केमीएम2 के 400 कवी कर संदर्भन 2 नेपाम डीगे। एचवीडीमी प्रत्तानी की 100% एगवा बिट्रम जाएगारेटेट विद्युत गांग्येण ध्रम्म मंद के मेक्टरभायर होए पर परिभाषिन केम्मएस2 का टाएमपा उपराध कॉर्यज्ञ के सिए बगह उपरस्थ करेंगा। इसर दक्षिति नाइन की जेवाई प्रजुम भाष की नाइन की जेवाई प्रजुम	<ul> <li>१११)</li> <li>80 एमवीएआर, 765 केवी, 1- एएन रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंत्ररसम्पर्क (सभी सहाधक राक्त कर्यान्धित किया जाएगा)</li> <li>मे 400 केवी कम सेक्शन 1 से निकरेंथे और पाइगी प्रकार, अन्य 2x1500 मगावाट का को श्वा विकरंगे और नागपुर के यह सेक्शन2 पर रावर्मन रुझ्ता की ध्यान में रखने हए डिनाइन ता के माथ-साफ स्टंड पारचण वाल्टन के एसी और नाएंग्री की नागगि।</li> <li>मे अनुसार एचवीडींगी प्रणानी की मंस्यापना के क्यांके गरीज लगाई विस्तृत तर्मेश्रण के</li> </ul>	
• ए उपम टिप्प :	वजीइसि एव एचवीएमी स्विचयाई के का/बस एक्सरेंशन अदि महित) टीएमपी इ जी: 2×1500 नेगाजात रे खरे केपीएम 2 नागपुर के अप प्रेक्शन 1 पर मप्ताप्त हो अपीएम्ट्र के 400 कवी कर संक्शन 2 सपाप्त द्वीरिमी प्रताली की 100% पावा पिया जाएगारिटेट विद्युत गांग्रेपण ध्रम याई के मेक्टिप्तायर होर पर परिभाषिन केप्राप्ट्र का टाएमपी उपराक कवित्री के लिए जगत इप्रत्यस की जवाई अन्म बाद प्राप्त की नाएगी। रुपर परिलग्नित जाइन की जवाई अन्म बाद प्राप्त की नाएगी।	<ul> <li>भर)</li> <li>80 एमवीएआर, 765 केवी, 1- एएक रिएक्टर (लाइन रिएक्टर के लिए स्पेयर यूनिट)-1</li> <li>मध्य 400 केवी अंत्र्यसम्पर्क (सभी सहाधक रा कपोन्थित किया जाएगा।</li> <li>के 400 केवी कम सेक्शन 1 से निकरेंथे और रा कपोन्थित किया जाएगा।</li> <li>के 400 केवी कम सेक्शन 1 से निकरेंथे और रा कपोन्थित किया जाएगा।</li> <li>के 400 केवी कम सेक्शन 1 से निकरेंथे और रा कपोन्थित किया जाएगा।</li> <li>के 400 केवी कम सेक्शन 1 से निकरेंथे और रा कपोन्थित किया जाएगा।</li> <li>के 400 केवी कम सेक्शन 1 से निकरेंथे और रा क्रिया प्रताप देश किस्तान के स्पत्न से किस्तान के ध्यान में स्पत्ने हुए डिनाइन ता के माथ-साथ स्टब्स के प्रती जेत करती के नागपी।</li> <li>के बनुसार एचबीडोंगी प्रणामी की मेस्सापना केत है क्योंके गरीक लबाई विस्तुत समेक्षण के डि अक्साई: है। आदि समय क्रिक आरएक्शी</li> </ul>	

ावच्चुत नंभावि 	का लिकासा का विए पार्थप अपालाः जान का हर आर्थन्डयन रामय अवधि, एनामीपी अन्तर¶ हे 	T 48 महीने	
्यम		TERT.	1
कृ.स	पारवण स्काम का का वस्त्र न	and in the source of the sourc	
1	400 क्या एंड्ड एंटा स्विचयार के प <b>लि</b>	2500 40 Mile, ± 500 Mile 1995	
	सहायक अग्रमान के साथ अन्य एन अ	parts and any and show some	
	सबस्टान क गास अपिमा ग्यान घर 2500		
	<b>HALLER</b> 7 200 AND		
	(एचबाडाना) [बाएगमा] इमनेव्य अश्व		
	(2x1250 मगावार) को संस्थापना		
	साउव आनगेड एम/ज्य' के 400 करता	2500 nimate, a 500 nati Allem	
	एचवीएसी निवचपाउँ के माथ रहागढ	श्रावर्षेष्ठ (जूनकेव्हीमा) (वार्णमगा) करनेल	
	अंतरसंघक के साथ 2500 मेगाजात. ±	्रेश्वच	
	500 कर्ना माहथ क्रीलपेंड (एवर्वारीमी)		
	[4]h(प्रमर्ग) टर्षिनल म्हेश (2x1250		
	मेगाबाट) की स्म्थापना		
3.	एचनीडीसी स्विचग'ई* के साथ सहायक	ः 400/33 केवी, 1x50 एमवीए	
	अतरसम्पर्क के साथ 2x125 एमवीएआर.	आईसीटी वे सहित- 2	
	420 नेवीं बन रिएक्टरों सहित केपीएस3	्र 125 एमबीएआर 420 केवी बस	
	(एचवी डीसी) एस/एस की संस्थापना। 400	रिएक्टर-2 (प्रत्येक सेक्शन पर	1
	के विस को सामान्य रूप में खुला ग्लने के	ए <i>क.</i> )	
	लिए 400 केवी बरू सेक्शनलण्डजर के 1 सेट	्र 400 कबी रिएक्टर बे- 2 (प्रत्येक	
	न माध्यम से 2 सेन्धनों में नंस्थागित निया	सेक्शन पर एक)	
	वाणमा	ं 400 केवी बस सेक्शनलाइज़र- 1	
	गचवीरीमी टॉर्मेनल को विशेष रूप से	ਜੇਟ	
	मना क विद्युत की आगर्ति के लिए 400/33		1
			1
	, ZAGO CHANG GIT MAT		
	क्याएसउ (एचवाडाता) एताएत नर		
			1
	गनभानावात का लिए स्थान.		1
	्र 400 कवा लाइन व - 0		
	(प्रत्येव संकर्णन पर 5,		
	्र 400 कवा रिएकटर ब- 2		1
_	(प्रत्येक संस्थान पर एव)	uni fi mui a faufi	
4.	कपोएस3 - कपोएस3 (एचवाडासी) ।	माग के लेवाइ-∠ावमा 400 रेची जीवर्णना ज्यूबर के वेगीप्राण?	
	400 केवा 2xडो/सा (क्वाउ एसएएसआर/	400 कवा जाञ इएस ल.इन ब - कपाएगठ च्रा ४ (च्येन्ट्र पर केट्रान्ट पर २)	
	एएएगरी/एएल59 मूस समनुल्य) लाइन ा	1र 4 (प्रन्यक बस संकथन पर 2)	
	दोनो सबस्टेशना पर लाइन वे सहित	400 कवा जाआइएस लाइन व - कपोएस3	
		एचवीडे'मी) पर 4 (प्रत्यक बस संक्शन पर	1
		2)	
5.	केपीएम3 (एचवीडीसी) और साउथ म	मार्ग की लवाई: 600 किमी	
	अल्पेड (एचवीडीसी) के बीच ±500		
	केवी एचवीडीसीबाइपोल लाइन		
	(समर्गीत मैटेलिक रिटर्न के साथ) (2500		
	ग्रेगला चित्रालने में सभय)		

Gel

- 1

जमरेशन आ	दे सोहदी) टेएएसपी द्वारी कायान्वर विश्वा जीएगा।		1
टेप्पणी			2
	ा258 वंगायाट का पोल-१ केशीएम3 (एलगीटीर्थ	ी) के 400 केवी बम मेनुशून 18	स
	जिकलेग <sup>र</sup> और रताउप ओलपैंड एग/एम ५४ वयाभ	होगा। इसी तरह, 125 <b>ं मेगाव</b>	Z
	का सेल-2 वेगीएस3 (एवडीटीमें) के 400 केवी	) बम सेक्शन 2 में जिल्लेसहुक्षे	र
	सा रेथ ओलफेव एम/एम में समास होगा।		
	चनवीडीमी प्रणालो को 100% विद्युत विवसँक	क्षमता के साथ-साथ ज्लेक म्ल	8.
		केबाओल पाचर समयोग क्षमत	T
	अदिसडिजाइन किसा जाएगा।		
	रेटेड विश्वत गामेषण क्षमता के नाथ-साथ <sup>12</sup> €ड <sup>5</sup>	परिवर्ण योव्टेज को एसी पाई	नेर
	ेनिटफाफर छोर गर परिकालित और गार्गती दी ज	त्तप्रदि।	1
	केचीत्रस3 का हीएसा। उपरोक्त कार्यक्षेत्र क अनु	गार ∉मांक 4 कार्यक्षेत्र के लि	Q.
	म्धान उपलब्ध करामगो।		1
	मान्ध्र ओलपेड एमध्यम का रोएसणे उपयोग	ार्यक्षेत्र के अनुसार क्रमाल	2
	कार्यक्षेत्र के लिए जगह स्थलव्य कराण्या।	-	1
	रुपर रच्छिति लाइन की लंबाई अनमातित	ह स्लोंकि मटीक लंबाई विस्त	1
	भवेशण के पार्थ शाम की जाएगी।		1
		क्याची है। अनिम समय सीम	TT .
VII.	ुवर असम्बद्धाः व कार्यवर्त्ता व कार्यकाः सन्तरम् हि अन्तर्यन्त्र में देखित की जास्त्री		
<b>ावस्थान</b> आर नेकासी के सि नेपायित आर	ईजेड केब-1∀ (भाग-2: 5.5 गीगावॉट) (वैससपेर ए परेथण प्रकाली: भाग ए गेरवयन समय अवॉधे: एनपीर्व° अनगण में 24 घडींग	/हाहमेर कॉप्प्लेक्स) से विद्युत । ने	ती आरईसी पावर डेवलपमेंट एंड लिमिटेत
<b>ावस्थान</b> आर ने <b>कासी</b> के सि गंभायित आर गार्वक्षेत्र:	ईजेब फेल-IV (आग-2: 5.5 गीगावाट) (वैससप्रेर ए पारेवण प्रवासी: भाग ए फिल्यन मगथ अवॉधे: एनपीवे' अनगण से 24 महीर	(बाहमेर कॉफ्टलेक्स) से विद्युत र ने	<b>ही</b> जारईसी पावर खेवसपमेट एंड लिमिटेड
<b>ाजस्थान</b> आग ने <b>कासी</b> के सि गंधायित आग गार्वक्षेत्र: क्रिम स.	ईपेड फेब-IV (भाग-2: 5.5 गीगावाट) (वैससपेर ए परेवण प्रवासी: भाग ए ग्रीन्कयन मगाव अवांधे: एनणीव" अनगण में 24 महीन रारेवल स्कीम का कार्यक्षेत्र	/हाहमेर कॉप्प्लेक्स) से विद्युत प ने 	<b>ही</b> आरईसी पावर वेवसपमेंट एंड लिमिटेव
<b>ावस्थान</b> आग नेकासी के सि गंभायित आज ग्रावीक्षेत्र: जिम स,	ईजेड फेब-IV (आग-2: 5.5 गीगावाट) (वैससप्रेर ए पारेवण प्रवासी: भाग ए गैन्डयन मगव अवांधे: एनणीवे" अनगण में 24 थडीन रारेवल स्कीप का कार्यक्रेत्र 2x240 एसवीएक्षण (765 केवी) जग	/बाहमेर कॉफ्टलेक्स) से विद्युत प ते 	<b>ही</b> आरईसी पावर खेवसपमेट एंड लिमिटेड
<b>ग्वस्थान</b> आप नेकासी के सि गंभायित आप प्रार्थिज: क्रिय स.	ईपेड फेब-IV (भाग-2: 5.5 गीगावाट) (वैससपेर ए पररेषण प्रवासी: भाग ए ग्रेन्डयन मगाथ अवांधे: एनणीवे" अनगण में 24 घडीन रारेषण स्कीम का नार्यक्षेत्र 2x240 एमशीएक्षण (765 केवी) जग रिएक्टर और 2x125 एमनीएआर (420	(बाहमेर कॉप्प्लेक्स) से विद्युत प ने असता - 765/400 केले - 1500 एमकीए जर्मकी - एक	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड
<b>ग्रवस्थान</b> आग नेकासी के सि गंभायित आज ग्रावीक्षेत्र: <u>क्रिय स,</u>	द्वेजेड फेल-IV (आग-2: 5.5 गीगावाट) (वैससप्रेर ए पारेवण प्रवासी: भाग ए गेरुयन मगथ अवांधे: एनणीवे" अनगण में 24 थडी रारेवल स्क्रीम का कार्यक्रेत 2x240 एस वीएअन (765 केवी) जम रिएक्टर और 2x125 (स्कीएआन (420 केवी) क्य (म्प्रस्टर सहिन 4x1500 एनयी) केवी) का (म्प्रस्टर सहिन 4x1500 एनयी)	(बाहमेर कॉम्प्लेक्स) से विद्युत प ने • 765/400 केवी 15/30 <b>एमकीए</b> आईम्प्रिट-4 <b>एक</b> मोपर गतिर <b>संदित</b>	<b>ही</b> आरईसी पावर डेवलपमेंद एंड लिमिटेड
<b>ग्वस्थान</b> आप नेकासी के सि गंभायित आप प्रार्थकेत्र: िक्ष्म स.	ईपेड फेब-IV (भाग-2: 5.5 गीगावाट) (वैससपेर ए पररेषण प्रवासी: भाग ए ग्रेस्ट्रियन मगथ अवॉधे: एनणीवे" अनगण में 24 फडीन २४२२४० एमश्रीएक्षण (765 केवी) जग रिएक्टर और २४१२६ एमनीएआर (420 केवी) क्य (रेएक्टर सहिन 4x1500 एमयीए (65/400 केवी) और 5x500 एम्यवीए 20000 केवी और 5x500 एम्यवाए	(बाहमेर कॉफ्टलेक्स) से विद्युत प ते 	<b>ही</b> आरईसी पावर डेवलपमेंट एंड सिमिटेड
<b>ग्रवस्थान</b> आप नेकासी के सि गंभायित आप ग्रवीक्षेत्र: <u>क्रिय स</u> ,	देवेड केव-1V (भाग-2: 5.5 गीगावाट) (वैससपेर ए परेषण प्रवाही: भाग ए गैन्द्रयन मगथ अवधि: एनपीर्व' अनरण में 24 महीन् रारेषण स्कीम का कार्यक्रेत 2x240 एमवीएअप १765 केवी) वस् रिएक्टर और 2x125 (मनीएआर (420 केवी) यम निएकटर सहिन 4x1500 एववीए 765/400 केवी और 5x500 एववीए 100/220 केवी प्रतेह्रगटनV (सेक्शन -2)	(बाहमेर कॉफ्टलेक्स) से विद्युत प ने • 765/400 केवी 15/00 <b>एमकीए</b> बाईस्टिटि-4 <b>एक</b> म्पेयर गुनित <b>सहित</b> 13x500 एमनीए। • 765 केवी <b>बाईसीटी</b>	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड
ग्वस्थान आर नेकासी के सि गंभायित आर गार्वक्षेत्र: जिम स.	द्वेषेच फेब-IV (माग-2: 5.5 गीगावाट) (वैससपेर ए पररेषण प्रवासी: माग ए ग्रेस्वयन मगथ अवॉधे: एनपीवे' अनगण में 24 फडीने 2x240 एमशीएक्षण (765 केवी) जग रिएक्टर और 2x125 एमनीएआर (420 केवी) क्य (रेएक्टर सहिन 4x1500 एमयीए (65/400 केवी) और 5x500 एम्यवीए 100/220 केवी प्रतिहण्ड-IV (सेक्शन -7) पुसिम इंटरन थे। संस्थापना	(बाहमेर कॉफ्टलेक्स) से विद्युत प ते • 765/400 केवी • 765/400 केवी • 765/400 फ्रेकी • 765/400 <b>एमकीए</b> • ग्रेजर गुनिर <b>सहित</b> • 765 केवी <b>आईसीटी</b> • 765 केवी <b>आईसीटी</b> • 765 केवी <b>आईसीटी</b>	<b>ही</b> आरईसी पावर उवज्ञपमेंट एंड सिमिटेड
<b>ग्रवस्थान</b> आप नेकासी के सि गंभायित आप क्रम स,	देवेड फेब-IV (प्राप-2: 5.5 गीगावाट) (वैससपेर ए परेषण प्रवाही: प्राप ए गैन्द्रयन मगथ अवॉधे: एनपीवे' अनरण में 24 महीन रारेषण स्क्रीप का कार्यक्रेत 2x240 एमवीएअप (765 केवी) वस रिएक्टर और 2x125 (मनीएआर (420 केवी) यम निएक्टर सहिन 4x1500 एववीए (65/400 केवी और 5x500 एववीए 100/220 केवी अंग 5x500 एववीए 100/220 केवी अंग 5x500 एववीए 100/220 केवी अंग 5x500 एववीए (विसान 25 03.22 की 8थीं एनमीटी बैठक	(वाहमेर कॉम्प्लेक्स) से विद्युत प ते ग 1500 एमकीए वाईम्पिटेप्स एक म्पेयर गुनिर सहित 13x500 एमकीए 13x500 एमकीएआर.	<b>ही</b> आरईसी पावर डेवलपमेंद एंड लिमिटेड
ग्वस्थान आर नेकासी के सि गंभायित आर गार्वक्षेत्र: ग	द्वित्र फेब-IV (माग-2: 5.5 गीगावाट) (वैससपेर ए परेवय प्रवासी: माग ए ग्रेस्वय स्वाधे: एनपीवे' अनग्प में 24 फडी 2x240 एमवीएअप (765 केवी) बग रिएक्टर और 2x125 एमवीएआर (420 केवी) क्य (रएक्टर सहिन 4x1500 एमवीए (65/400 केवी) और 5x500 एमवीए 100/220 केवी फ्रेनेहण्ट-IV (सेक्शन -2) पुसिस तंटर न थे। संस्थापना [दिनांक 25 03.22 की 8थीं एनसीटी बैठक मे फतेहगढ-IV से पहले से ही अनसोदिना	(बाहमेर कॉफ्लेक्स) से विद्युत प ते • 765/400 केवी • 765/400 केवी • 765/400 केवी • 765 केवी बस	<b>ही</b> आरईसी पावर वेवज्ञपमेंद एंड लिमिटेत
<b>गवस्थान</b> आप नेकासी के सि गंभायित आप गार्वछेत्र: िम्म स,	देवेड फेब-IV (प्राप-2: 5.5 गीगावाट) (वैससपेर ए परिवय प्रवाही: प्राप ए गैस्ट्रयन मगथ अवांधे: एनवीवे अनन्य से 24 प्रही रारेषव स्हीप का नार्यक्षेत्र 2x240 एसवीएक्षण (765 केवी) बस रिएक्टर और 2x125 (मनीएआर (420 केवी) रम श्रिएक्टर प्रहिन 4x1500 एववीए 155/400 केवी और 5x500 एववीए 150/220 केवी और 5x500 एववीए 150/220 केवी और 5x500 एववीए 150/220 केवी क्रेड्रेजर-IV (सेक्शन -2) पुसिन इंटरन की संस्थापना [दिनांक 25 03.22 की 8थीं एनसीटी बैठक मे फतेहगढ-IV मे पहले से ही अनुमोदिन भगवी अंतरिक्ष प्रावधानों का उपयोग वर्तमान	वाहमेर कॉफ्लेक्स) से विद्युत प ते • 765/400 केकी 15/00 एमकीए बाईम्री/2-4 एक म्पेयर गुनिट सहित 13x500 एमकीए 13x500 एमकीए - 765 केकी बाईसीटी बेब - 240 एमकीएआर. 765 कवी बम रिएक्टर- 2 (एक	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड
ग्वस्थान आर नेकासी के सि गंभायिल अफ गर्वक्षेत्र: किम स,	देवेड फेब-IV (माग-2: 5.5 गीगामाट) (वैससपेर ए परेषण प्रवाही: माग ए ग्रेस्वयन मगथ अवांधे: एनपीवे' अनगण में 24 मही 2x240 एम तीएक्षण (765 केवी) बग रिएक्टर और 2x125 एमनीएआर (420 केवी) क्य रिएक्टर सहित 4x1600 एमयीए (65/400 केवी) और 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी क्रेन्ड्रेस्ट-IV (सेक्शन -2) पुसिस तंद्र्यन की संस्थापना [दिनांक 25 03.22 की 8वीं एनसीटी बैठक में फतेहगढ-IV में पहले से ही अनुमोटिन भावी अंतरिक्ष प्रावधानों का उपयोग वर्तमान महीम के लिए किया जाएगा]	वाहमेर कॉफ्लेक्स) से विग्रुत प ने • 765/400 केनी 1500 एमनीए बाईमीरी-4 एक म्पेयर गुनिर सहित 13x500 एमनी ए। • 765 केनी बाईसीटी 4-4 • 240 एमवीएआर. 765 केवी बम रिएक्टर- 2 (एक म्पेयर गूनिट सहित	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड
ग्वस्थान आप नेकासी के सि गंभायित आप गार्वक्षेत्र: ा	देवेड फेब-IV (प्राप-2: 5.5 गीगामाट) (वैससपेर ए परेषण प्रवाही: प्राप ए गेरुव्यन मगथ अवांधे: एनणीवे अनग्प ये 24 प्रही रारेषण स्त्रीप का नार्यक्षेत्र 2x240 एसवीएक्षण (765 केवी) जग रिएक्टर और 2x125 (मनीएआर (420 केवी रम 1/एक्टर सहिंग 4x1500 एसवीए 155/400 केवी और 5x500 एसवीए 150/220 केवी और 5x500 एसवीए 150/220 केवी और 5x500 एसवीए 150/220 केवी जोर 5x500 एसवीए 150/220 केवी प्रतिष्ठ प्राव्याना 150/220 केवी जोर 5x500 एसवीए 150/220 केवी जोर 5x500 एसवीप 5x500 केविंग 5x500 केव	वाहमेर कॉफ्लेक्स) से विद्युत प ते • 765/400 केली • 765/400 केली • 765/400 केली वाईम्टी-4 एक म्पेवर गुनिर सहित • 765 केली वाईसीटी - 765 केवी वास रिएक्टर- 2 (एक म्पेवर गूनिट सहित 7×80 एमबीएआर)	<b>ही</b> आरईसी पावर डेवलपमेंट एंड सिमिटेड
ग्वस्थान आर नेकासी के सि गंभायिल अप क्रम स, ा	देवेड फेब-IV (माग-2: 5.5 गीगामाट) (वैससपेर ए परेषण प्रवाही: माग ए गेर्न्चयन मगथ अवांधे: एनपीवे' अनरण में 24 महीन रारेषण स्त्रीम का नार्यक्षेत्र 2x240 एम वीएअप (765 केवी) जम रिएक्टर और 2x125 एमनीएआर (420 केवी) रम निग्तरर सहिन 4x1500 एमयीए 105/400 केवी और 5x500 एम्यीए 105/200 केवी और 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी अन्ह 5x500 एम्यीए 100/220 केवी और 5x500 एम्यीए 100/220 केवी सेट 5x500 एम्यीए 100/220 केवी सेट 5x500 एम्यीए 100/220 केवी सेट राहेम्य 4x1500 एम्यीए 100/220 केवी सेट 5x500 एम्यीए 100/220 केविंग केविंग केविंग केविंग केविंग के	वाहमेर कॉफ्लेक्स) से विग्रुत प न • 765/400 केर्ना 1500 एमनीए बाईमीरी 4 एक म्येवर यूनिर सहित 13x500 एमनीएआर. 765 केवी बम रिएक्टर- 2 (एक म्येवर यूनिट सहित 7x80 एमबीएआर) • 765 केवी बम	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड
गवस्थान आव नेकासी के सि गंभायित आव गार्वसेत्र: जिम स.	देवेड फेब-IV (प्राप-2: 5.5 गीगामाट) (वैससपेर ए पारेषण प्रवानी: प्राप ए गेरुव्यन मगथ अवांधे: एनणीवे अनग्प से 24 फही रारेषण स्त्रीम का नार्यक्षेत्र 2x240 एमर्वाएकन (765 केवी) जस् रिएक्टर और 2x125 (मनीएआन (420 केवी) क्म (स्प्रिटर सहिंग 4x1500 एमर्वाए 155:400 केवी और 5x500 एमर्वाए 150:220 केवी और 5x500 एमर्वाए 150:220 केवी और 5x500 एमर्वाए 150:220 केवी अन्न 5x500 एमर्वाप 150:220 केवी अन्न 5x500 एमर्वाए 150:220 केवी अन्न 5x500 एमर्वाप 150:220 केवी अन्न 5x500 एमर्वाए 150:220 केवी अन्न 5x500 एमर्वाप 150:220 केवी अन्न 5x500 प् 150:220 केवी अन्न 5x500 प् 150:200 केवी अन्न 5x500 प् 150:200 केवी अन्न 5x500 प् 150:200 केवी अन्न 5x500 प् 150:200 केवी अन्न 5x500 प्	वाहमेर कॉफ्लेक्स) से विग्रुत प ते • 765/400 केली • 765/400 केली • 765/400 केली वाईम्टी-4 एक पोचर गुनिर सहित • 765 केनी बास रिएक्टर- 2 (एक ग्पेयर गूनिट सहित 7×80 एमबीएआर) • 765 केबी बस रिएक्टर बे-2	<b>ही</b> आरईसी पावर डेवलपमेंट एंड सिमिटेड
ग्र <b>वस्थान</b> आप नेकासी के सि गंभायित आप क्र <u>म स.</u> ा	देवेड फेब-IV (माग-2: 5.5 गीगावाट) (वैससपेर ए परेषण प्रवाही: माग ए तरेषण स्वीप का नार्यक्षेत्र 2x240 एस वीएअप १765 केवी) वय रिएक्टर और 2x125 (मनीएआर (420 केवी) रम शिएकटर सहित 4x1500 एववीए 100/220 केवी और 5x500 एववीए 100/220 केवी जोर 5x500 प्रविधान 100/220 केवी जोर 5x500 एववीए 100/220 केवी जोर 5x500 प्रविधान 100/220 केवी जोर 5x500 प्रवधान 100/220 केवी जोर 5x500 प्रवधान 100/20 केवी जेर 5x500 प्रवधान 100/20 केवी जेर 5x500 प्रवधान 100/20 केवी जेर 5x500 प्रवधान 100/20 केवी जेर 5x500 क्र	वाहमेर कॉफ्लेक्स) से विग्रुत प न • 765/400 केर्ना 15/00 एमनीए बाईस्ट्रें-4 एन म्पेचर गूनिर सहित 13x500 एमनीए 14 • 240 एमनीएआर 765 केवी बस रिएक्टर वे-2 • 765 केवी बास रिएक्टर बे-2	<b>ही</b> आरईसी पावर डेवसपमेंट एंड सिमिटेड
गवस्थान आर नेकासी के सि गंभायित आर गार्वक्षेत्र: ग	देवेड फेब-IV (माग-2: 5.5 गीगामाट) (वैससपेर ए पारेषण प्रचानी: माग ए गेरुयन मगथ अवांधे: एनणीवे अनग्प से 24 फही रारेषण स्त्रीम का नार्यक्षेत्र 2x240 एमर्वाएकर (765 केवी) जस् रिएक्टर और 2x125 (मनीएआर (420 केवी) क्य (स्प्रेन्टर सहिंग 4x1500 एनर्याए 765400 केवी और 5x500 एन्यीए 100/220 केवी और 5x500 एन्यीए 100/220 केवी और 5x500 एन्यीए 100/220 केवी अन्नि 5x500 एन्यीए 100/220 केवी अन्निक्सर-IV (सेक्शन -2) पुसिस हेन्टन की संस्थापना [दिनांक 25 03.22 की 8वीं एनर्सीटी बैठन मे फतेहगढ-IV में पहले से ही अनुमोदिन भावी अंतरिक्ष प्रावधानों का उपयोग वर्तमान मनीम के लिए किया जाएगा]	वाहमेर कॉप्प्लेक्स) से विग्रुत प ते 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	<b>ही</b> आरईसी पावर उवसपमेंट एंड सिमिटेड
गवस्थान आव नेकासी के सि गंभायित आव गार्वछेत्र: ा	देवेड फेब-IV (माग-2: 5.5 गीगामाट) (वैससपेर ए पारेषण प्रवानी: माग ए गेरुउयन मगथ अवांधे: एनणीवे' अनरण से 24 मही रारेषण स्त्रीप का नार्यक्षेत्र 2x240 एसवीएक्षण (765 केवी) वस रिएक्टर और 2x125 (मनीएआर (420 केवी) रम शिएक्टर सहिल 4x1500 एवलीए 765:400 केवी और 5x500 एवलीए 100:220 केवी और 5x500 एवलीए 100:220 केवी और 5x500 एवलीए 100:220 केवी और 5x500 एवलीए 100:220 केवी जोर 5x500 प्रत्योग 100:220 केवी जोर 5x500 प्रत्योग	वाहमेर कॉफ्लेक्स) से विग्रुत प न 765/400 केनी 15/00 एमनीए बार्ट्स्टेर्ट 4 एन पंपर गृनिर सहित 13x500 एमनीए 13x500 एमनीएआर 765 केनी बस रिएक्टर- 2 (एन पंपर यूनिट सहित 7x80 एमनीएआर) 765 केनी बस रिएक्टर बे-2 765 केनी लाइन बे - 4 [फलेहगढ़- 10] के लीलो के लिए	<b>ही</b> आरईसी पावर डवसपमेंट एंड सिमिटेड
ग्वस्थान आर नेकासी के सि गंभायित आर गार्वक्षेत्र: ग	देवेड फेब-IV (माग-2: 5.5 गीगामाट) (वैससपेर ए पारेषण प्रचानी: माग ए गेरुयन मगथ अवांधे: एनणीवे अनण्य में 24 फही 2x240 एम तीएकर (765 केवी) जग रिएक्टर और 2x125 (मनीएआर (420 केवी) रम (रेप्सर सहिंग 4x1500 एमवीए 765400 केवी और 5x500 एमवीए 130/220 केवी और 5x500 एमवीए 130/220 केवी और 5x500 एमवीए 130/220 केवी अत्र 5x500 एमवीए 130/220 केवी में रेफ्सन .2) पुसिस देशन की मंग्रधापना [दिनांक 25 03.22 की 8वीं एनसीटी बेटक मे फतेहगढ-IV में पहले में ही अनुमोदिन भावी अंतरिक्ष प्रावधानों का उपयोग वर्तमान मनीम के लिए किया जाएगा]	वाहवेर कॉफ्लेक्स) से वियुत प न न 765/400 इन्ही 1500 एमनीए बाईस्ट्रे-4 एन एक्टर पूनिर सहित 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 13×500 एमनीए 765 केवी बम रिएक्टर - 2 (एन र्मयर यूनिट सहित 7×80 एमनीएआर) 765 केवी बम रिएक्टर बे-2 765 केवी लाइन ब - 4 [फ्लेहएट-111 ने लीलो के लिए	<b>ही</b> आरईसी पावर डेवलपमेंट एंड लिमिटेड

Gel

		• • • • •	(से म्झ्पत-2) पीएस पर] 400/220 के की. 500 एस कीए आईसीटी-5 400 के की लाइन दि बे-9 400 के की लाइन दे- 2 (फ़तंहगढ-1)) (से क-2) - जीनमाल (पी जी) डी/सी लाइन के लिए] 125 एमवीए अ.र 420 के बी बस रिएक्टर दे- 2 400 के बी से क्या जा इसीटी दे- 5 220 के बी जा इसीटी बे- 7 220 के बी जी जी (2) और 220 के बी	
2.	प्रत्येक स्रोर पर प्रत्येक सीकेटी पर 50 एमवीएआर स्विचेबल लाइन रिएक्टर सहित फतेहगड-IV (संक्शन-2) पीएस - मीनमाल (पीजी) 400 केवी डी/मी लाइन (दिवन एचटीएनएम*)	• मार्ग की : •	रीबीमी (2) 220 सेक्शनलाइज़ेशन वे: <u>1 सेट</u> तंबाई: 200 फिमी फतंहगढ़-1V (सेक्शन-2) पीएम पर 50 एमत्रीएआर, 420 केबी स्विचवल ल इन रिएक्टर-2 भीनमाल (पीर्ड) में 50 एमत्रीएआर, 420 केबी, नेबने दिवचेवल लाइन रिएक्टर-2 क्तेहगढ-1V (सेक्शन-2) पीएम पर 420 केबी, 50 एमबीएआर	

	1 1	रिवचेयल लाइन
	1	रिएक्टरों के लिए
		स्विचिंग उपकरण-2
	1	) भीनमाल (पोजी) ग
		420 केवा, 50
		एमवीएअर
		स्विभवल लाइन
		रिएक्टर* के लिए
		स्विचिंग उपकरण 2
3.	765 केवी फनेहगढ़-1V -व्यायर के प्रत्येकलीला	की लंबाई: 15 किमी
	नीवेटी टी/सी लाइन (लीलो के बाद बनी) क	फतेहगढ़ IV
	फतेहगढ़- IV पीएस छोर पर 330	(मॅक्शन-2) पाएस
	एमबीएअज स्विचेबल लाइन रिएक्टर साहेत	330 
	फतेहगढ़- IV (सेक्शन-2) पोएस पर 765	एमबाएआर, 765
	किसी फतेहरह-[]]-ब्यावर डी/मी लाइन क	वेवा स्वचनन
	दोना मीकेटी का लीलो	लाइन रिएक्टर-2
	1	• फनहगढ़-1V (फेक्स्टन 2) - नीमक
		(((4*)1-2)) 104
		पर् प्रातीपःस्य 765
		त्मवार्युआर, 700 तेली जिन्हेल्ल
		कर्या सारम गिण्छ से स
		नाइन (एक्ट) ज
		יישראייב איז
		ware-2
		(मेक्शन-2) पीएस
		बोर पर 110
		एमबीएआर (765
		केवी। स्पेमर
		रिएक्टर एकन
		भरण यतिट-१
	(ि जान (गीनी) में से 400 बेनी लाइन बे	केवी लाइन बे - 2
4	भानमाल (याजा) में या 400 प्रधा या दा 400	नतम तमना महिन।
- 41441	त्र वान्द्रण पर प्रत्यक सामग्र के 2100 एक का रुगा हु 	
ાદપ્યમા	्र क्विक्सर १९ /सेव्हान,१९ के चरण-111 भाष गी।	के अंतर्गन सहस्थान में
	अगरगढन् । २ (स्व भगवान) से स्व भगवान आग्रे किंदान की लिखामी (20 मीगायाद) के	
	जिस अप्रेयचा प्रणाली वीच्यों से अद्यति है।	
Ľ.,	जन्म-15 (and 2) के अंतर्गन परिषण प्रेयरली धने	हमद्र- (४) (गेच्थान 2) मे
U	4-5 गोगावाट आर्थ्ड क्षमता की निवामी ने लिए है, जो चरण-III म्कीम के	
	प्रतगेत फ्तेटान्ट-1४ में भावी प्रावधान (दिनांत 25.03.22 को 8वी <b>एनसीटी</b>	
	रेटक में अनमी दिन) का उपगोग कर गई। है।	
10.	हतन उत्तन्तात्वर आहल का तथाद अनुमा पत्र हालना के प्रदाय पत्र के प्रायम्भय प्रदेशन के बाद प्राप्त की जाएसी।	
	गीनमाल (पीत्री) ये 400 केनी लाइन थे से में 2 के लिए स्थान के साथ-पाण	
N.	गीधकाल (पीत्री) में 400 केवी लाइन थे <i>में</i> में 2 के	ज्लेए स्थान के साथ-साल
Ν.	ोगिशाल (पीत्री) में 400 केवी लाइन थे से 2 के डिंगा दिसी सागत प्रभाष के स्विचेडल ताइन <sup>1</sup> १७	'जए स्थान के साथ-पा <b>श</b> नहरां के लिए <b>पावरग्रिड</b>
v. हा की, मी, डी, डे, एफ, प्रच 1 एन2 फेंकर का कार्यान्वयन	गर्गाधन किसा	
--	-------------------------------------	-------
3111.011		
vi. स्विचेयार लाइन सिहल्हरी की एनजीवार वार्टपांस व्यवस्था स	🕤 कार्याचित	
(केटर) जामगा)		
(ii) इस- इंग्रेन्स् केलोबेन कार्यन्त्रधन ममय अंगे\$ अन्धाण है। अंतिम	र समय अंग प्र	
आरएफर्स इस्तावेज्ञ में इंगित की जाएगी।		
राजस्थान वारईवेड केव-IV (भाग-2: 5.6 भीवाबाट) (जैसलमेराबाडमेर कॉम	व्हेक्स) से विद्युत <b>कीपीएफसी</b>	कसलिं
निकासी & लिए पारेचन प्रणाली: भाग वी	सिमिटेड	
गंभाषित कार्यान्ववन समय-नीमाः अमगीवी अनगा से 24 महीने		
कार्यक्रेप्र)		
क परिवरण स्कीम का का बीबेंद	कामाला:	
स.		
1 निरोही के पान उपराज स्थान पर 2x240 एमबाएअप (765 केवी)	• 705/400	
ओर 2x125 गमतीएआर (420 नेते.) चम सिल्कार महित 2x1500	केनी, 1500	
रम्मवीर: 765(40) केवी संच-म्देशन की स्थापना	्मचीप	
भाषी प्रावधानः	आईमीची-2	
निम्नलिखित के लिए स्थान	(एक स्पेयर	
<ul> <li>765/400 केवी आईमीटी सहित के 4</li> </ul>	यूनिट. सहित	
• 765 केवी लाइन स्विचेवल लाइन सिएक्टरो भहित व - 10	7x500	
<ul> <li>बे सहित 765 केवी बग रिएक्टर 1</li> </ul>	एमबीए)	
• वे सहित 400 केवी लाउन स्विचेबल लाइन शिएक्टर-4	• 765 नेवी	
<ul> <li>400 केवी लाइन बे-4</li> </ul>	ज़ाईसीटी बे -2	
<ul> <li>बे सहित 400 केवी दग रिएक्टर 1</li> </ul>	• 240	
• 400 केवी संक्शनत्याइजेशन बे: 2 सेट	एमत्रीएआर,	
<ul> <li>बे सहित400/220 केवी आईमीटी - 6</li> </ul>	765 केवी वस	
• 220 रुवी लाइन थे -10	रिएक्टर-2	
<ul> <li>220 केवी सेक्शनत्राइजेशनवे . 2 सेंट</li> </ul>	(एकस्पेयर	
<ul> <li>220 कंबी सीर्स<sup>*</sup> (3) एवं टीवीमी (3)</li> </ul>	यूनिट सहित	
• दो 400 केवी व सहित एमएससी (4x125 एमवीएआर) और	7x80	
एमएसआर (2x125 एमवीएआर) सहित स्टेटकॉम	एमवीप्आर )	
(2x±300 एमवीएआ <i>र</i> )	• 765 केली ब्रम	
	रिएक्टर वे-2	
	• 765 <b>के</b> बी	
	लाइन बे-2	
	[फतेहर <i>द</i> ाV	
	(सेत्रशन-2)	
	पीएस तक	
	डी/सी लाइन	
	के. लिग्गु	
	• 400 ••41	
	आईसीटी बे -	
	2	
	• 400 <b>•</b> • • • •	
	लाइन वे - 2	
	[चित्तौड़गढ़	

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SFC, 3(0)]

18	THE GAZETITE OF INDIA : EXTRAORD	DINARY	PART II-SFC. 5(1)
T	ř.	एम/एस तक	
		डी/सी लाइन	
		के लिए]	
- 1		• 125	
		एमबीएआर,	
		420 केबी क्षम	
		रिएक्टर -2	
		• 400 केवी बस	
		रिएक्टर बे-2	
		मार्ग की लवाई -	
2.	प्रत्यक होग पर प्रत्यक सांकट का लिए 240 एमेंव रुआ ति प्रविश्व किल्ट्रांट प्रतिय को गढ़ 18 (सेक्श्रेस 2) गीगरा - सिरोही	240 किमी	
	लाइन रिएक्टर सहित फतहगढ़नाए (संक्यान-2) गएस न ए एहा	• प्रतेदगढ-।४	
	पाणम 765 कवा डा/सा लाइन	(सेक्शन 2)	
		्रीमस पर	
		765 रेनी	
		240	
		240	
		्म प्रार्जन दिव ने तस्य	
		ारन	
		गाइन सिल्लाम २	
		1 (act - 2	
		• [सराहा • फिल्लान	
		पाएमपर २०६ <del>२ फि</del>	
		705 ***1,	
		240	
		एमवा र आर	
L		स्थिव ल	
		लाइन	
		ारएक्टर-2	
		• क्तहगढ़-IV	
		(संक्शन-2)	
		पन्त्म पर	
		765 कवा,	
		240	
		एमबीएआर	
		स्त्रिचेवल	
		लाइन	
1		रिएकटरों के	
		लिए स्विचिंग	
		उपत्र रण-2	
		• सिरोही	
		॑•ेः्स पर	
		765 केवेt,	
		240	
		एमबीएआर	
1		स्विचेखल	
		लाइन	
		रिएक्टरों न	

		लिए स्विचिंग	
		उपकरण-2	
	े 9 जीवल जेव पर प्रकोश गरित है लिए 80 एमबीएआर	मार्ग की लंबाई ~	
3. 1. L	मराह, पाएम छार पर प्रत्यक माकट के लिए 50 रेल सर्फार रेजेन्द्र रहे र फिल्क्स उन्हेंद्र कि टेनी पीएम जिसी धात (पीजी)	160 किमी	
	ल्याच्यल अ इने राष्ट्रदर साहते । सन् हा वार्युतन वर्ण्यत्रा⊛ ( ( नगर) ०० <del>ने पि किल्लि सन्दर</del> (काल)	• सिरोटी	
4	00 कवा डाम्सा लाइन (ब्रगड)	पीएनपुर 420	
		केवी. 80	
		एमवीएआर	
		स्विचेबल	
		लाइन	
		रिएक्टर-2	
		• सिरोही पीएस	
		पर 420 केवी	
		80	
		स्विचेवल	1
		लाइन	
		†गाक्टर`ंक	
		लिए स्विचिंग	
		उपकरण-2	
1 60	र्गनान (ती ती) तमगाम में दो 400 केवी लाइन वे	चित्तौटगढ़ (पीजी)	
4 9.91		गम/गनपर 400 केनी	
		लाइन बे-2	
5 ut	त्मन (४/ (मेक्शन-2) भीमम पर दे' 765 केवी लाइन वे	फतेहगढ-IV (सेक्शन-	
э. чл	Eug-17 (Havin-2) 1100 11 100 11 1101 1	2) णीएसपर 765	
		ोयी लाइन बे-2	
<del>D</del> ran	<del>በ</del> ት		
10~4	भा, इत्यर अल्लिविन लाउन की लबाई अनमारित है क्योंकि गटीक लं	बाई बिस्तृत सर्वेक्षण <b>क</b>	
I.	तान गाम की आधारी।		
	्वाद प्राप्त की गएए। - चित्तौ सात (पीजी) में 2 400 तेबी लाइन के बे लिए पावरग्रिड स्थ	गन उपलब्ध कराएगा।	
	फतेदगढ- IV (सम) (संक्शन-2) के विकासकर्ता फतेहगढ़- IV (	(सेक्शन-2) पीएस मे	
	ते 765 केवी लाइन थे के लिए स्थान के साथ-साथ स्विचेवल लाः	न रिएक्टर के लिए	
	स्थान उपलब्ध कराएगे।		
iu	π. ही. सी. टी. ई. πफ. πच1. पच2 पैंकेज का कार्यान्वयन संरेखि	त किया जाएगः	
- V	•ितचेवल लाइन गिण्करी को एटजीआर थाईपास व्यवस्था	गहितकायांन्वित <b>किया</b>	
v.,	भिवचेत्रल लाइन सिम्फ्टरी को मदत्रीक्षार धाईभास व्यवस्था। जामगा।	बहितकायांन्वित <b>लिखा</b>	
v.	ित्रचेवल लाइन गिण्करणे को एनजीआर थाईगाल व्यक्तथा जाएगा। ऊपर इक्तििक्सिल कार्याल्वपन समय-अवधि अभ्यर्थ्य है। अदिय	नहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b>	
v. Vi	स्थित्वेवल लाइन सिम्फ्ल्टमें को मनजीआग थाईगाल व्यवस्था जाएगा। क्रमर इक्तिनेखित कार्यास्वपन समय-अवधि अभ्यपर्यंग है। आदिक ( दरसावेज में इमित की जाएगी)	बहितकायांन्वित <b>किया</b> स्मय-भवति <b>आरएफपी</b>	
vi Vi	भिवचेत्रल लाइन सिम्क्टरी को मनजीआर अर्थगीय व्यवस्था जागरमा। इत्याचेत्र में इंग्लिक् कार्यास्वपन समय-अवधि अभ्यर्थी है। अदिय द्याचेत्र में इंग्लिक्त का लास्पी <b>धान बारईजेड फेल-1४ (धान-2: 5.5 गीमाबाट) (वेसलमर)वाड</b> मेर	नहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत	<b>बादईसी</b> पाम
্য হা মান্দ মানি বি	भित्वेवल लाइन सिम्कटरी को मदनीआर अर्थुगीय व्यवस्था जाएगा। इसर उक्तिप्रित कार्यास्वपन समय-अवधि अभ्यपर्य है। आदेक दरनावेत में इसित की लास्ट्री <b>धान बारहेजेड फेल-1४ (थान-2: 5.5 गीगायाट) (वेसलमर)वाड</b> मेर कासी के लिए परिषण प्रवासी: वाग सी	बहितकायांन्वित <b>किया</b> इधय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विस्तुत	जारईसी पान देवलपमेर: एं
्र सं की लि नेमावि	भिवचेत्रल लाइन गिण्करणे को एनजीआर अर्थशास व्यक्तभा जाएगा। इत्यत उल्लिखिल कार्यास्वयन समय-जवधि अभ्धार्था है। आदिम द्यत्ताचे त मे डॉगेत की लास्पी। बान वारहेलेड फेल-1% (धान-2: 5.5 गीगायाट) (वेसलमर/वाडमेर कासी के लिए धारेषण प्रणामी: चाग सी व कार्याल्यन जनय अवस्थि: एनपींथी अतम्पा ये 24 वहीने	बहितकायांन्वित <b>किया</b> स्वय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत	जारईसी पान देवलपमें? एं केसल्टेंसी जिमिटेव
्र राज्यस् की लि मंभाचि म्हार्यक्रेप्र	भिवचेवल लाइन गिण्करणे को एनजीआर अर्थशास व्यवस्था जाएगा। इसर इक्तिनसित कार्याल्वपन उपर-अवधि अभ्यर्थर है आदिक दरसावेत में इगित की जालगी <b>धान वारहेनेड फेल-1४ (थान-2: 5.5 गीगावाट) (वेसलमर)वाडमेर</b> <b>कासी के लिए परिषण प्रवासी: साग सी</b> व कार्याक्तकन समय अवसिं: एमपीयी अतरण में 24 महीने ह.	बहितकायांन्वित <b>किया</b> स्थय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विम्नुत	जारईसी पान देवलपमें? एं कंसल्टेंसी लिमिटेव
् राजग्र की लि कार्यक्रेर इस्म से	भिवचेत्रल लाइन गिण्करणे को एनजीआर अर्थशास व्यक्तआ जाएगा। इसर उल्लिखिल कार्यास्वयन समय-अवधि अभ्यर्थर्ग है. आदेक दस्ताचे त मे डॉगेत की लास्सी <b>वान वारहेलेड फेल-1% (धान-2: 5.5 गीगायाट) (वेसलमर)वाडमर</b> कासी के लिए धारेषण प्रणासी: काग सी व कार्याल्यान समय अवसिं: एसपींथी अतरण ये 24 वहींने ह: 	बहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत क्षलराग	आरईसी पान देवसपमेर एं कंसल्टेंसी लिमिदेव
् राज्यस् की लि ने भाषि कार्यक्रेप् क्रम सं	स्थित्वेवल लाइन गिण्करणे को एनजीआर अर्थशास व्यक्तभा जाएगा। इसर उल्लिक्सिक कार्यास्वपन समय-अवधि अम्धर्प्या है। आदेक दस्तावेत में इगित की जाएगी। <b>धान बारईजेड फेल-1४ (धान-2: 5.5 गीगायाट) (वेसलमर)याडमेर</b> <b>वास विहे दिए परिषण प्रयासी: लाग सी</b> न कार्याल्यन प्रथय अवसि: एनसीथी अतरण ये 24 वहीने <b>ए</b> <u>परिषम स्कीम का कार्यक्षेत्र</u> (2x330 एनचीगआर 1765 केनी) इस मिल्टर एवं 2x125 765	बहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत <u>क्षमरा</u> 2460 करी, 1508	जारईसी पान डेवलपमेंदर एंग कंसल्टेंसी लिमिदेव
् राज्यस की लि मधावि कार्यक्रेप हाम सं	स्थित्वेवल लाइन सिम्कटरी की एवजीआर अर्थशास व्यवस्था जाएगा। इसर उल्लिक्ति कार्यास्वयन समय-अवधि अस्थार्थी है. आदेक दस्तावेत से इमित की लास्सी वान <b>वारईजेड फेल-1४ (धान-2: 5.5 गीगावाट) (वेसलमर)वाडमेर</b> कासी के सिए धारेषण प्रणासी: भाग सी व कार्याल्यान समय अवसिं: एमसीयी अतरण ये 24 यहीने व कार्याल्यान समय अवसिं: एमसीयी अतरण ये 24 यहीने व द्र वारेषण स्कीष का कार्यक्षेत्र (पर्याण प्राव्या स्कीष का कार्यक्षेत्र (पर्याण प्राटन हो व्या रिप्टकर के साथ 38/1900) एम	बहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत असरा 2460 कर्ना, 1508 श्रीम आइंस्टिं - 2	आरईसी पाम देवसपमें? एंग कंसल्टेंसी लिमिटेन
ा राज्रह की नि मार्थक्रेर कम सं	स्थित्वेवल लाइन गिण्करणे को एनजीआर अर्थशास व्यवस्था जाएगा। इतर उक्तिविज कार्यास्वपन समय-अवधि अम्धर्प्या है आदिय रस्ताचे त मे इगित की जास्थी। बान बारद्वेजेड फेक-1% (भाग-2: 5.5 गीगायाट) (वसलमर/वाडमेर कासी के लिए परिषण प्रणामी: चाग सी न कार्याल्यन मध्य अवधि: एमसीये। अतम्या ये 24 महीने म र <u>परिषण स्थीप का कार्यक्षेत्र</u> (2x330 एनयीएआर (765 केवी) बम सिम्कर के साथ 3x1501 एम एमदीएआर, 420 केवी वम सिम्कर के साथ 3x1501 एम इन्न्यी: 765/460 केवी एम 5x500 इन्हर्यर, 406/2201 एम	बहितकायांन्वित <b>किया</b> स्मय-अवधि <b>आरएफपी</b> कॉम्प्लेक्स) से विद्युत असरा 2460 करी, 1500 थीए आइंसीटी - 3 इ. स्पन्द नुनिट क्षांत्रेन	जारईसी पान देवसपमें? एं कंसल्टेंसी लिमिदेव

hd

_	The contract of the second	I real	
	भावी प्रावचानः	चरण युचिट)	
	निस्रलिम्नित के <sup>1</sup> लेए स्थानः	40世220 市村1, 500	
	<ul> <li>765/400 केली आईसीटी चहित्र हे - 3</li> </ul>	एगबीए अडेगारी - 5	
	<ul> <li>थे भट्टिन 765 केवी अल्लाम स्वित्तेवल लाइन</li> </ul>	(220 केकी बम मजशन-1	
	ि विगामध्य - 12	(q7) 3 और 220 कवी जम	
	<ul> <li>वे महित 785 केवी बस रिएकटेंग: 2</li> </ul>	रोपशन-2 <sup>97</sup> 2)	
	<ul> <li>765 केवी मेक्शनजाइकर थे 1 मेट</li> </ul>	765 केजी आईमी री वें- 3	
	<ul> <li>विवनेवल लाइन सिएवटरों महिम 400 केवी</li> </ul>	400 केवी आईसीटी के -	
	लाइन चे – 12	8	
	<ul> <li>च सहित 400/220 केली आईसीटी - 5</li> </ul>	330 एमबॉग्ग्आर 765	
	▶ वे महिन 400 केवी थम रिएकटर: 2	केनी संस भिष्तुस्टर-२ (एक	
	<ul> <li>400 केंडी मेनशनसरकोशन है - 1 मेद</li> </ul>	-शेयम गूनित <b>सहित</b>	
	♦ 220 कमी ला≾न व. 11	7x110 एसवीएआर एकल	
	<ul> <li>220 मेंडी केल्थनमाः नेथन वे : 1 सेट</li> </ul>	चणण गूनिर्दे।	
	220 फेर्य। बीमी और टीजीनी, 1	765 केवी वर्ग सिएक्स <i>े</i> के	
	<ul> <li>स्टेटकॉम (± 300 एमवीएआर) महिल स्मप्सर्स</li> </ul>	t2	
	(2x125 एमवाएआर) और एनएसआर (1x12)	5765 केनी स <sup>-</sup> डन ये- 2	
	एनर्बाण्आर) सहित एक 400 केवी वे।	(टंदौर लाइन के लिए)	
		80 णगबीप्आर, 765 केवी,	
		1-णीएन स्पिक्टर (स्पेयर	
		यूचिट)-1	
		125 एमकीएआर, 420	
		ोबी बस रिएक्टर-2	
		400 केवी रिएक्टर बे- 2	
		220 कवी आईमीटी बे- 5	
		220 केंबी लाइन ये - 7	
		(बस संक्शन-1 पर 4 ओर	
		बस सेक्शन-2 पर 3)	
		220 केवी बम्	
		सेक्शनलाइज़र - 1 सेट	
		220 केवी टीबीसी ये - 2	
		220 केवी यीसी वे - 2	
2.	मदमौर पीएस- इदौर (पीजी) 765 केवी डी/सी लाइन	मार्ग की लंबाई ~ 200	
		किंग्म	
3.	संदर्भोग गीएस – इंदौर (पीजी) 765 केवी डी/सी लाईन के	<ul> <li>330 एमवीएआर.</li> </ul>	
	स्टर्गांग संगर पर प्रत्येक मैंकिती पर 1x330 एनकीएशर	765 টাৰী দিৱখৰল	
	विवर्धवन याहन रिएक्सर (एमएलआर)	भाइन दिएक्टर- 2	
		⊸ 765 तेवी साइस	
		िंग्रजटर के स्थिए	
		स्वित उपकरण -2	
4.	बदगौर चील्म - इदौर (पीत्री) 785 तबी डोल्मा लाइन	<ul> <li>765 কৰ্বা শাহৰ ট</li> </ul>	
	<li>मप्राप्ति के लिए उदौर (मैंजी) में 2 (ते) 765 केंसी</li>	- 2 (इंदोर (सीली)	
		27 3 123	
	नाइन व		

इत्रोर गव-स्टेशन हे तो 765 केवी जाइन वे के**लिए** गोयरविंड स्थान उपलब्ध **कराएगा** 

	जागगा		1
	ज्यार एकिलखित कार्य-ज्यन समय अवस्	धे अस्थायी हे। प्रेडिन समय अवधि आर <i>एफ</i>	ft -
	उन्हालेज के इसित की जरपती.		
-			
21202	and any file way 11 (any 2: 5.5	गीभावाँटो (जैसलमे एवाइमेर कॉम्प्सेक्स)	से पीएफसी कंस
विद्याल	विकासी के लिए परिषण प्रणाली: भाग है	r	लिमिटेव
19160	त्रेत्र अत्यान्त्रस्य स्वयं २४ स्वयं २४ स्वयं त्रेत्र आत्रान्त्रस्य स्वयं अक्षेत्रेः मगपर्यया ४	तम्बा में 24 सदीने	
-			
411441	क्रिक्र अस्टिक कर करवेमेव	%स्मतः	
15.81.		कर्ण और संसार – 260 जि.मी	
1	series and the series of the s	- mr. 5 795 ant 240	
	STAT ATCA ALEA 9-46 S C 15	- ज्यांग में २०० वस, १९७७	
	TVA A TIME S OF LAKE AND THAT FROM	Quart o	
	বেষদাৰত আওল বিদ্ৰুবৰ	THE PARTY A TRE AND	
		२ म्युसार प्रपूर्ण न 200 रथ । 240 सन्दर्भाषित स्थितनेहत्व	
		240 एनवाएआर रिवचवल	
		$\frac{1}{2} = \frac{1}{2} + \frac{1}{2} \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{1}{2} + \frac{1}$	
		• aurat H /65 har, 240	
1		एमवीएआर स्विचेत्रल लोइन	
		रिएक्टर के लिए स्विचिंग	
		उपकरण - 2	
		• मंदसौर ऐएम में 765 केवे.	
1		240 एमबीएआर स्विचबल	
1		लाइन रिएक्टर के लिए स्विचिंग	
		उपकरण- 2	
2.	ब्यावर भव-स्टेशन और मदमौर मन्न-	765 केवी लाइन वे - 4 (व्यावर सब-	
	स्टेशन में प्रत्येव में दो 765 केवी लाइन	म्टेशन ओर मदसौर पीएस पर प्रत्येक मे	
	वे :	2)	
टिप्पणी			
i	- इपर उल्लिखिन लाइट की लंबाई अन्	भानित है क्योंकि सटीक लंबाई विस्तृत	
	सर्वेक्षण के बाद प्राप्त की जाएगी।		
i.	मंद्रसौर पीएस के विकासकर्ता स्विचेवल	लाइन सिएक्टर के लिए स्थान के साथ-	
	साथ मंहमोर मज-स्टेशन में ते 765 के	ो लाइन ते के लिए स्थान प्रदान करेंगे।	
. in	ज्याचर स्वन्ध्रेशन के विकासकर्ता, स्वि	चेवल लाइन विएक्टर क लिए स्थान है	
	पाध-गाथ ज्याबर संबन्ध्रंशन में 2.76	5 वेचेर लाइन के के लिए स्थान <b>अदान</b>	
	a fill		
1.00	च डी मी डी इं. एक घवा प्रच2	पैकेला का कार्योग्वचन संपेषित <b>किया</b>	
	21111		
	ारेयचेत्रल लाइन विरुक्तरों को 116 मैंडिय	र बाईपान अवस्था के गाथ <b>कार्यावित</b>	
	the second secon	05020.002174	
	The street was seen with the second	নাই সম্প্রায়া ই। জানিম মন্নথ এবাখা	
1.1	And the de did and and and		
-	आसएकमा दस्तावच स इ.गत का मा (ग		

Gel

	নারবাল স্বায়িয় ভা কার্যনীয়	श्वमता
P. 81.	Super state of the set	240 गण्डनेगण्डार
	28240 Bear (Not Not an I and State of	246 करी <del>स</del> न
	सीत अनेवसंदर्भ विद्या प्रत्य की स्वास्त्र	ीलकटर - 2 (एक
	CATE 17 762 BH AMES A MICHING	रचेगर य <i>निट महि</i> त
		7.80
	निम्नासाखर कालए स्थान	CTRA CALL
	a wrgh 760/460 hat historia	- 765 वेली सम
	स्वयण् युग्निट माहित o	ीणकरा सं. १
	Letter size triage and coo	786 केन्द्री जाइन <b>म</b>
	aval Mishia - D A - Chi ava tech eta Chiva Chiva	e 1765 <b>ad</b>
	Define the Russe of the Aco	विभोगे समय
		जन्महोत्र जन्मी?
	지지 전쟁이 하는 아이지 않는 것	रीयांत लादन और
	3 460 관계 제16년 전 44 2 100 - 100 전 문 27 (2017) 2 2	STAR IN
	्र य महिने थे <u>।</u> ) क्या वेम (गण्डेहर 3) (20 के 1) से संस्थान सम्पन्नियन से: 2) मेर	रहेशन घर 705
	उ 400 कवा सत्रश्र नलाइज्ञ्यन व. 2 सट ने प्रतिप्र 400/020 केली आर्टगी री. 6	केवी चित्तोदगढ-
	o ब साहत 400/220 कवा आइसाटा- ठ	बनासकाता ही/मी
	ੇ 220 ਨਵੀਂ ਗੱਤਜ ਕ-10 200 <del>ਦੇ 11 ਸੋਤ ਕਰ ਤੋਂ 10 ਸੋਤ</del>	लाइन के एक
	220 कवा संस्थानलाइज्यान ब. 2 संद	भाईर के लीतों के
	े 220 केवी बीसी (3) देवी टावीसी (3)	विन्न)
	$\sim \pi z z z z z \pi \pi (2 \times \pm 300 \ (\pi 4 \pi 10^{-3}))$	1.1.57]
	नमागससा (4x125 इमराएशर) आर	
	र्मग्रम्भार (2X125 ६+वाएआर) स इस	
-	(1400  trains)	र्ज ही अतार्ट - 170 किमी
	निरोही छार पर प्रत्यक सांबर व लिए 550 म	• किरोडी एफिस पर
	एमजग्रुआर स्विचवल लोटन रिएक्टर नोहत	765 केवी 330
	ामराहा पाएस- ऋषभदत 705 कवा डारमा ल इन	गमनीएथर स्विचेबल
		वाटन गिल्सर- 2
		• भिरोनी पीएस में
		• सिर्देश संस्थाय 765 केवी 330
		गण्ड प्रथा, 550
		ल्मपाएज सार्यप्रमा बादन सािक्टरों के
		जाइन रिल्प्स् स लिग सिंब चिंग
		न्यकरण -2
		• सिरोडी पीएसपर
		110 एमबीएआर
		(765 केवी) संदेयर
		(100 क्या) र कर
		गणि-1
_		र्ण की जवाई 100 किसी
	ऋषभदेव छार पर प्रत्यक गांकर का लए 240म	ा का लब ६ - 100 किम - सरग्रदेन में 765
	र्मवीएआर स्विचेद्रल लाउन रिएक्टर सहित	• স্থেমবেল / ৩০ <del>১.ব</del> . ০০০
	ऋषभदव - संदर्भौर पीएस 765 कवी डो/सी लाइन	कवा, ∠40 फ <del>ाउंग्रिय: का िर्हेड</del>
		एमवाएआर स्विचबल
		लाइन रिएक्टर – 2
		• त्रध्यभदव म /65

Gel

	ो जेवी २	10		
	यत्पा, टः	+0 भार स्विचेवल		
	्य दा दन	गावटरों के		
	वित्र सि	रचिंग		
	39470	- 2		
		लवाई~ 20		
1	अनुषेभदव सव-स्टर्गन (20 जिना) के 700 की तो तर के भिन्दी स्वर सवरप्र ही/सी लाइन के एक सर्किटकिसी			
	ाचत इगल-बन समय डाग्गा गारने हे हे गाल्या र का तीलो			
	कि सेना ति सेने ही प्राप्त और मंदसौर सब स्टेशन में प्रत्येक में • 765 है	ग्रवी लाइन वे		
,	$= \frac{1}{2} \frac{1}{765} = \frac{1}{361} = \frac{1}{3$	सेरांई। पीएस		
	और म	दसौर पीएस		
	पर प्रत	प्रेक में 2}		
टिप्प	णी:			
i.	ऊपर उल्लिखित लाइन की लंबाई अनुमानित है क्योकि सटीक र	तंबाई विस्तृत		
	सर्वेक्षण के बाद प्राप्त की जाएकी			
iı.	सिरोही पीएग के विकासकर्ता स्पेयर युनिट सहित स्विचेबल लाइन	। रिएक्टरों क		
	लिए स्थान के साथ सिरोही पीएस में दो 765 केवी लाइन वे के लि	गस्थान प्रदान		
	त्र रेगे।	1.1.0.		
iit.	मंदसोर पीएस के विकासकर्ता मदगौर पीएस में 2 765 कर्ता लाः	त्व के लिए		
	स्थान उपनब्ध कराएँगे। २०२० - २०४४ - २०४४ - २०४४ - २०४४ - २०४४ - २०४४	O Down Street		
	म् की से' हो ह, एक एच', एच2 प्रकार की लावास्वयन क	and with		
	जाएगा	100000000000		
	A D L THE THE AT A D THE THE AT A D THE AT A	81211 40		
	स्विचेचन लाइन सम्बद्धमं को एनजीवान वादेशान व्यवस्था के मा जिन्ह जननगर	कार्या वित		
	<ul> <li>त्रियचेक्क् लाइन प्रमुख्यमं को एनजीआप कार्यपार्थ व्यवस्था के भा किया जाएगा।</li> <li>त्राप्र प्रदेवकिंग कार्यप्रियम् समय अवधि अम्थायां है। प्र'तन</li></ul>	्कासीवित समय अवधि		
	रिवचेवल लाइन उएक्टरो को एनजीवार कार्टपाल व्यवस्था के भ किया जाएगा। इपर उप्तेनकिन कार्यान्वपन समय अवधि अम्थायों है। प्र'तन भारतकरी अन्यविज में ईपिन की जाएगी।	ः कार्यावित समय अवधि		
ाजस्थ	रिवचेयन लाइन 'सम्प्रहर'। को एनजीआन कार्थनम् व्यवस्था के म लिया जाएगा। उपर उन्हेनकिन कार्या-वयन रामन अवधि अम्थायों है, प्र'तन आग्रएहरी। उम्दावज में इंगिन का जाएगी। जिसलमेरावाइमेर की	ः कार्यावित गमय अयधि क्लोकस) से विद्युत	पीएफसी	कससि
उजस्थ नेकार्स स्माबि सर्ववेग्	रियमेक्स लाइन उएक्टरो को एनजीवार कार्थ्यास व्यवस्था के म लिया जाएगा। इतर उप्तिक्रिय बार्या-व्यव रापर अवधि अप्थायों है। प्रतिम आरएफ्टी अन्दायेज में ईपिन के जाएगी। जिसलेम्प्रेव वरण-1४ (माय-2: 5.5 वीगाबाट) (जैसलमेर)बाइमेर की के लिए पारेषण प्रणाली: प्राय एफ (बाय एफ) बौर एफट को जोड़कर त कार्यान्वयन समय अवधि: एसपीवी बंतरण से 24 महीने	ः कार्याचित गमय अवधि क्लिकस) से विद्युत )	पीएफसी विमिटेड	कसस्टि
उजस्थ नेकार्स श्मावि कार्यवेग	रिवयेक्स लाइन उएक्टरो को एनजीवान कार्थ्यान व्यवस्था के म लिया जाएगा। उपर उप्तेनकिंग बार्या-वयन रामग अवधि अम्थायां है अ'तम आरएहरी। उम्दावज में इंगिन का जाएगी। जि लारह्यिक जरण-1४ (माय-2: 5.5 मीगाबाट) (जैललमेर)बाइमेर क के लिए पररेषण प्रणाली: भाग एफ (धान एफ) और एफट को जोडकर त कार्यान्वयन समय अवसि: एसपीनी बंतरण से 24 महीने गरेषण स्लीम का जायीबेन	थ कार्याचित गमय अयधि किल्लेक्स) से बिस्तुत अस्पत्ताः	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स समावि क.स.	रिवचेयन लाइन उएक्टरो को एनजीआन कार्थनम व्यवस्था के म लिया जाएगा। इत्यर उन्हेन-क्रिन कार्या-वयन रामग अवधि अम्थायों है. प्रतिम आरएइटी अन्दावेज में ईपिन का जाएगी। जि लिए परेरेषण वजाली: प्राय एक ध्यान एक! और एकट को जोडकर के लिए परेरेषण वजाली: प्राय एक ध्यान एक! और एकट को जोडकर त कार्यान्वयन समय अवसि: एसपीयी वंतरण से 24 महीने । वारेत्वय स्कीम का कार्यसेव (x240) एनवीएआर (755) केवी) जस न्याकर और 2x125	थ कार्याचित ममय अवधि किल्लेक्स) से विस्तृत ) - अवता - 765/400 केसी	पीएफसी लिमिटेड	कससि
तजस्थ नेकार्स समावि कार्यवेग	रिवयेवल लाइन रएक्टरो की एनजीवान कार्थनेन व्यवस्था के म लिया जाएगा। जनर उन्निकीन बार्या-वयन रामरा अवधि अम्थायों है अ'तम आरएहरी। इन्दावज में इंगिन का जाएगी। जि लारह्यिक वरण-1४ (माय-2: 5.5 मीगाबाट) (जैललमेरांवाइमेर क के लिए पररेषण वणाची: भाग एक (बाग एक) बौर एकट को जोडकर त कार्यान्वयन समय वबसि: एसपीनी बंतरण से 24 महीने दि होरेषण स्लीम का कार्यसेव हारेषण स्लीम का कार्यसेव (स्वर्य स्लीम का कार्यसेव (स्वर्य स्लीम का कार्यसेव (स्वर्य स्लीम का कार्यसेव	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>म्व्लेक्स) से विद्युत</li> <li>क्ललता</li> <li>765/400 कवी</li> <li>1500 एडगे</li> </ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स सर्मावि सर्मतोग क.स	रिवचेवल लाइन रएक्टरो की एनजीवार कार्थ्यान व्यवस्था के म लिया जाएगा। इत्यर उप्लेनकिंग बार्या-वयन रामग अवधि अम्थायों है अतिम आरएइट्री अन्दावेज में ईपिन की जाएगी। नि वारह्येक वरण-1४ (माय-2: 5.5 मीगावाट) (जैललमेरज्वाइमेर क के लिए पररेषण वणाली: प्राय एक ध्यान एक1 बौर एक2 को जोड़कर ते कार्यान्वयन समय अवधि: एसपीयी वंतरण से 24 महीने दि रार्ट्वय स्कीम का कार्यवेव देर240 एववीएआर (765 केवी) चल भिषकर और 2x125 एमवीएआर (420 केवी) जन भिष्कर पहिन 3×1500 एमवीए (65/400 केवी; और 2x500 एमवीए, 400/220 केवी काइमेर-	<ul> <li>कारगो वित ममय अवधि</li> <li>मय्जेक्स) से विस्ता (क्रांग्ला)</li> <li>(सवहा)</li> <li>(सवहा)</li></ul>	पीएफसी लिमिटेड	कससि
तजस्थ नेकार्स समावि क.स.	रिवयेक्स लाइन रएक्टरो की एनजीवान कार्थ्यान व्यवस्था के म लिया जाएगा। जनर उन्निकींस बार्या-वयन रामरा अवधि अम्थायों है अर्थित आरएहरी। इन्दावज में इंगिन का जाएगी। जि लारह्यिक वरण-1४ (माय-2: 5.5 मीगाबाट) (जैललमेरजाइमेर क के लिए पररेखम वणावी: प्राय एक (बास एक) बौर एकट को जोडकर त कार्यान्वयन प्रस्त वबदि: एसपीनी वंतरण से 24 महीने विकार्यान्वयन प्रस्त वबदि: एसपीनी वंतरण से 24 महीने होत्र का विकार की व्यवस्थित का लाग्रिया का प्राय होत्त स्थान की स्थापना	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>मिन्द्रेक्स) से विस्तृत</li> <li>मन्द्रेक्स) से विस्तृत</li> <li>मन्द्रेक्स</li> <li>मन्द्रेक्स</li> <li>मन्द्रेक्स</li> <li>मन्द्रिक्स</li> <li>मन्द्रिक्स</li> <li>मन्द्रक्स</li> <li>मन्द्रक्स</li> <li>मन्द्रिक्स</li> <li>मन्द्रक्स</li> <li>मन्द्रक्स</li> <li>मन्द्रिक्स</li> <li>मन्द्रक्स</li> <l></l></ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स सर्मावि सर्मतोः	रिवचेयन लाइन रएक्टरो की एनजीआन वार्थने व्यवस्था के म लिया जाएगा। इतर उन्नेनसिन वार्या-वयन रामग अवधि अम्थायों है अतिम आरएएइने अन्दावेज में इंगिन का जाएगी। जिस वार्यवेज वरण-1४ (माम-2: 5.5 मीगाबाट) (जैललमेरम्बाइमेर क के लिए परेवेण वणाली: प्राय एफ ध्वान एफ1 और एफ2 को जोडकर के लिए परेवेण वणाली: प्राय एफ ध्वान एफ1 और एफ2 को जोडकर त कार्याव्यन समय अवधि: एसपीयी वंतरण से 24 महीने द्व रारेव्य स्तीम का कार्यवेव विद्य येग प्राय की डिक्स का कार्यवेव किस्टा प्राय विद्य स्तीम का कार्यवेव दिस्ट्र240 एटवीएआर (765 क्षेत्री) चल न्दिन स्ट्रिय और 2x125 एमजीएआर (420 केवी) जन न्दिल्सर पहिन 3x1500 एमजीए (65,400 केवी, और 2x500 एमजीए, 400/220 केवी काइमेरन इति स्ट्रेश्वन की स्थापना वायी प्रावजान:	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>मय्जेक्स) से विसृत</li> <li>म्वलाः</li> <li>/स्वतः</li> <li>/स्वतः</li> <li>/स्वतः</li> <li>ग्रियाः</li> <li>ग्रियाः</li> <li>ग्रियाः</li> <li>ग्रियाः</li> </ul>	पीएफसी विमिटेड	कससि
तजस्थ नेकार्स सर्मावि क.स	रिवयेक्स लाइन रएक्टरो की एनजीवान कार्थ्या से व्यवस्था के म लिया जाएगा। इतर उन्नेनकिंग बार्या-वयन रायग अवधि अम्थायों है अ'तम आरएहरी। इन्दावज में इंगिन का जाएगी। जि लारह्यिक वरण-1४ (भाष-2: 5.5 मीगाबाट) (जैललमेरज्वाइमेर क के लिए परेदेया प्रणाली: भाग एफ (धान एफ) बौर एफट को जोडकर त कार्यान्वयन प्रमय अवधि: एसपीनी वंतरण से 24 महीने विकार्यान्वयन प्रमय का विकार्यान्वयन की स्थापना प्राची प्रावजान: निकासिक्षित के लिए स्थान	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>मम्बेस्स) से बिस्त</li> <li>ग्रिडेस्स) से बिस्त</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> <li>ग्रिडेस्सिन</li> </ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स सर्मावि क.स	रिवचेक्य लाइन रएक्टरो की एनजीआन वार्थ्यान व्यवस्था के म लिया जाएगा। इतर उन्नेनसिन बार्या.auन रामग अवधि अम्थायों है अतिन आरएएइरी अन्दावेज में इंगिन का जाएगी। जिस विष परेषण वणासी: प्राय एक ध्यान एक1 और एक2 को जोड़कर के लिए परेषण वणासी: प्राय एक ध्यान एक1 और एक2 को जोड़कर त कार्यान्वयन समय अवसि: एसपीयी अंतरण से 24 महीने दि रा राहेद्र/400 केवी, जोर 28500 म्मनीम, 400/220 केवी काइमेरन इसिय स्थापना वायी प्रावजान: निकसियित के लिए स्थान के सहिन 765/400 केवी आईमीडी -3	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>मय अवधि</li> <li>मयजेक्स) मे विसृत</li> <li>अव्हेसीरी- अव्हेसीरी- एक स्पेयर पुनिर संहित</li> <li>गिर्फ्सारीप ग्यापीए। ग्यापीए।</li> <li>765 केवी</li> </ul>	पीएफसी चिमिटेड	कससि
तजस्थ नेकार्स समावि क.स	रिवचेदन लाइन रएक्टरा को एनजीवार वार्ट्यान व्यवस्था के म लिया जाएगा। जगर उप्रेनेकिन बार्या-वयन रायम अवधि अम्थायों है अर्थित आरएइटी। इन्दावज में इंगिन का जाएगी। जि लारहेवेक वरण-1४ (भाष-2: 5.5 मीगाबाट) (जैललमेरज्वाइमेर क के लिए घरेखण वणावी: व्यय एफ श्वाम एफ1 बौर एफ2 को जोडकर त कार्यान्वयन प्रमय अवधि: एसपीयी वंतरण से 24 महीने रार्व्यवन्यन प्रमय को स्थापना मायी प्रावहाले निक्रसिथित के लिए स्थान के सहिल 765/400 केवी आईमीडी 3 स्वचेवन लाइन शिएनटग गाहल 765 कवा लाइन व -4	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>म्वलता</li> <li>(त65/400 केंग्री)</li> <li>(एक स्पेक्स)</li> <li>(एक स्पेक्स)</li></ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स कार्यवोग क.स	रिवर्धवन लाइन रएक्टरां की एनजीवान कार्थ्यान व्यवस्था के म किया जाएगा। जबर उप्रेनेकिन बार्या-वयन रायम अवधि अम्थायां है अ'तम आरएहरी। इस्तावेज में इंगिन का जाएगी। जिल्लारह्विक चरण-1४ (माच-2: 5.5 मीगाबाट) (जैललमेर)बाइमेर की के लिए पारेवण वणाची: व्यव एक (बाग एक) और एक2 की जोड़कर ते कार्यान्वयन समय वबवि: एसपीनी बंतरण से 24 महीने दि रार्यवयन समय वबवि: एसपीने बंतरण से 24 महीने देखव्यन समय 28500 म्प्सांग स्थापना के संहल 765/400 केवी आईमी ही -3 के सिंहर 765/400 केवी आईमी ही -3 के सोहन 765 केवी वस 19एनटन: 1	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>ममय अवधि</li> <li>म्वलाः</li> <li>/सवतः</li> <li>/सवतः</li> <li>/सवतः</li> <li>/स्वतः</li> <li>ग्रिप्तार्थः</li> </ul>	पीएफसी चिमिटेड	कससि
तजस्थ नेकार्स हार्यवोग क.स	रिवचेयन लाइन रएक्टरा की एनजीवार वार्थ्यान व्यवस्था के म लिया जाएगा। जगर उप्रेनेकिन वार्या-वयन रायग अवधि अम्थायों है अतिम आरएएइरी। इन्दावज में इंगिन का जाएगी। जिस लारहेवेक वरण-1४ (भाष-2: 5.5 मीगावाट) (जैललमेरस्वाइमेर क के लिए पारेखण वणाव्वी: प्रसाप एफ श्वाम एफ1 बौर एफ2 को जोडकर त कार्यान्वयन समय अवधि: एसपीयी वंतरण से 24 महीने रारिखण स्तीम का कार्यवेव दर240 पंग्ववीएआर (755 केवी) प्रस पितंकरर और 2x125 एमबीएआर (420 केवी) वन पिल्स्टर पहिन 3x1500 एमबीए 765/400 केवी; और 2x500 एमबीए, 400/220 केवी काउमेरन इतिन स्टेशन की स्थापना माथी प्रावकाल. निवचेवन लाइन 24500 केवी आईमीरी -3 े सिवचेवन लाइन 24 प्रतन्तरा गाहन 765 केवी लाइन व्यन्ध ब महिन 765 केवी व्यापना १ प्रावस्था गाहन 765 केवी लाइन व्यन्ध ब महिन 765 केवी व्यापना १ व्यापना व के महिन 765 केवी आईमीरी -3	<ul> <li>कार्या वित ममय अवधि</li> <li>ममय अवधि</li> <li>म्वल्ता</li> <li>ग्रिप्तेक्स) के विद्युत ग्रिप्तेक्स) के विद्युत ग्रिप्तेक्स (एक स्वेयर जुनिट संदित 10x500 ग्रिप्तेप्रि)</li> <li>ग्रिंट केवी प्रग्रेभारी वे-3</li> <li>240 एमवीएआर</li> </ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स कार्यवोग क.स	रिवयेक्स लाइन रएक्टरा की एनजीवान कार्थ्यान व्यवस्था के म लिया जाएगा। जगर उन्नेनकिंग बार्या-वयन रायग अवधि अम्थायां है अर्थन आरएन्हरी। इस्तावेज में इंगिन का जाएगी। जिस लारह्यिक चरण-१४ (भाष-2: 5.5 मीगाबाट) (जैललमेर)बाइमेर क के लिए पारेखण वणाची: व्यव एक (धान एक) बौर एकट को जोड़कर त कार्याल्यचन समय वबसि: एसपीनी बंतरण से 24 महीने दि रार्यव्यक नराव्य स्थापना प्रातील्यन (420 कंबी) जन भिष्करण पहिन 3×1500 एमडी ए एमवील्यन की स्थापना हलिंग स्थलन की स्थापना वासी प्रावझाने. निससियित के लिए स्थान के सहिल 765/400 केवी आईमीडी -3 दि संबर्यन नाइन शिएक्टरा गाहल 765 कवा लाइन व -4 बे महिल 765 केवी क्य भिएतटरा 1 के 460 केवी आइन वे -4 दि स्ववेवन नाइन रिएक्टर साइल 400 केवी याइन वे -4	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>म्वर्वेक्स) मे विद्युत</li> <li>म्वर्वेक्स</li> </ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स हार्यवोग क.स	रिवर्चवन लाइन रएकटरा की एनजीवार वार्थ्यान व्यवस्था के म किया जाएगा। जगर उंग्रेनकिन बार्या.बयन रामरा अवधि अम्थायों है अभि आरएहरी। इस्तावज में इंगिन की जाएगी। जिसलमेरावाइमेर की जाएकरी के एकट की जोड़कर ते कार्याल्यवन समय अवसि: एसपीयी वंतरण से 24 महीने त्वारेव्यवन समय अवसि: एसपीयी वंतरण से 24 महीने के सहिल 765/400 केवी अन्द्रमारा, 460/220 केवी काट्रमेरन के सहिल 765/400 केवी आर्ट्सीरी -3 त्वारेव्यवन लाइन रिएनटरा गहिल 765 कवा लाइन व -4 के महिल 765 केवी यथ 12 पतरा; 1 400 केवी आडन वे -4 त्वाहेल 400/220 केवी अर्डमोटी -8	<ul> <li>कार्याचित</li> <li>ममय अवाधि</li> <li>ममय अवाधि</li> <li>म्विकोक्स) के विकृत</li> <li>म्वकोक्स) के विकृत</li> <li>म्वकोक्स) के विकृत</li> <li>म्वकित</li> <li>म्व</li></ul>	पीएफसी बिमिटेड	कससि
तजस्थ नेकार्स कार्यवोग क.स	रिवचेवल लाइन एएक्टरो की एनकीआर वार्टपार्थ व्यवस्था के म किया जाएगा। जयर उन्हेनकिन बार्या.बयन रामरा अवधि अम्थायों है अ'तम आरएगहरी। इस्तावज में इंगिन की जाएगी। जिस वारदेखेंक वरण-14 (माय-2: 5.5 मीगावाट) (वैसलमेरावाडमेर की के लिए पारेखन वणाकी: प्राय एक (बाग एक) बीर एकट की जोडकर ते कार्याव्ययन प्रमय व्यवसि: एसपीदी वंतरण से 24 महीरे दे विस्वियन प्रमय व्यवसि: एसपीदी वंतरण से 24 महीरे दे यादिवय स्कीस का कार्यखेंच (मंत्रियन की ग्रेडि इंगी) जस पिनवरर और 24125 एमजीएशर (420 कंवी) जस पिनवरर गहिन 3×1500 एमजीए (किस-2400 कंवी) जम पिनवरर गहिन 765 केवी काइन व -4 ) स्विचेवल लाइन सिएनटर गहिन 400 केवी पाइन व -4 ) स्विचेवल लाइन सिएनटर शहेन 400 केवी पाइन व -4 ) के महिन 203/220 केवी अडमीटी -8 ) जे महिन 403 की जम रिएकटर 1	<ul> <li>कार्याचित</li> <li>ममय अवधि</li> <li>म्वव्योक्स) मे विद्युत</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्वव्या</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्विया</li> <li>म्वया</li> </ul>	पीएफसी बिमिटेड	कससि

[PART II SFC. 3(ii)]

224

## THE GAZLTTE OF INDIA EXTRAORDINARY

24	THE GAZLITTE OF INDIA EXTRAORDINARY	[PART II	SFC. 3(ii)
24	THE GAZETTE OF INDIA EXTRAORDINARY         c       आगई अनुप्रदेशों भी कनक्टिविरी के लिए 220 केवी लाइन -10         c       220 केदी मेश्वगलवाइजंशन वे 3 मंट c       765 केवी मान रिएसटर वे-2         c       220 केदी मेश्वगलवाइजंशन वे 3 मंट c       765 केवी वाइन के 2 (भिग्देष्टी प्रायत्मभी (4x125 एमवीएआर)) माथ-साथ दो 400 केवी वे         माथ-साथ दो 400 केवी वे       गाय-साथ दो 400 केवी वे         प्रायत्मी (3)       गाय-साथ दो 400 केवी वे         प्रायत्मी (4x125 एमवीएआर)       गाय-साथ दो 400 केवी वे         प्रायत्मी (3)       गाय-साथ दो 400 केवी वे         प्रायत्मी (4x125 एमवीएआर)       गाय-साथ दो 400 केवी वे         प्रायत्मी (3)       गाय-साथ दो 400 केवी वे         प्रायत्मित केवी वे       गाय-साथ दो 400 केवी वे         प्रायत्मी (1)       गाय-साथ दो 400 केवी वे         प्रायत्मित केव       गाय-साय दे         प्रायत्मित केव       गाय-साय दो 400 केवी वे         प्रायत्मित केव       गाय-साय दे         प्रायत्मित केव       गाय-साय दे </th <th>[PART II</th> <th>SFC. 3(11)</th>	[PART II	SFC. 3(11)
	III (सेक्शन-2)         पीएन ग         दी/सी लाइन के         विए;         220 कवी         प्रीटी बे- 2         220 कवी लाइन         दे 4 (आर्ग         कनक्रि:बिटी के		
	<ul> <li>16-२)</li> <li>220 केवी बीसी (1) और टीबीसी (1)</li> <li>2 फतेहमड़-Ш (मेक्शच-2) भीएम-बाइनेर-I पीएम 400 केवी डी/मी मार्ग की लवाई ~50 लाइन (ब्राह)</li> <li>3. प्रत्येक छीर पर प्रत्येक सर्किंट के लिए 240 एसवीएआर स्विचेवल मार्ग की लवाई</li> </ul>		
	लाइन रिएक्टर सहित बाइमर-1 पएस- ासराह्य प एस 705 केव ~200 कमा डी/सीलाइन 765 केवी, 240 एमवीएआर स्विचेबल साइन रिएक्टर - 2		

भारत को रहजगत्र : असाधारण

1		षीएन पर
		765 के बी
		240
		छम बी∘एआर
		रिवनेबल
		लाइन
		रिएक्टर - 2
		• बाइमेर-[
		षीणसपर
		765 ≹.∮*
		240
		र गवीं ग आर
		ित्वेत्रल
		नाइन
		रिमक्रमों के
1		लिए स्विचिग
		विकरण -2
		- <del>Diriel</del>
		240
		240
		ण्मवाण्आर चित्रीयर
		স্বৰ্বণ।
		लाइन २
		Duran a
		विकास सम्बद्ध ग
		सम्बन्धण −2 :
1.	फतेहगड़ ।।। (गेक्शच-2) 'ीएम में 2,400 बंबी लाइन चे	फनतगडनम् ।
		(स⇒शत-,2) मेगाल म
		400 केवी आहल थे। 
-	Share from the State and street at	् जिसोदी शीएस भी
P.	HANALA PARA PLACE WALKS AND A	265 केनी लाइन थे -
		2
121124	î:	
	फ़गर दल्लिमित आइन की लंबाई अनुमालिन है क्योंकि सर <sup>9</sup> न	. जवाई निरम्ह <del>मर्पेक्षण न</del> े
	बार्ड प्राप्त की जनगणी	
	जिसोही गौधम के विकासकर्ता स्वितंत्रत नाटन विएक्टर के समय के समय के सिकासकर्ता स्वितंत्रत नाटन विएक्टर के	किंग स्थान न साथ-साथ केंद्र
	वियोही पीछन में दो 765 केकी साइन में के 'लग मधान प्रदान	4. CM
	- फतेहगढ़-III पीएल (मेक्शर 2) के जिलासमती फतेहराइ-III	र्षणरु (मेनशत-2) में लो
1	400 केवी 1215न वे के लिए स्थान अपलब्ध कराएँहा	
iv.	विज्ञचेयल लाइन विपन्दर्ग की एसनीआर वाइंपाय न्यवस्था	क माथ कायान्त्रित किया
	-गाएग"।	
	क की की दें का प्राप्त 1 अन्द्र गरूना का कार्या-604 में	रवित किंद- वाएना।
	A set of the set of th	
	उत्तर इल्लाम्बेह कार्यास्वयन रागम अवधि अम्धाव्य हा आग	ল পল্প কৰাই সাহস্পতা
	हरूतालन म राजन का आगगी।	

।जस्थान आर्र्डवेड चरण-IV से विद्युत की निकासी <sup>हे</sup> गिगवाट) (वैससचेर)काटमेर कॉस्टलेक्स): धरग एच1 फ़ाधित कार्याल्वरज नगरय-मीमा: एगर्पाची अंतरण में : गर् <b>यकेव:</b>	h लिए जरेवण प्रणाली (माग-2 : 6.6 24 माह	आरईसी पाव <b>ं डेवलपमें</b> एड कसल्टसी सिमिटेक
गरणण स्कीम का कार्यक्ष           २८३३०         ज्यानी प्रजार 765 केले जग           रिएक्टर के माथ 765/400 तेवी           २४३००         ग्रावा रिएक्टर के माथ 765/400 तेवी           २४३००         ग्रावा रिएक्टर के माथ 765/400 तेवी           २४३००         ग्रावा राज्यते के 220/132 केवी           २४३००         ग्रावा हा हा हा राज्यते की           २४३००         ग्रावा हा हा हा राज्यते की           २४३००         ग्रावा हा हा राज्यते की           २४३००         ग्रावा हा राज्यते की           २४२००         ग्रावा हा राज्यते की           २४००         ग्रावा ता राज्यते की           २४	- 765:400 कवी 1500 एमर्नाग आरंभीरी – 2 (एक वोक ग्रॉनेंट नहीं 500 एमर्नाग ते 7 एकन एन्टिंगे) - 400:220 केनी 500 एमर्नाग आरंभीरी – 2 - 220:132 वर्न 200 एमर्नाग आरंभीरी – 3 - 765 केनी आरंमीरी के - 2 - 400 कवी आईनीरी के 3 - 330 एमवीएआर 765 केवी वस रिएक्टर-2 - 125 एमवीएआर 420 केवी वस रिएक्टर-2 - 125 एमवीएआर 420 केवी वस रिएक्टर-2 - 765 केवी रिएक्टर वे - 2 - 765 केवी लाइन वे - 4 - 400 वेवी लाइन वे - 4 - 132 वेवी टीबीसी – 1 - 110 एमवीएआर, 765 केवी. - 1 पीएच रिएक्टर (स्पेयर यूनिट)-1 - 80 एमवीएअर, 765 केवी. - नीएच रिएक्टर (स्पेयर यूनिट)-1	

· -

hel

227

2	<b>मंदसीर</b> कुरावर 765 केली डी/भी लग्डन	कर्ण की लंबाई: 2 <b>35</b> फि <b>म</b> े
	मंदसौर कुर पर 765 केवी डी.सी माइन के	<ul> <li>240 एमबीएआर, 765 केवी</li> </ul>
	दोनों जेंग पर प्रत्येक मीत्रेरी पर 240	रिवच्चल आइन सिएक्टर - 4
	एमबीए अन् फ्वाबचल लाइन लिएक?	(सदमीय छोग के सिम 2 और
	0.000000000	कुरायर छोर के लिए 2)
		<ul> <li>765 केवी साहस दिएसट के</li> </ul>
		विष् स्वित्तित उपयत्वनः अ
		(मंदलीर छोर के लिए 2 और
		्रमावर छोग के 549 2)
	मडमीर-कुरावर 765 वेळी डी/सी लाइन	765 केवी जाडन के - 2
	को मगान नथने के लिए मंदर्श / एम/एन	(संदर्गोत छोर के लिए)
	म 765 कला भारत वे सी 2	
	करावर में इंदोर-भोषाल 765 केवी	लोवों मार्ग की अलाई 15 किमी
	ण <b>एस</b> की लाइन का बीलो	
	<b>क्रावर</b> आफा 406 नेजी डोएमी (श्वार	मार्ग की नंदा है। 65 किसी
	एसीएसआर/गणग्रही/गण्ड59 जुल	
	सम्बत्ल्य) लाइन	
	कराबर-आधा 400 केवी टी/मी लाइन के	400 केवी लाटन बे– 2 [आष्ठा (मध्य
	ममापन के लिए आछा (एमपी) एम/एस	प्रदेश) छोग के लिए]
	पर 400 नेवी लाइन के की 2	
	आष्ठा पर इदौर-इटारसी 400 केवी डी/सी	लीले⁺ मार्ग की लंबाई: 30 किमी
	लाइन के एक सर्बिट का लीला	
).	अग्रा में इंदौर-इटारसी 400 कवी डी/मी	400 केवी लाइन के _2 [आष्ठः (एमगी)
	लाइन के एक सर्किट के लीजों के लिए	छोर के लिए]
	अन्धा (एमपी:) एस/एम पर 400 केवी	
	लाइन थे नी 2	
0.	शजालपर - गुरावर 400 केवी ही/मे	मार्ग की लवाई: 40 किमी
	(काड एमीएगआर/एएएमी/एएल59 मूस	
	समत्तन्य) लाइन	
1.	शजालपर-करावर 400 केवी डी/सी लाइन	400 केबी लग्डन वे - 2 [शुजालपुर
	ममाम करने के लिए शुजालपुर (पीजी)	(पीजी) छोर के स्टिप्]
	एस/एम पर 400 केवी लाइन थे की 2	
प्पणी-		11
COLUMN.	उच्चित्रधिर सम्पन की संसाई अनुमाहित हे क	ग्रेंकि सटीक लंबाई विस्तृत सर्वेक्षण के बाब
	ाम होगी।	
	जनवीभीदीमाहल ने आहा (एमगा) एम/एल	मे 400 केली भी 2 के सिए और 2
	अतिरिक्त के के लिए स्थान की उपलब्धना ने	ति पुष्टि की है, एसगीयोटींगीएल में <b>मुचित</b>
	[केस) है कि निच्ठवनी अभि निजी अभि	हे और परियोजना विश्वमन्त्री झाल
	आवश्ययतः के अनुसार अपनी लागत पर खर	दी जा सबली हैं।
110	ा, बी, मी, डी, ई, एफ, एच1 अ⊡ एच2 मैंके	तो सा सार्वाल्यन व <sup>9</sup> श्चित किया अएगा
IV.	विषय संबधी कीम का रीएमणी सदसौर-तु	लावर 765 केवी डीएसी लावर गर इंटर-
	हिंगिंग कोंग कार्याखन करेगी (मुख्य आड	त वेकर के साथ शक्ष्मौर/तुरातर छोर ४२
	स्विचेवल लाइन सिद्वेयर की हिम्मि के लिए)	
	रिवच्छन जाइन विएकटरों को एनजीआर व	ाइंपास व्यवस्था ने साथ कार्यान्त्रिय <b>विया</b>
	110-77	
	नंद्रमांग एस/गम का विकासकर्ता घडमांग-कुन	गणर 785 केवी इंगली साइन के लिए 765
	ज्या लाइन का 2 4 क <b>लिए</b> रधान उपलब्ध <b>ग</b>	स्तरम्म

hd

28 -

### THE GAZEFFE OF INDIA : ENTRAORDINARY

[PAR] [I]-SLC 3(i0]

228

 VII. अत्रागोड शुजालपुर-कुटावर 400 केवी डोट्टी लाइन के लिए शजालपुर गम/पुरा पर 400 केवी लाइन की 2 दे के लिए स्थान उपरबंध कराएगा।
 VIII. जोवेलखिन फागॉन्वयन तमरा अवधि अप्राणी है। अतिम समय अवधि आरएफपी वस्तावेल में इगित की आइगी।

2. श्रोली प्रक्रिया सभन्वयक की नियुक्ति उस लक्षध में विद्युत मत्रालय द्वारा जारी, समय-समय पर यथागंशोधित, दिशा-तिर्देशों में निर्धारित शर्तों के अधील है।

(फा. मं. 15/3/2018-ट्रांस-पार्ट (1)]

चिहारी लाल, अबर सचित (परिचण)

### MINISTRY OF POWER

### NOTIFICATION

### New Deshi, the 29th August, 2023.

S.O. 3894(E).—In exercise of the provets conferral by sub-para 3.2 of Para 3 of the Guidelines circulated under Section 6.5 of the Electricity Act. 3033 (no. 36 of 2003), the Central Government, on recommendations of 14<sup>th</sup> meeting of National Committee on Transmission, hereby appoints the following Bid-Process Coordinators (BPCs) for the Transmission Schemes, as shown against the name of the Transmission Schemes. -

Sil.	Nam	e & Scope of the Transmission Schente	Bid Process Coordinator
1.	Transmission System In conte in Khavda area of C	r Evacuation of Power from potential renewable cacing Gojaest under Phase-IV (7 GW): Part A	Development
	Feniar ve implementation Parts B, C & D of Khavda	a timeframe: 24 months from SPV transfer and matching with (Ph-IV (7 GW)	h Consultancy Limited
	Scope:		
	SL Scope of the 7	cansmission Scheme Capacity/ Route length	
	Creation of 765 k (GIS) along with & 1x330 MVAR. Hus Section-II	V bus section-II at KPS Bus Section-II at KPS3 765 kV Bus Sectionaliser - 1 set 765 kV Bus Reactors on 1500 MVA, 765-100 kV KT Nos	
	Bus section - II si & sRM V. Sevel I 32 765/400 K.V. R. Es	hall be covated at 765 kV both with 3x1500 MVA at Hus Section-II 765 kV reactor bay = 1 No. 765 kV 10T bays = 5 bos	
	2. Creation of 400 k (GIS) along with & 1x125 MVAR, Bus Section-II an Bus Section-II for	V bus Section-II at KPS5 400 kV Bus Sectionaliser 420 kV Bus Reactors on d 3 Nos. 400 kV bays at RE interconnection 400 kV reactor bay = 1 No 400 kV reactor bay = 1 No 400 kV ICT bays = 3 Nos. (for RE interconnection)	s r
	3. KPS3 (GIS) – Ua Fne	kadra (AIS) 765 kV D/C Route length: 185 km	
	4. 2 Nos. of 765 kV (GIS)& Lakadia ( Lakadia (AIS) 765	<ul> <li>/ line bays each at KPS3</li> <li>765 kV line bays (GIS) -</li> <li>2 Nos (at KPS3 end Bu section-31)</li> </ul>	S

Gel

		<ul> <li>765 kV line bays (AIS) – 2 Nos (at Lakadia end)</li> </ul>	
5.	300 MVAR STATCOM with 1x125 MVAR MSC, 2x125 MVAR MSR at KPS3 400 kV Bus section-II	<ul> <li>300 MVAR STATCOM (with 1x125 MVAR MSC, 2x125 MVAR MSR)</li> </ul>	
		• 400 kV bay - 1 No.	
6.	KPS1 (GIS)- Bhu PS 765 kV 2 <sup>rd</sup> D/C line	Route length: 110 km	
7	2 Nos. of 765 kV line bays each at KPS1 (GIS) & Bhuj PS for KPS1 (GIS) – Bhuj PS 765 kV D'C line	<ul> <li>765 kV line bays (GIS) – 2 Nos (at KPS1 end Bus section-II)</li> </ul>	
		<ul> <li>765 kV line bays (AIS) – 2 Nos. (at Bhuj end)</li> </ul>	
8.	330 MVAR switchable line reactors at KPS3 end of KPS3 (GIS) Lakadia 765 kV D/C line (with NGR bypass	<ul> <li>330 MVAR, 765 kV switchable line reactor- 2 Nos.</li> </ul>	
	arrangement)	<ul> <li>Switching equipment for 765 kV line reactor 2 Nos.</li> </ul>	
		<ul> <li>1x110 MVAR spare switchable reactor unit at KPS3 (GIS) end</li> </ul>	
Note:			
i.	Bay(s) required for completion of diameter scheme, shall also be executed by the TSP.	(GIS) in one-and-half breaker	
ii.	TSP of KPS3 shall provide space for work	envisaged at SI-1, 2, 4, 5 & 8	
iii.	The ISP of the present scheme shall installation of STATCOM (with MSC M KPS3 and ISP of KPS3 shall provide t termination of STATCOM.	arrange for additional land for (SR) as specified at SI No 5 at space for 1 No. 400 kV bay for	
iv.	TSP of KPS1 and Bhuj PS shall provide s 7.	pace for work envisaged at SI. No.	
v.	The TSP of the present scheme shall arr. Lakadia S/s for creation of 2 Nos. 765 kV & 1 Tie bay (for each diameter) in ou towards implementation of 2 Nos. 765 kV Ti associated with kUS3 – Lakadia 765 k extendable in future for integration of switchable line reactor (for diameter comp	ange for additional land adjoining diameter consisting of 1 main bay ne-and-haif breaker AIS scheme. line bays at Lakadia S's (at SI. No (V Dre line and the same shall be 2 <sup>nd</sup> main bay (future line with letion	
	The line lengths membred above are app be obtained after the detailed survey.	reximate as the exact length shall	
vii.	The imprementation timeline mentioned would be inducated in the R4P Document.	above is tentative. Final Timeline	
			La .
			ITP 5.
Trai and	isinission System for Evacuation of Power in Khavila area of Gujorat ander Phase-D	from potential redewable energy (7 GWE Part II	Const
Tran zone fen with	isinission System for Evacuation of Power in Khavita area of Gujurat under Phase-D prive Implementation timeframe: 24 months Parts A, C & D of Khavita Ph-IV (7 GW)	from potential renewable energy (7 GW): Part II s from SPV transfer and matching	Constr Lântite

Gel

## THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(ii)]

SI. No.	Scope of the transmission Scher	ne Capacity /km
1	Establishment of 2x1500 MVA, 765- & 2x500 MVA, 400-220 kV GIS S suitable location South of Olpad (b Olpad and Ichhapore) with 2x330 $^{\circ}$ 765 kV & 1x125 MVAR, 420 k	400 kV 765 400 kV, 1x1500 MVA ICT-2 S's at a Nos. (7x500 MVA single phase between units including one spare unit) MVAR, 400/220 kV, 500 MVA ICT $= 2$ Nos.
	reactors Future Provisions:	765 kV ICT bays- 2 Nos
	Space for	400 kV ICT bays- 4 Nes.
		220 kV ICT bays- 2 Nos.
	· ·	220 kV BC bay - I No.
	0 = 765/400 kV ICT alo bays- 4 Nos	ng with 330 MVAR, 765 kV bus reactor-2 Nos.
	<ul> <li>765 kV line bays</li> <li>with switchable</li> <li>reactors - 8 Nos.</li> </ul>	along 125 MVAR, 420 kV bus reactor-1 line No.
	o 765 kV Bus Reacto	r along
	with bay: 2 Nos.	765 KV line bay 4 Nos.
	○ 765 kV Sectionalise	r bay: 1400 KV reactor bay- 1 No
	→ set → 400 kV line bays with switchable line	400 kV line bay- 4 Nos. along U0 MVAR, 765 kV, 1-ph reactor reactor (spare unit for line/bus reactor)-1
	8 Nos. -5 400/220 KV ICT alo bays - 8 Nos.	No. ng with
	<ul> <li>420 kV Bus Reacto with bay: 3 Nos.</li> </ul>	r along
	∠ 400 kV Sectiona bay: 1- set	lization
	○ 220 kV line bays: 18	Nos.
	o 220 kV Sectiona bay: 1 set	lization
	0 220 kV BC: 1 Nos	
	<ul> <li>Establishment of MW, ± 500 kV Olpad (HVDC) terminal station ( MW)</li> </ul>	2500 South [VSC] 2x1250
2.	Vadedara (GIS) –South Oipad (GIS) D·C line	765 kV Route length: 140 km
3.	240 MVAR switchable line reactors of okt at Vadodara (GIS) end of Vadodar South Olpad (GIS) 765 kV D/C lin NGR bypass arrangement)	<ul> <li>e (GIS)</li> <li>Witchable line reactor- 2</li> <li>witchable line reactor- 2</li> <li>Nos.</li> <li>Switching equipment for 765 kV hne reactor- 2</li> <li>Nos.</li> <li>1x80 MVAR spare bus</li> </ul>

	5.	(GIS)for Vadodara(GIS) – South Olpad (GIS) 765 kV D/C line I ILO of Gandhar - Hazira 400 kV D/c line at l	2 Nos. (at Vadodara end) (.ILO route length = 10 km.	
		South Olpad (GIS) using twin HTLS conductor with minumum capacity of 1700 MVA per ckt at nominal voltage		
	6	Ahmedabad – South Olpad (GIS) 765 kV D/cl line	Route length: 250 km	
	7.	240 MVAR switchable line reactors on each ekt at Ahmedabad & South Olpad (GIS) end of Ahmedabad – South Olpad (GIS) 765 kV D/e line (with NGR bypass arrangement)	<ul> <li>240 MVAR, 765 kV switchable line reactor- 4 Nos. [2 for Ahmedabad end and 2 for South Olpad (GIS) end]</li> <li>Switching equipment for 765 kV line reactor- 4 Nos. [2 for Ahmedabad end and 2 for South Olpad (GIS) end]</li> <li>1x80 MVAR, 765 kV 1- ph spare line reactor - 1 No. (for South Olpad end)</li> <li>1x80 MVAR, 765 kV 1- ph spare line reactor being implemented for Lakadia Ahmedabad line (under Khavda Ph-II Part B scheme) at Ahmedabad S s to be used as spare</li> </ul>	
	8	2 Nos of 765 kV line bays at Ahmedabad S/sfor Ahmedabad – South Olpad (GIS) 765 kV D/c line	<ul> <li>765 kV line bays (AIS) =</li> <li>2 Nos. (at Ahmedabad end)</li> </ul>	
	Note	:	und invitored at S. No. 3 & 4	
		given above	or work envisaged at \$1 No. 7 & 8	
		<ol> <li>TSP of Ahmedabad S/s shall provide space i given above</li> </ol>	imate as the exact length shall be	
	1	obtained after the detailed survey	innate as the exact forgun share of	
		<ul> <li>would be indicated in the RfP Document.</li> </ul>	ve is tentative. Final ( intenne	
3.	l'ran zone	smission System for Evacuation of Power f in Khavda area of Gujarat under Phase-IV (7	from potential renewable energy 7 GW): Part C	REC Power Development and
	Tent Parts	ative In:plementation timeframe: 24 months fro A, B & D of Khavda Ph-IV (7 GW)	m SPV transfer and matching with	Limited
	Scor	xe:	-	

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II SEC. 3(ii)]

SI. No.	Scope of the Transmission Scheme	Capacity
Ι.	Establishment of 4x1500 MVA, 765/400 xV & 2x500 MVA, 400/220 kV Boisar-II (GIS) S's with 2x330 MVAR, 765 kV bus reactors and 2x125	765/400 kV, 1500 MVA ICT- 4 Nos (13x500 MVA single phase units including one spare unit) 400/220  eV, 500 MVA ICT - 2
	MVAR, 420 kV bus reactors.	Nos
	(2x1500 MVA, 765.400 kV ICTs shall be on each 400 kV section and 2x500 MVA = 100/220 kV ICTs shall be on	765 kV ICT bays- 4 Nos. 400 kV ICT bays- 6 Nos. (2 Nos.
	400 kV Bus Section-II. $2x125$ MVAR Bus reactors shall be such that one bus	on Bus Section-I and 4 Nos on Bus Section-II)
	reactor is placed on each 400 kV bus	400 kV Bus Sectionaliser-1 set
	kept under normally OPEN condition.)	220 kV ICT bays- 2 Nos.
	Future Provisions:	220 kV BC bay – 1 No
	Space for	330 MVAR, 765 kV bus reactor-2 Nos.
	• 5 765 400 kV ICT along	125 MVAR, 420 kV bus reactor-2 Nos.
	with bays- 2 No.	765 kV reactor bays- 2 Nos.
	<ul> <li>765 kV line bays along with switchable line</li> <li>reactors 8 Nov</li> </ul>	765 kV line bays- 6 Nos 400 kV reactor bays- 2 Nos. (one
	o 765 kV Bus Reactor	on each bus section) 100 kV ling bays 6 Nos (4 Nos on
	along with day: 2 No o 765 kV Sectionaliser	bus Section-I and 2 Nos. on bus Section-II)
	bay: 1 - set - 400 kV line bays along with switchable line reactor - 8 Nos.	110 MVAR, 765 kV, 1-ph reactor (spare unit for line/bus reactor)-1 No.
	<ul> <li>400 220 kV_ICT along with bays - 6 Nos.</li> </ul>	
	o 420 kV Bus Reactor along with bay, 2 No.	
	o 220 kV line bays: 12 Nos.	
	o 220 kV Sectionalization bay: 1 set	
	⊙ = 220 kV BC+1 No.	
2	South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line	Route length: 225 km
3.	2 Nos of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) Boisar-II (GIS) 765 kV D.c line	765 KV line bays (GIS) – 2 Nos (for South Olpad end)
4.	240 MVAR switchable line reactors on each ekt at South Olpad (GIS) & Boisar-II (GIS) end of South Olpad (GIS) Boisar- II (GIS) 765 kV D/c line (with NGR bypass arrangement)	<ul> <li>240 MVAR. 765 kV switchable line reactor-4 [2 for Botsar-II (GIS) and 2 for South Olpad (GIS)]</li> <li>Switching equipment for 765 kV line reactor. 4 f</li> </ul>

Gel

233
33

		<ul> <li>1x80 MVAR, 765 kV 1- ph spare line reactor = 1 No. (for Boisar-II end)</li> <li>1x80 MVAR, 765 kV 1- ph spare line reactor proposed for Ahmedabad = South Olpad (GIS) 765 kV line (under Khavda Ph-IV Part B scheme) at South Olpad (GIS) S-s to be used as spare</li> </ul>
5.	LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II	LILO route length: 25 km.
6.	Borsar-II (Sec-II) Veigaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	Route length: 10 km
7.	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II - Velgaon (MH) 400 kV D c (Quad ACSR/AAAC/AL59 moose equivalent) line	400 kV line bays (GIS) – 2 Nos. [for Velgaon (MH) end]
8.	LILO of Babhaleswar – Padghe (M) 400 kV D c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage	LILO route ,ength: 65 km.
9.	80 MVAR switchable line reactors at Bosar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO	<ul> <li>80 MVAR, 420 kV switchable line reactor including switching equipment- 2 Nos.</li> </ul>
10.	+200 MVAR STAFCOM with 2x125 MVAR MSC. 1x125 MVAR MSR at 400 kV bus section-1 of Boisar-II and +200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II	<ul> <li>=200 MVAR STATCOM (with MSC/MSR) on 400 kV Section-I</li> <li>400 kV bay = 1 No. on Section-I</li> <li>:200 MVAR STATCOM (with MSC/MSR) on 400 kV section-II</li> <li>400 kV bay 1 No on Section-II</li> </ul>
11	± 300 MVAR STATCOM with 3x125 MVAR MSC, "x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S's with 1 No of 400 kV bay (GIS)	<ul> <li>+300 MVAR STATCOM (with MSC/MSR)</li> <li>400 kV bay - 1 No.</li> </ul>
Note	:	
I	Bay(s) required for completion of diame scheme shall also be executed by the TSP.	eter (GIS) in one-and-half breaker
TI	MSETCL shall carry out reconductoring of - Boisar-JI 400 KV D/c line (i.e. from LIL/ also carry out corresponding ungradation	the balance portion of Padghe (M) O point upto Padghe (M)) and shall of 400 kV bays at Paduhe (M) as

			23
	THE GAZETTE OF INDIA · EXTR	AORDINARY	[PARTII—STC. 3(ii)]
	may be required in matching time-frame confirmed the maximum capacity of the reconductoring considering clearances in Padghe (M) 400 kV D/c line as 1700 MVA	of the LILO line. MSET line which can be achieve existing towers of Babhale per ekt.	CL has d after swar
111	MSETCL shall implement the LILO of b 220 kV D/c line at Bolsar-II (ISTS) S.s alc Bolsar-II in matching time-frame of Bolsar	oth circuits of Boisar-II – V ing with 4 Nos. 220 kV GIS II (ISTS) S/s.	/elgaon bays at
IV	TSP of South Olpad (GIS) S/s shall provi No.3 & 4	de space for work envisage	d at SI.
V.	MSETCL shall provide space for the worl S/s.	c envisaged at SI. No 7 at X	/elgaon
VI.	TSP of the subject scheme shall impleme Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line reactor at either end along with the ma	ent Inter-tripping scheme or line (for tripping of the swi in line breaker).	i South tchable
VII.	The line lengths mentioned above are appr obtained after the detailed survey	oximate as the exact length a	shall be
vui.	The implementation timeline mentioned would be indicated in the RfP Document.	above is tentative. Final T	imeline
Tentat Scope	ive Implementation timeframe : 24 months fr	om SPV Transfer	
SI, No	Scope of the Transmission Scheme	Capacity	101.3
i.	Establishment of 2x1500 MVA, 765/400 kV & 3x500 MVA, 400/220 kV Punc III (GIS) S/s with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor.	765'400 kV, 1500 MVA Nos. (7x500 MVA includi spare unit) 400/220 kV, 500 MVA IC	ng one CT - 3
	Future Provisions	765 kV ICT bays- 2 Nos.	
	Space for	400 kV ICT bays- 5 Nos.	
		220 kV ICT bays- 3 Nos.	
1	- 765:400 kV IC1 alons	, 220 kV BC bay – 1 No.	
	with bays- 4 No.	330 MVAR, 765 kV bus re	actor-2
	<ul> <li>765 kV line bays along with switchable line reactors - 8 Nos.</li> </ul>	, Nos 125 MVAR, 420 kV bus re Nos	actor-2
	o 765 kV Bus Reacto along with bay: 2 No	765 KV reactor bay- 2 Nos.	
	<ul> <li>765 kV Sectionaliser bay 1 -set</li> </ul>	400 kV reactor bay- 2 Nos.	
	<ul> <li>400 kV line bays along with switchable line reactor - 12 Nos</li> </ul>	,400 kV line bay- 2 Nos 2 110 MV AR, 765 kV, 1-ph (spare unit for line/bus rea	reactor actor)-1
	→ 400/220 kV ICT alon with bays -5 Nos.	3No.	
	along with bay: 2 No.	r	
	o 400 kV Sectionalization	1	

hel

[भाग ]] - खण्ड 3(ii)]

235
35

	bay: 1 set	1
	$\odot = 220$ kV line bays: 12 Nos	
	<ul> <li>220 kV Sectionalization bay: Uset</li> </ul>	
	c = 220 kV BC: 1 No.	
	<ul> <li>STATCOM (±300 MVAR) along with MSC (3x125/MVAR) &amp; MSR (1x125/MVAR); alongwith 1/No/400/kV bay/1/No.</li> </ul>	
	c 80 MVAR, 765 KV, 1-ph reactor (spare unit for line reactor)-1 No.	
2.	Boisar-II – Pune-III 765 k√ D′c line	Route length: 200 km
3	330 MVAR switchable line reactors at Pune-III end of Boisar-II Pune-III 765 kV D/c line (with NGR bypass arrangement)	<ul> <li>330 MVAR, 765 kV switchabie line reactor- 2 Nos</li> </ul>
		<ul> <li>Switching equipment fo 765 kV line reactor-1 Nos.</li> </ul>
		<ul> <li>1x110 MVAR spare bus reactor available at Pune III (GIS) to be used as spare</li> </ul>
4.	2 Nos of 765 kV line bays at Boisat-II for termination of Boisar-II Pune-III 765 kV D.c line	<ul> <li>765 kV line bays (GIS) - 2 Nos. (for Boisar-II end)</li> </ul>
5	LILO of Narendra (New) – Pune (GIS) 765 kV D'e line at Pune-III	LILO route length: 10 km.
6.	330 MVAR switchable line reactors at Pune-III end of Natendra (New) Pune-	<ul> <li>330 MVAR, 765 kV switchable line reactor- 2.</li> </ul>
	III(GIS) 765 kV D.c line (with NGR bypass arrangement)	<ul> <li>Switching equipment for 765 kV line reactor- 2</li> </ul>
		<ul> <li>1x110 MVAR spare bus reactor (1-ph) available a Pune-III (GIS) to be used as spare</li> </ul>
7	LILO of Hinjewadi-Koyna 400 kV Scelline at Pune-III (GIS) 5/s	LILO route length: 40 km.
8.	80 MVAR, 420 kV switchable Line Reactors at Pune-III (GIS) end of Pune-III (GIS) – Koyna 400 kV Src line formed after above LILO (with NGR hypass arrangement)	<ul> <li>80 MVAR, 420 kV switchable line reactor along with switching equipment-1 No.</li> </ul>
- Sale	<ul> <li>Bay(x) required for completion of diame scheme, shall also be executed by the TSP.</li> </ul>	ter (GIS) in one-and-hair orease
ii.	Logic for later-tripping scheme for leipning reactor along with main line breaker at Narondra (New) 765 VV Die late shall be in	g of the 330 MVAR swittenable line Pune (GIS) end of Pane (GIS) = apiemented by the owner of the line

Gel

1	after LILO of Natendra (New) - Putte (GIS)	) 765 KV D'o line at Pane-Iti		
<ol> <li>MSETCL shall implement the following 220 kV lines along with 5 Nos. 220 kV GIS bays at Patte-III (GIS) S s in maching time-frame of Pane-UI S's:</li> </ol>				
	<ul> <li>a. L1LO of both predicts of Jejori-Jiho S/s with HITLS coaductor (twi reconductoring of balance line sea and L1LO points to Jejari with</li> </ul>	ursungi 220 kV D/c line at Porte-I in zebra equivalent) along wit ethni viz, L/I,O funct to Phurson) (5 H1LS conductor (twin 200	ita Lin Til	
	equivalent)			
	<ul> <li>b. Nanded (Tity - Purie PG III 2241) (Ukin zebra equivalent)</li> </ul>	KA 259 line with Hill'2 solidation		
15.	FSP or noisar-H S/s shall provide space for	work envisaged at SI, No. 4.		
<u>¥</u> -	The line lengths mentioned above are appro- obtained after the detailed survey).	oximate as the exact letigth shall h	10	
vi -	The implementation timeline mentioned a would be inducated in the RfP Decement	above is temptive. Final Timelo	e	
			97) 	
i ransm	ssion System for Evacuation of Power Chayda area of Guiural under Phase-IV (	from potential renewable energ 7 GWJ: Part E2	Developin	
Tentat	e Implementation timetrare : 21 months iro	nn SPV Transfer	and Consultan	
Scope:	•		Limited	
SI. No.	Scope of the Transmission Scheme	Capacity		
	at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5 <sup>th</sup> & 6 <sup>th</sup> ) & 2x1500 MVA, 765.400 kV ICT on Bus section-II (7 <sup>th</sup> & 8 <sup>th</sup> ) & 2 Nos 400 kV	Nos. 765 kV bays = 4 Nos. [2 Nos complete Dia for 2 ICTs (one on		
	Augmentation of transformation (capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5th& 6th) & 2x1500 MVA, 765/400 kV ICT on Bus section-II (7th & 8th) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos, 400 kV bays at Bus Section-II for RE interconnection	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] & 5 Nos. line bays (2 on bus section-1 & 3 on bus section-II) along with 1 No. bay on Bus Section-II for Dia completion]		
Note:	Augmentation of transformation (capacity) at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5th& 6th) & 2x1500 MVA, 765.400 kV ICT on Bus section-II (7th & 8th) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 5 Nos. line bays (2 on bus section-1 & 3 on bus section-II) along with 1 No. bay on Bus Section-II for Dia completion]	-	
Note: 1.	Augmentation of transformation (capacity) at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5th& 6th) & 2x1500 MVA, 765.400 kV ICT on Bus section-II (7th & 8th) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection Bus Section-II for RE interconnection	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section) & 5 Nos. line bays (2 on bus section-1 & 3 on bus section-II) along with 1 No. bay on Bus Section-II for Dia completion] ameters (1 on Bus Section-I & 1 of iIS) consisting of 2 Main Bays & eter (GIS) in one-and-half breakt	n 1 em	
Note: 1. ii.	Augmentation of transformation capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5th& 6th) & 2x1500 MVA, 765,400 kV ICT on Bus section-II (7th & 8th) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection Bus Section-II for RE interconnection the TSP shall implement two complete dia bus section-II) at 765 kV level of KPS2 (G Tie Bay required for completion of diama icheme. The TSP shall implement five complete dia Bus Section-II) at 400 kV level of KPS2 (C Tie bay required for completion of diama icheme.	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section-II)] along with 1 No, bay on Bus Section-II for Dia completion] ameters (1 on Bus Section-I & 1 of allS) consisting of 2 Main Bays & ener (GIS) in one-and-balf breaks and the formula of 2 Main Bays & ener (GIS) in one-and-balf breaks	n 1 er	
Note: 1.	Augmentation of transfermation capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5th& 6th) & 2x1500 MVA, 765.400 kV ICT on Bus section-II (7th & 8th) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection at Bus Section-II for RE interconnection Bus section-II for RE interconnection The TSP shall implement two complete dia tenere. The TSP shall implement five complete dia Bus Section-II) at 765 kV level of KPS2 (G Tie Bay required for completion of diama icheme. The TSP shall implement five complete dia Bus Section-II) at 400 kV level of KPS2 (C Tie bay required for completion of diama icheme. Further, TSP of KPS2 shall provide space 1 work.	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 5 Nos. line bays (2 on bus section-I & 3 on bus section-II) along with 1 No. bay on Bus Section-II for Dia completion] ameters (1 on Bus Section-I & 1 of iIS) consisting of 2 Main Bays & eter (GIS) in one-and-half breakd ameters (2 on Bus Section-I & 1 of SIS) consisting of 2 Main Bays & eter (GIS) in one-and-half breakd inter (GIS) in one-and-half breakd to carry unt the above angmentation		
Note: 1. ii. iv.	Augmentation of transfermation capacity at KPS2 (GIS) by 2x1500 MVA, 765/400 kV ICT on Bus section-I (5 <sup>th</sup> & 6 <sup>th</sup> ) & 2x1500 MVA, 765.400 kV ICT on Bus section-II (7 <sup>th</sup> & 8 <sup>th</sup> ) & 2 Nos 400 kV bays at Bus Section-I for RE interconnection and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection at Bus Section-II for RE interconnection the TSP shall implement two complete data bus section-II) at 765 kV level of KPS2 (G Tie Bay required for completion of diama atheme. The TSP shall implement five complete data bus Section-II) at 400 kV level of KPS2 (G Tie bay required for completion of diama atheme. Further, TSP of KPS2 shall provide space 1 work. 2 Nos, 400 kV bays an Bus Section-I for RI bays at Bus Section-II for RE implementation at KPS2	Nos. 765 kV bays – 4 Nos. [2 Nos complete Dia for 2 ICTs (one on each bus section) and balance 2 ICTs to be terminated in spare bays (one on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section)] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on each section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays 10 Nos. [4 Nos ICT bays (2 on bus section]] 400 kV bays		

Gel

T ent Bipo	ative Implementation timeframe : 48 mon le-2 from SPV Transfer	ths for Bipole	-1 and 54 months for
Scope:			
SI. No.	Scope of the Transmission Scheme	C	apacity
1.	Establishment of 6000 MW. + 800 kV KPS2 (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard*	6000 MW, ± 80 [1 CC] Terminal	00 kV KPS2 (HVDC) station
2.	Establishment of 6000 MW 800 kV Nagpur (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard*	6000 MW, ± 80 [LCC] terminal s	0 kV Nagpur (HVDC) station
3.	800 kV HVDC Bipole line (Hexa lapwing) between KPS2 (HVDC) and Nagpur (HVDC) (1200 km) (with Dedicated Metallic Return) (capable to evacuate 6000 MW with overload as specified)	Route length 12	00 km.
4.	Establishment of 6x1500 MVA, 765/400 kV ICTs at NagpurS/s along with 2x330 MVAR (765 kV) & 2x125 MVAR, 420 kV bus reactors along with associated interconnections with HVDC Switchyard* The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser so that 3x1500 MVA ICTs are placed in each section. The bus sectionaliser shall be normally	2	765/400 kV, 1500 MVA ICT-6 (3 on each 400 kV section) (19 sing)e phase units including one spare unit) 765 kV ICT bays- 6 Nos.
	requirement. Future Provisions at	o	400 KV ICT bays- 6 Nos. (3 on each section)
	Space for:	C.	330 MVAR 765 KV bus reactor-2 Nos.
	⊙ ⊙ 765 '400 ⊀V, 1500	Ċ.	125 MVAR 420 kV bus reactor-2 Nos. (one on each section)
	MVA ICI- 4 (1 on 400 kV bus section-II & 3 on future 400 kV bus	C.	765 kV reactor bay- 2 Nos.
	section-III)	0	765 KV line bay- 4 Nos.
	with switchable line reactors 10 Nos.	0	400 kV reactor bay- 2 Nos. (one on each section)
	c 765 kV Bus Reactor along with bay: 2 No 765 kV Sectionaliser	0	400 kV Bus sectionaliser - 1 Set
	bay: 1 -set c 400 kV line bays along	0	110 MVAR, 765 kV, 1-ph reactor (spare unit for line bus

Gel

[PART II—SEC. 3(ii)]

3	THE GAZETTE OF INDIA . EX	TRAORDINARY [	Равт II—Sec. 3(іі)
1	reactor = 12 Nos. 5 400 kV Bus	reactor) - 1 No.	
	<ul> <li>a 400/220 kV IC I along with bays -9 Nos. (3 Nos. on 400 kV bus sections II &amp; 6 Nos. on future bus section-III)</li> </ul>		
	<ul> <li>400 kV Bus Reactor along with bay 4 No (1 each on 400 kV bus sections [ &amp; II and 2 on future 400 kV bus section-III)</li> </ul>		
	⊘ 220 kV line bays: 16 Nos.		
	<ul> <li>220 kV</li> <li>Sectionalization bay: 2 set</li> </ul>		
	3 220 kV BC & TBC: 3 Nos.		
	<ul> <li>80 MVAR, 765 kV, 1- ph reactor (spare unit for line reactor)-1</li> </ul>		
5.	LILO of Wardha - Raipur 765 kV one D/c line (out of ?xD/c lines) at Nagpur	LILO route length: 30 km	
6.	Installation of 240 MVAR switchable line reactor at Nagpur end on each ckt of Nagpur – Raipur 765 kV D-c line	<ul> <li>240 MVAR, 765 switchable line reactors Nos (at Nagpur end)</li> </ul>	. KV - 2
		<ul> <li>Switching equipment for kV line reactor- 2 Nos Nagpur end)</li> </ul>	765 (at
		<ul> <li>80 MVAR, 765 kV, reactor (spare unit for reactor)-1 No.</li> </ul>	I-ph tine
* The etc.) b	2400 kV interconnections (along with all retween HVDC & HVAC switchyards shall	associated equipment/ bus extens the implemented by the TSP	non.
Note:			
i.	The 2x1500 MW poles shall emanate fr terminate at bus section 1 of Nagpur, 3 shall emanate from 400 kV bus section 2 of Nagpur.	rom 400 kV bus section 1 of KPS2 Similarly, the other 2x1500 MW p 2 of KPS2 and terminate at bus sec	and oles tion
ıi.	HVDC System will be designed consid The rated power transmission capacity : shall be defined and guaranteed at the re	fering 100% power reversal capabi is well as the rated transmission vol entifier end of the AC yard.	llity. tage
iui.	TSP of KPS2 shall provide space for the per above scope	e establishment of the HVDC system	m 35
1V	The line lengths mentioned above are a obtained after the detailed survey.	pproximate as the exact length shall	ll be
ν.	The implementation timeline mention would be indicated in the RfP Document	ed above is tentative. Final Time it.	eline



Transm zone in Tentati Scope:	ission System for Evacuation of Powe Khavda area of Gujarat under Phase-V ve Implementation timeframe : 48 months	r from potential renewable energy (8 GW): Part C from SPV Transfer
SI. No	Scope of the Transmission Scheme	Capacity
1.	Establishment of 2500 MW, $\pm$ 500 kV KPS3 (HVDC) [VSC] terminal station (2x1250 MW) at a suitable location near KPS3 substation with associated interconnections with 400 kV HVAC Switchyard*	2500 MW ± 500 kV KPS3 (HVDC) [VSC] Terminal station
2.	Establishment of 2500 MW, $\pm$ 500 kV South Olpad (HVDC) [VSC] terminal station (2x1250 MW) along with associated interconnections with 400 kV HVAC Switchy ard of South Olpad S/s*	2500 MW, ± 500 kV South Olpad (HVDC) [VSC] terminal station
3.	Establishment of KPS3 (HVDC) S/s along with 2x125 MVAR, 420 kV bus reactors along with associated interconnections with HVDC Switchyard*. The 400 kV bus shall be established in 2 sections through 1 set of 400 kV bus sectionaliser to be kept normally OPEN. 400 33 kV, 2x50 MVA transformers for exclusively supplying auxiliary power to HVDC terminal MVAR	<ul> <li>o 400/33 kV, 1x50 MVA ICT along with bays- 2 Nos.</li> <li>o 125 MV XR 420 kV bus reactor-2 Nos. (one on each section)</li> <li>o 400 kV reactor bay- 2 Nos (one on each section)</li> <li>100 kV Pare</li> </ul>
	Future Provisions at KPS3 (HVDC) S/s Space for: c 400 kV line bays = 6 Nos. (3 on each section) 0 400 kV reactor bay- 2 Nos. (one on each section)	sectionaliser- 1 Set
4	KPS3 – KPS3 (HVDC) 400 kV 2xD/c (Quad ACSR/AAAC/AL59 moose equivalent) line along with the line bays at both substations	Route length- 2 km 400 kV GIS line bays - 4 Nos. at KPS3 (2 Nos. on each bus section) 400 kV GIS line bays - 4 Nos at KPS3 (HVDC) (2 Nos on each bus section)
5.	±500 kV HVDC Bipole line between KPS3 (HVDC) and South Olpad (HVDC) (with Dedicated Metallic Return) (capable to evacuate 2500 MW)	Route length, 600 km

Gel

240

	THE GAZETIE OF INDIA , EXTRA	ORDINARY	PARTI SIC. SI
*The 40 between	00 kV interconnections (along with all associant HVDC & HVAC switchyards shall be imple	ted equipment/ bus extens mented by the TSP	ion, etc.)
Note: 1. 11. 11. 11. 11. 11. 11. 11. 11. 11.	<ul> <li>The 1250 MW pole-1 shall emanate from (HVDC) and terminate at South Olpad S/s shall emanate from 400 kV bus section 2 or South Olpad S/s.</li> <li>HVDC System will be designed with 100% p black start, automatic grid restoration &amp; capability.</li> <li>The rated power transmission capacity as we shall be defined and guaranteed at the rectifice TSP of KPS3 shall provide space for scope a TSP of South Olpad S/s shall provide space for scope.</li> <li>The line lengths mentioned above are appropriate the space of the</li></ul>	1 400 kV bus section 1 of 3 Similarly, the 1250 MV 5 Similarly, the 1250 MV 5 KPS3 (HVDC) and term power reversal capability a dynamic reactive power 51) as the "ated transmission or end of the AC yard. 51, No. 4 as per the above for scope at SI, No. 2 as p eximate as the exact length	of KPS3 W pole-2 ninate at s well as support n voltage e scope er above shall be
vii.	obtained after the detailed survey. The implementation timeline mentioned a would be indicated in the RfP Document	bove is tentative. Final	Fimetine
Transm	ission System for Evacuation of Power from	n Rajasthan REZ Ph-IV	(Part-2 : REC Pov Development
Transm 5.5 GW Tentativ Scope:	ission System for Evacuation of Power from ) (Jaisalmer/Barmer Complex): Part A re Implementation timeframe : 24 months from	n Rajasthan REZ Ph-IV n SPV Transfer Capacity	(Part-2 : REC Pov Developmen and Consultanc Limited

hd

	1	Reactor-2 Nos.	
		<ul> <li>400 kV Bus reactor bays- 2 Nos.</li> </ul>	
		<ul> <li>400 kV Sectionalisation bay: 1 set</li> </ul>	
		• 220 kV ICT bays- 5 Nos.	
		<ul> <li>220 kV line bays, 6 Nos (for RE connectivity)</li> </ul>	
		<ul> <li>220 kV/BC (2/Nos.) and 220 kV/TBC (2/Nos.)</li> </ul>	
		<ul> <li>220 kV Sectionalisation bay: 1 set</li> </ul>	
2.	Fatehgarh-IV (Section-2) PS - BhinmalR	oute Length: 200 km	
	(PG) 400 kV D/e line (Twir, HTLS*) along with 50 MVAR switchable line reactor on each ckt at each end	<ul> <li>50 MVAR, 420 kV switchable line reactors at Fatchgarh-IV (Section-2) PS – 2 Nos.</li> </ul>	
		<ul> <li>50 MVAR, 420 kV, switchable line reactors at Bl/inmal (PG) = 2 Nos.</li> </ul>	
		<ul> <li>Switching equipment for 420 kV, 50 MVAR switchable line reactors at Fatchgarh-IV (Section-2) PS +2 Nos.</li> </ul>	
		<ul> <li>Switching equipment for 420 kV, 50 MVAR switchable line reactors at Bhinma! (PG) = 2 Nos.</li> </ul>	
3.	LILO of both ckts of 765 kV Fatehgarh-L	ILO length: 15 km	
	III- Beawar D/c line at Fatchgarh-IV (Section-2) PS along with 330 MVAR switchable line reactor at Fatchgarh-IV PS end of each ekt of 765 kV Fatchgarh-IV- Beawar D/c line (formed after LILO)	<ul> <li>330 MVAR, 765 kV switchable line reactors at Fatehgarh-IV (Section-2) PS = 2 Nos.</li> </ul>	
		<ul> <li>Switching equipment for 330 MVAR, 765 kV switchable line reactors at Fatehgarh-IV (Section-?) PS = 2 Nos.</li> </ul>	
		<ul> <li>110 MVAR (765 kV) spare reactor single phase unit at Fatehgarh-IV (Section-2) PS end = 1 No.</li> </ul>	
4.	2 Nos. of 400 kV line bays at Bhinmal 4 (PG)	00 kV line bays - 2 Nos.	
*with n	unimum capacity of 2100 MVA on each circuit	at nominal voltage	
Note:			

Gel

	THE GAZETTE OF INDIA : EXT	RAORDINARY 122	ORT II SEC.
1	under bidding		1
i.	Transmission system under Phase-IV (Pa pritential at Fatehgarb-IV (Section 2), w (approved in 8 <sup>st</sup> NC) meeting dated 25.0.	(f) 2) is for evacuating 4-5 GW 1 high is utilizing the fitture provisi 3.22) at Fateligath-IV approved une	kE on der
i lit.	The fate tengths mentioned above are also above and after the detailed survey	recommute as the exact length shall	be
iv.	POWERGRID to provide space for 2 N (PG) along with the space for switchs implications	os, al' 400 kV line bays at Bhenn thie line reactors without any ca	na.l ost
	temtententation of A. B. C. D. E. F. HI, F	B packages shall be abgred	1
1.1	Switchable line reactors to be implemented	ii with NGR hypiss againgenient.	
via	The imprementation timeline merilioned would be indicated in the RIP Document	above is tentative. Final Timeli	nu
Uransmi 8.5 GW) Tentativ	dstion System for Evacuation of Power 1 ) (Jaisalmen/Barmer Complex): Part B co-Implementation timeframe : 24 mentls f	rom Rajasthun KEZ Ph-IV (Purt-	Z EPEC Consulti Limited
Scope:		1	1
SI. Sco No	ope of the Transmission Scheme	Capacity	
l Est Sub Alon MV Fut Spa	<ul> <li>ablishment of 2x1500 MVA. 765/400 kV bistation at suitable location near Sirohi ing with 2x240 MVAR (765 kV) &amp; 2x125 vAR (420 kV) Bus Reactor</li> <li>ture provisions:</li> <li>ace for <ul> <li>765/400 kV ICT along with bays-4 Nos.</li> <li>765 kV line bays along with switchable line reactors = 10 Nos.</li> <li>765 kV Bus Reactor along with bay: Nos.</li> <li>400 kV line bays along with switchable line reactor = 4 Nos.</li> <li>400 kV line bays = 4 Nos.</li> <li>400 kV line bays = 4 Nos.</li> <li>400 kV Bus Reactor along with bay. No.</li> <li>400 kV Sectionalization bay: 2 sets 400 kV ICT along with bay = 2</li> </ul> </li> </ul>	<ul> <li>765.400 kV, 1500 MVA ICT- 2 Nos. (7x500 MVA including one spare unit)</li> <li>765 kV ICT bays-2 Nos.</li> <li>240 MVAR. 765 kV Bus Reactor-? Nos. (7x80 MVAR including one spare unit)</li> <li>765 kV Bus reactor bays-2 Nos.</li> <li>765 kV line bays- 2 Nos. (for D'c line to Fatehgarh-IV (Section-2) PS]</li> <li>400 kV ICT bays- 2 Nos. (for D'c line to Fatehgarh-IV (Section-2) PS]</li> <li>400 kV ICT bays- 2 Nos.</li> <li>100 kV line bays - 2 Nos. [for D'c line to Chittorgath (PG) S(s]</li> <li>125 MVAR, 420 kV Bus Reactor-2 Nos.</li> <li>400 kV Bus reactor</li> <li>400 kV Bus reactor</li> </ul>	

hel

[भाग II –खण्ड	3(ii)]	भारत के राजपत अस	धारण	43
2.	Fa kv lin	tchgarh-IV (Section-2) PS Sirohi PS 765 D+c line along with 240 MV AR switchable e reactor for each circuit at each end	<ul> <li>Route Length – 240 km</li> <li>765 kV. 240 MVAR switchable line reactors at Eatehgarh-IV (Section-2) PS 2 Nos.</li> <li>765 kV, 240 MVAR switchable line reactors at Stroht PS - 2 Nos.</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Eatehgarh-IV (Section-2) PS - 2 Nos</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Eatehgarh-IV (Section-2) PS - 2 Nos</li> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Strohi PS - 2 Nos.</li> </ul>	
3.	Sır IQ Tea	rohi PS-Chlittorgarh (PG) 400 kV D'e line uad) along with 80 MVAR switchable line actor for each circuit at Sirohi PS end	<ul> <li>Route Length - 160 km</li> <li>420 kV, 80 MVAR switchable line reactors at Strohi PS - 2 Nos.</li> <li>Switching equipment for 420 kV, 80 MVAR switchable line reactors at Strohi PS - 2 Nos.</li> </ul>	
4.	2.N S/s	No. of 400 KV line bays at Chittorgarh (PG)	100 kV line bays at Chittorgarh (PG) S/s - 2 Nos.	
5.	2 (Se	No. of 765. kV line bays at Fatehgarh-IV action 2) PS	765 kV line bays at Fatehgarh- IV (Section-2) PS – 2 Nos	
	Note			
	1.	The line lengths mentioned above are appro- be obtained after the detailed survey.	ximate as the exact length shall	
	iι	POWERGRID to provide space for 2 Nos. (PG).	of 400 kV line bays at Chittorgarh	· .
	iiı.	Developer of Fatehgarh-IV S/s (Section-2) kV line bays at Fatehgarh-IV(Section-2) PS switchable line reactor	o provide space for 2 Nos. of 765 along with the space for	
	iv.	Implementation of A, B, C, D, E, F, H1, H2	packages shall be aligned	
	ν.	Switchable line reactors to be implemented	with NGR by pass arrangement.	
	v1.	The implementation timeline mentioned abo would be indicated in the RIP Document.	ove is tentative. Final Timeline	
				DUC D
10. Ti 5.	ransn 5 GW	nission System for Evacuation of Power fro ) (Jaisalmer/Barmer Complex): Part C	m Rajasthan REZ Ph-IV (Part-2 :	REC Power Development and
ſ	entati	ve Implementation timetrame : 24 months fre	m SPV Transfer	Consultancy
s	cope:			Limited
S	SI. No.	Scope of the Transmission Scheme	Capacity	
1.		Establishment of 3x1500 MVA, 765 400	765/400 kV, 1500 MVA ICT-3	
		kV & 5x500 MVA, 400 220 kV Mandsaur Pooling Station along with 2x330 MVAR	Nos. (10x500 MVA single phase units including one spare	

Gel

THE GATUTUR OF INDIA : EXTRAORDINARY

	THE GATITUE OF INDIA : DOUG	VORDENARY [PAX	11-511 01
1	420 kV Bus Reactor	unit)	
	Future Provisions: Space for:	400/220 kV, 500 MVA ICT 5 Nes. (3 Nos. on 220 kV bus section-1 & 2 Nos. on 220 kV	
	<ul> <li>765/400 kV ICT along with bays- 3 No.</li> <li>765 kV line bays along with switchable line reactors = 12 Nos.</li> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 -set</li> <li>400 kV line bays along with switchable line reactor = 12 Nos</li> <li>400/220 kV ICT along with bays - 5 Nos.</li> <li>400 kV Bus Reactor along with bay: 2 No.</li> <li>400 kV Sectionalization bay: 1 - set</li> <li>220 kV Sectionalization bay: 1 - set</li> <li>220 kV Sectionalization bay: 1 - set</li> <li>220 kV Sectionalization bay: 1 set</li> <li>220 kV BC and TBC 1 Nos.</li> </ul>	<ul> <li>bus section-2)</li> <li>765 kV ICT bays = 3 Nos.</li> <li>400 kV ICT bays = 8 Nos</li> <li>330 MVAR 765 kV bus reactor-2. Nos. (7x110 MVAR single phase units including one spare unit)</li> <li>765 kV bus reactor bay- 2 Nos. (for Indore line)</li> <li>80 MVAR, 765 kV, 1-ph reactor (spare unit)-1 No.</li> <li>125 MVAR, 420 kV bus reactor-2 Nos.</li> <li>400 kV reactor bay- 2 Nos.</li> <li>220 kV ICT bays - 5 Nos.</li> <li>220 kV line bays - 7 Nos. (4 Nos on bus section-1 and 3 Nos. on bus section-2)</li> <li>220 kV Bus Sectionaliser - 1 set</li> </ul>	
2.	<ul> <li>STATCOM (+ 300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125 MVAR) along with one 400 kV bay.</li> <li>Mandsaur PS Indore(PG) 765 kV Drc Line</li> <li>1x330 MVAR switchable line reactor</li> </ul>	220 kV 1BC bay 2 Nos. 220 kV BC bay 2 Nos. Route Length - 200 km • 330 MVAR, 765 kV	
	(SLR) on each ekt at Mandsaur end of Mandsaur PS – Indore (PG) 765 kV D'e Line	<ul> <li>switchable line reactor- 2 Nos.</li> <li>Switching equipment for 765 kV line reactor- 2 Nos.</li> </ul>	
4	2 Nos of 765 kV line bays at Indore (PG) for termination of Mandsaur PS – Indore (PG) 765 kV D/c Line	<ul> <li>765 kV line bays = 2 Nos. (for Indore (PG) end)</li> </ul>	
Note:	The first lengths mentioned above are appro- obtained after detailed survey POWERGRID to provide space for 2 Nos. of Implementation of A, B, C, D, £, F, H1, 112 Switchable fine reactors to be implemented of The implementation tractine mentioned at- surveile be indicated in the RfP Document.	omate as the exact length shall be F765 kV line bays at Indore S/s packages shall be aligned with NGR bypass arrangement Ve is tentative. Final Timeline	
Transe 5.5 GV	nission System for Evacuation of Power (co 5) (Jaisalmer/Barmer Complex): Purt D	m Rajaxidan REZ, Ph-IV (Part-2)	PFC Consulting Ljimited

Gel

12.

**245** 

Sl. No.	Scope of the Transmission Scheme	Capacity	
Ι.	Beawar- Mandsaur PS 765 kV Die line along with 240 MVAR switchable line reactor for each circuit at each end	Route Length – 260 km • 765 kV, 240 MVAR switchable line reactors	
		at Beawar – 2 Nos • 765 kV, 240 MVAR switchable line reactors at Mandsaur PS – 2 Nos.	
		<ul> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Beawar - 2 Nos.</li> </ul>	
		<ul> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors at Mandsaur PS 2 Nos.</li> </ul>	
2	2 No. of 765 kV line bays each at Beawar S.s & Mandsaur S/s	765 kV line bays - 4 Nos. (2 Nos. each at Beawer S s and Mandsaur PS)	
i.	The line lengths mentioned above are approxibilitation of Mandsaur PS to provide space	ximate as the exact length shall be for 2 Nos, of 765 kV line bays at	
11.	Mandsaur Sis along with the space for switch	table line reactor	
111.	Beawar S/s along with the space for switchat	ble line reactor.	
iv.	Implementation of A, B, C, D, E, F, HI, H2 J	packages shall be aligned	
v. vi	Switchable line reactors to be implemented w The implementation timeline mentioned al would be indicated in the RfP Document.	bove is tentative. Final fimeline	
Fransm 5.5 GW Tentativ	ussion System for Evacuation of Power from ) (Jaisalmer/Barmer Complex): Part E ve Implementation timeframe : 24 months from	n <mark>Rajasthan REZ Ph-IV (Part-2</mark> : n SPV Transfer	REC Pow Developmen and Consultancy Limited
Scope:	Scope of the Transmission Scheme	Capacity	
1.	Establishment of 765 kV Substation a suitable location near Rishabdee (Distr Udaipur) along with 2x240 MVAR (765 kV Bus Reactor	<ul> <li>240 MVAR, 765 kV Bus Reactor- 2 Nos. (7x80 MVAR including one spare unit)</li> </ul>	-
	Future Provisions:	<ul> <li>765 kV Bus reactor bays-2 Nos.</li> </ul>	
	Space for •	<ul> <li>765 kV line bays - 6 Nos. [for 765 kV Sirohi</li> </ul>	

765:400 kV ICT along with bays 5 No along with

Mandsaur D/c line and

1	spare unit	LILO of one circuit of
	765 kV line bays along with switchable line reactors 6 Nos.	765 kV Chittorgarh- Banaskanta Dic line at Rishabdeo S's]
	<ul> <li>765 kV Bus Reactor along with bay: 1 No.</li> </ul>	
	<ul> <li>with switchable line reactor</li> <li>4 Nos</li> </ul>	
	5 400 kV line bays 4 Nos.	
	<ul> <li>400 kV Bus Reactor along with bay, 3 Nos</li> </ul>	
	<ul> <li>400 kV Sectionalization</li> <li>hay: 2 sets</li> </ul>	
	<ul> <li>400/220 kV ICT along with hay - 6 Nos.</li> </ul>	
	<ul> <li>220 kV line bays -10 Nos</li> </ul>	
	<ul> <li>⇒ 220 kV Sectionalization</li> <li>bay 2 sets</li> </ul>	
	5 220 kV BC (3 Nos.) & TBC (3 Nos.)	
	STATCOM (2 x ±300MVAR) along with MSC (1x125 MVAR) &	
	MSC (4x125 MVAR) along with two number 400 kV bays.	
2	Sirohi PS- Rishabdeo 765 kV D o line along	loute Length – 170 km
	with 330 MVAR switchable line reactor for each circuit at Sirohi end	<ul> <li>765 kV, 330 MVAR switchable line reactors at Syrobi PS - 2 Nos</li> </ul>
		<ul> <li>Switching equipment for 765 kV 330 MVAR</li> </ul>
		switchable line reactors at Sirohi PS- 2 Nos.
		• 110 MVAR (765 kV)
		spare reactor single phase unit at Sirohi PS – I No.
3.	Rishabdeo - Mandsaur PS 765 kV Die line R	Route Length – 160 km
	along with 240 MVAR switchable line	745 KV 240 MVAR
	reactor for each circuit at Kishaouco chu	• 765 KV, 240 MV AK switchable line reactors at Rishabdeo - 2 Nos.
		<ul> <li>Switching equipment for 765 kV, 240 MVAR switchable line reactors</li> </ul>
		at Rishabdeo $-2$ Nos.
4.	EILO of one circuit of 765 kV Chittorgarh-L Banaskanta D.c line at Rishabdeo S/s (20 km)	JILO route length ~ 20 km
5.	2 No of 765 kV line bays each at Sirohi PS	<ul> <li>765 kV line bays - 4</li> </ul>
	& Mandsaur S/s	Nos. (2 Nos. each at Strohi PS & Mandsaur PS)

hel

सार U—खण्डः ३(i	u)] নাম্য কা বার্থসা এক আল্লা		
- No - 1. - 1.	Te: The line lengths mentioned above are approximate as to obtained after the detailed siteway Developer of Siraha PS to provide space for 3 Nos- Sirahi PS along with the space for switchable line o	the exact length shall be of 765 kV line bays at cactors, including space	
()), v, v	innt. Developer of Mandsaur PS to provide space for 2 Nos- Mandsaur PS Implementation of A. B. C. D. E. F. III. H2 packages of Swetchable line reactors to be implemented with NGR 1 The implementation fimeline mentioned above is te would be indicated in the RIP Document	of 765 kV line bays at hall be aligned hypass arrangement, ntative, firmal (fine-ine	
5. Frat 5.5 C Len Scor	spussion system for Evacuation of Power from Rajasthi zW) (Jaisalmer/Barmer Complex): Part I' (By clubbing f ative toplementation functions : 24 mentos from SPV Tra-	in REZ Ph-IV (Part-Z ) Part F1 & F2) Inster	PFC Consultin Linnted
SL. No.	Scope of the Transmission Scheme	Capacity	
1.	Establishment of 3x1500 MVA. 765 400 kV = & 2x500 MVA. 400 220 kV Barmer-I Pooling Station along with 2x240 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor Future provisions: Space for 765/400 kV ICT along with bays- 3 No 765 kV line bays along with switchable line reactors = 4 Nos. 765 kV Bus Reactor along with bay: 1 No 400 kV line bays 4 400 kV line bays 4 400 kV line bays along with switchable line reactor = 4 Nos. 400 kV line bays along with switchable line reactor = 4 Nos. 400 kV line bays 4 400 kV line bays along with switchable line reactor = 4 Nos. 400 kV line bays along with switchable line reactor = 4 Nos. 400 kV line bays along with switchable line reactor = 4 Nos. 400 kV Bus Reactor along with bays -8 Nos. 400 kV Bus Reactor along with bays 1 No. 400 kV Sectionalization bays: 2 sets	<ul> <li>765-400 kV, 1500 MVA ICT- 3 Nos. (10x500 MVA meluding one spare unit)</li> <li>765 kV ICT bays-3 Nos.</li> <li>240 MVAR. 765 kV Bus Reactor-2 Nos. (7x80 MVAR. meluding one spare unit)</li> <li>765 kV Bus reactor bays-2 Nos.</li> <li>765 kV Line bays- 2 Nos. (for D'c line to Sirohi PS)</li> <li>400-220 kV, 500 MVA ICT -2 Nos</li> <li>400 kV ICT</li> </ul>	

Gel

[PART II—SEC 3(ii)]

		<ul> <li>400 kV line bays - 2 Nos. [for D/c line to Fatchgarh- III(Section-2) PS]</li> </ul>
		<ul> <li>220 kV ICT bays- 2 Nos.</li> <li>220 kV line bays. 4 Nos. (for RE connectivity)</li> </ul>
		<ul> <li>220 kV BC (1 No) &amp; TBC (1 No)</li> </ul>
2.	Patehgarh-III (Section-2) PS – Barmer-I PS 400 kV Da line (Quad)	eRoute Length - 50 km
3.	Batmer-LPS Sirohi PS 765 kV D-c line along with 240 MVAR switchable line reactor for each circuit at each end	NRoute Length ~ 200 km 1
		<ul> <li>765 kV, 240 MVAR switchable line reactors at Barmer-LPS 2 Nos.</li> </ul>
		<ul> <li>765 kV, 240 MVAR switchable line reactors at Siroh: PS - 2 Nos.</li> </ul>
		<ul> <li>Switching equipment for 765 kV 240 MVAR switchable line reactors at Barmer-1 PS – 2 Nos.</li> </ul>
		<ul> <li>Switching equipment for 765 kV 240 MVAR switchable line reactors at Sirohi PS – 2 Nos.</li> </ul>
4.	2 No. of 400 kV line bays at Fatehgarh-III (Section-2 PS	400 kV line bays at Fatehgarti-III (Section- 2) PS - 2 Nos.
5.	2 No. of 765 kV hne bays at Sirohi PS	765 kV line bays at Sirohi PS – 2 Nos.

48

hd

राम् ।[— ७७४	3(in)	भारत का राजगंत असमि	a r	-10
I	Sole:		1	1
	1.	The line longths mentioned above are approx- obtained after the detailed survey	insate as the exact length shall be	
.		Developer of Sitobi PS to provide space for Sitobi PS along with the space for switchable	r 2 Nosi of 765 kV line bays at line reactor	
		Developer of Fateligath-III PS (Section-7) to KV (ine hays at Fateligath-III PS (Section-7).	provide space for 2 Nos. of 400	
		Switchable line reactors to be implemented w	the NGR bypass arrangement	
		Implementation of A, B, C, D, E, F, H1, H2 p	ackages shall be alighted.	
		The implementation function monitored als would be indicated in the KIP Document.	ove is tertative, (1951)) interne	
	pansm	instan System for Evacuation of Power from	Rajasthan REZ Ph-IV (Pari-2)	REC Power
S	IS GW	) (Jaisaimer/Barmer Complex): Part 21	CDV Taas for	and
	Tentative implementation dravitance : 24 months from SPV T	LAC Y JIBHNU	Consultancy Limited	
	Scolie			1. ference de
	SI. No.	Scope of the Transmission Scheme	c apacity	
1		Establishment of 765/400 kV (2x1500 VIVA), 400/22 kV (2x500 MVA) & 220,132 kV (3x200 MVA) Kurawar S's with 2x430 MVAR 765 kV hus reactor	<ul> <li>765'400 kV, 1500 MVA ICT = 2 (7 single units of 500 MVA including one spare unit)</li> </ul>	
		and 1x125 MV AR, 420 kV bus reactor.	<ul> <li>400/220 kV, 500 MVA</li> </ul>	-
I		Future Provisions:	C  = 2	
		Space for	• 220/132 kV, 200 MVA ICT - 3	
		<ul> <li>765 400 kV ICT along with bays- 4 no.</li> </ul>	• 765 kV ICT bays- 2	
		• 765 kV line bays along with	• 400 kV ICT bays- 4	
I		switchable line reactors – 8 aos.	<ul> <li>220 kV ICT bays = 5</li> <li>32 kV ICT bays = 5</li> </ul>	
		<ul> <li>765 kV Bus Reactor along with bay: 2 no.</li> </ul>	• 132 KV ICT 0398 - 5	
- 1		• 765 kV Sectionaliser bay: 1 -set	• 330 MVAR 765 KV bus reactor-2	÷
		<ul> <li>400 kV line bays along with switchable line reactor - 8 nos</li> </ul>	<ul> <li>125 MVAR 420 kV bus reactor-1</li> </ul>	
		400:220 kV ICT along with bays -	• 765 kV reactor bay- 2	
I		6 nos	<ul> <li>765 kV line bays- 4</li> </ul>	
		<ul> <li>420 kV Bus Reactor along with bay: 3 nos.</li> </ul>	• 400 kV line bays- 4	
I		• 400 kV Sectional zation bay.	• 400 kV reactor bay - 1	
		set	• 220 kV BC – 1	
		• 220 kV line bays: 12 nos.	• 220 kV TBC - 1	
		220 kV Sectionalization bay. 1set	• 132 kV TBC – 1	
		• 220 kV BC and TBC 1 no.	• 110 MVAR, 765 kV, 1-ph	
		<ul> <li>220-132 kV ICT along with bays: 5 Nos</li> </ul>	<ul> <li>reactor (soare unit)-1</li> <li>80 MVAR, 765 kV, 1-ph</li> </ul>	
		• 132 kV line bays: 16 nos.	reactor (spare unit)-1	
		• 132 kV Sectionalization bay. 1 set		1

hd

# THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II -SEC. 3(3i)]

	<ul> <li>132 kV TBC - 1 no.</li> <li>STA FCOM (± 300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125 MVAR) along with 400 kV bay</li> </ul>
2.	Mandsaur Kurawar 765 kV D'e line Route length, 235 km
3.	<ul> <li>240 MVAR switchable line reactors on each ckt at both ends of Mandsaur Kurawar 765 kV D/c line</li> <li>240 MVAR, 765 kV switchable line reactor-4 (2 for Mandsaur end and 2 for Kurawar end)</li> <li>Switching equipment for 765 kV line reactor-4 (2 for Mandsaur end and 2</li> </ul>
	for Kurawat end)
4.	2 nos. of 765 kV line bays at Mandsaur S/s for termination of Mandsaur – Kurawar 765 kV D.e line
5.	LILO of Indore - Bhopal 765 kV S/c line LILO route length: 15 km. at Kurawar
6.	Kurawar - Ashtha 400 kV D/c (Quad Route length: 65 km ACSR/AAAC/AL59 moose equivalent) line
7.	2 nos of 400 kV line bays at Ashtha 400 kV line bays = 2 Nos. [for (MP) S/s for termination of Kurawar = Ashtha (MP) end] Ashtha 400 kV D/c line
8.	LILO of one circuit of Indore – Itarsi 400 LILO route length: 30 km kV D/c line at Astha
9.	2 nos. of 400 kV line bays at Ashtha 400 kV line bays – 2 Nos. [for (MP) S/s for LILO of one circuit of Ashtha (MP) end] Indore Itarsi 400 kV D'c line at Astha
10	Shujalpur – Kurawar 400 kV D/c (Quad Route length: 40 km ACSR/AAAC/AL59 moose equivalent) line
11.	2 nos. of 400 kV line bays at 400 kV line bays – 2 Nos. [for Shuja]put(PG) S/s for termination of Shuja]pur(PG) end] Shuja]pur – Kurawar 400 kV D/c line
Note i	The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
ıi	MPP CL has confirmed availability of space for 2 nos. 400 kV bays at Ashta (MP) S/s and for 2 nos-additional bays. MPPTCL has informed that adjacent land is private land and may be purchased by the project developer at their cost as per requirement.
in.	Implementation of A,B,C,D, E,F, H1 & H2 packages shall be aligned
iv.	TSP of the subject scheme shall implement Inter-tripping scheme on Mandsaur - Kurawar 765 kV D.c line (for tripping of the switchable line reactor at Mandsaur/Kurawar end along with the main line breaker).
v.	Switchable line reactors to be implemented with NGR bypass arrangement
vi	Developer of Mandsaur S/s to provide space for 2 Nos. 765 kV line bays for Mandsaur – Kurawai 765 kV D/c line.

vi.	POWERGRID to provide space for 2 Nos, 400 kV line bays at Shujalput S-s for Shujalpur - Kurawar 400 kV D'e fine.
vjii.	The implementation timerine mentioned above is tentative. Final Trinchite would be indicated at the RIP Document

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

[F. No. 15-3/2018- Frank Part 13] BIHARI LAL, Under Scoy, (Transmission).

251

#### अधिसचना

## गई दिल्ली, 29 अगस्त, **202**3

का.ख. 3895(अ).—कंट गरकार दारा, विद्युत अधिनियम, 2003 (2003 का35) की धारा 63 के तहत परिचानित दिशा-निर्देशों के उप-पैसा 3.2 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, जीचे ती गई तालिका में उच्चिति राजपत अधियूजना के माध्यम में टेरिफ आधारित प्रतिश्वधीं योली (टी.टी.मीबी) के अंतर्गल आयोग्वयन के जिए निम्नलिखित जरेपण स्वीमों के कार्यक्षेध को अधिनचित/मंशोधित किया गरा था:

क,स.	<b>स्कीम</b> का नास	राजपत्र अधिसूचना जिसके झरा स्कीम अधिसूचित की गई थी
1.	चरण-।।। भाग बीन के अंतर्गत स्वस्थान में	का.बा.5032 (४) <b>दिनाक</b> 6.12.2021
	आर्ट्सजेड से विद्युत की निकासी (20 गीगानॉट) के	[फा.चं. 15/3/2018-ट्रांस-गार्ट(1)
	सिर्मारगण अम्माल।	एवं
		बा.आ.1724व दिना≉ 23.02 2023
		[फ़ा,च. 15/3/2018-इंग्स-पार्ड(1)]

2. अब, केंद्र सरकार न सहीय परिषण समिति (एनसीटी) की 14वीं बैटक की सिफारिओं की जांच के बाद उपरोक्त इस्लिखित स्कीमों के कार्यक्षेद्र को संशोधिन करने का निर्णय लिश है। इस प्रकार, स्क्रीम के कार्यक्षेत्र "वरणते॥ आग बी1 के तहने राजस्थान ये आरईटेट से विश्वन की निकायी (20 प्रीमार्वोट) के 'नेए परिषण प्रणानी' की निद्यानुमार संशोधिन किंग गया है:

<b>क्र</b> .सं.	संकोषित कार्यक्रेप 2x330 एमडीएआर (765 केली) बस रिएकटर एवं 2x125 एमबीएआर (420 केवी) वस रिएकटर के साथ भादला-3 में 2x1500 एमबीए, 755/400 केवी एव3x500 एमबीए, 480/220 केवी पुलिस स्टेशन की		
i.			
	स्थापासा		
	<ul> <li>765/400 केवी 1500 एमवीप आईसीटी: 2 (एक स्पयर पूर्विट शोहन 7x500 एमवाए)</li> </ul>		
	<ul> <li>765 केबी आइंसीटी वे - 2</li> </ul>		
	• 400/220 केवी, 500 एमवीए आईसीटी – 3		
	• 765 केवी लाइन वे -2		
	<ul> <li>400 केवी आईसीटी चे – 5</li> </ul>		
	• 220 केवी आईंसीटी वे - 3		
	<ul> <li>220 केवी लाइन बे. 5</li> </ul>		
	• 330 एमबीएआर बस रिएक्टर-2 (एक स्पेयर युनिट गहित 7x110 एनबीएआर)		
	• 765 केवी रिएक्टर थे - 2		

Gel

52	THE GAZETTE OF INDIA : EXTRAORDINARY [PART II SEC. 3(ii)]
1	<ul> <li>125 एमवीएआर, 420 केवी बस रिएक्टर- 2</li> </ul>
	• 420 केवी रिएक्टर वे - 2
	भावी प्रावधान: निम्नलिखित के लिए स्थान
	<ul> <li>व सहित 765/400 केवी आईमीटी: 2</li> </ul>
	<ul> <li>स्विचेवल लाइन रिएक्टर सहित 765 वेवी लाइन बे: 6</li> </ul>
	• 765 केवी लाइन थे. 4
	• चे सदित 765 केवी बस रिएलटर: 2
	<ul> <li>बे सहित 400/220 केवी आईसीटी: 10</li> </ul>
	<ul> <li>400 केवी लाउन बे: 8</li> </ul>
	<ul> <li>स्विचेबल लाइन रिएक्टरों सहित 400 केवी लाइन बे: 8</li> </ul>
	<ul> <li>बे महित 400 केवी बम रिएक्टर: 2</li> </ul>
	<ul> <li>400 केवी सेक्शनलाईजेशत वे: 2 सेट</li> </ul>
	<ul> <li>220 केवी लाइन ये: 12</li> </ul>
	220 केवी मंक्शनलाइज़ेशन बे: 2 सेट
2.	भादला-3 पींएस - सीकर-11 एम/एस 765 केवी डी/मॅंक्स लाइन क प्रत्यक छार पर धर्त्यक सर्किट के लिए 330 एमबीएआर स्विचबल लाइन रिएकटर सहित भादला-3 तीएस - सीकर-11 एस/एस 766 केवी डी/सी लाइन
	<ul> <li>765 केवी 330 एमग्रीएआर विवचेचन पाइन रिएक्टर के लिए स्विचिंग उपभरण – 4</li> </ul>
	<ul> <li>765 केंग्री, 330 एमकीएआर स्विचेत्र-४ लाइन सिणकटर - ५</li> </ul>
3.	सीकर-ा। में 765 केवी जाडन वे
	∝ 765 केवी चाइन थे – 2
i	शॉर्ट मर्किट स्तर को मीमित करने के लिए भादना-3 में 400 केवी एवं 220 केवी रतर पर उपयुक्त सेक्शन लाइजेशन का प्रावधान रक्षी जाएगा।
	सोकर-त एस/एस के विकासकर्ता स्विचेवल लाइन सिएन्टरी के लिए स्थान के साथ-साथ मीकर-1 एस/एस में 785 केवी लाइन वे में से 2 वे के लिए स्थान उपलब्ध कराएंगे।
III.	जम स्विचिंग स्वीध का आवश्यकता क लिए भविषय में दो 220 केवी यहां कथलर वे और 2 ट्रांशफर वस रुपलर वे के लिए स्थान संवर्धा पार्थधान रखा जाएशा।

3 मृत्य अधिसूचना के अनुसार, उपरोक्त स्कीम के लिए बोली प्रक्रिया समन्वयक अपरिवर्तित रहेंगे।

[का. ग. 15/3/2018-ट्रांस-पार्ट (1)]

りちつ

बिहारी लान, अबर मचित (पारंपण)

### NOTH/ICATION

New Delhi, the 29th August, 2023

S.O. 3895(E). —In exercise of the powers conferned by sub- para 3.2 of the Guidelines circulated under Section 63 of the Electricity Act. 2003 (no. 36 of 2003), the Central Government had notified/ modified scope of following transmission schemes for implementation under Tariff Based Competitive Bidding (TBCB) vide Gazette Notification mentioned below table:

Gd
[भाग 11—खण्ड [3(ii)]-

-	253	)
	53	

SI. No.	binnie of the Scheme	Gazette Notification by which Scheme was notified
1	Transmission System for Evacuation of Power from REZ in Rejasthan (20 GW) under physe-fif Part 10.	S.O. 5032(E) dated 6.12.2021 (F.No.15/3/2018-Trans-Part(1)
		And
		S.O. 1724(E) dated 23/02.2023 [F.NO 15/3/2018 -Trans-Part(1)]

2. Now, the Central Government has decided to modify the scope of above mentioned scheme and examining the recommendations of the 14<sup>n</sup> meeting of National Committee on Transmission (NCT). As such the scopes of scheme "Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under phase-III Pari B1° is hereby modified as under:

SI, No.	Revised Scope				
	Establishment of 3x1500 MVA, 765400 kV & 3x500 MVA, 400/220 xV publing station as Bhadha-3 along with 3x330 MVAR (765 kV) Bus Reactor & 2x125 MVAR (420 kV) Bus Reactor				
	<ul> <li>765/400 kV 1500 MVA IC18: 2 N88.</li> </ul>				
	(7x500 MVA including one spare unit)				
	• 765 kV ICT bays - 2 Nos.				
	• 400/220 kV, 500 MVA ICT – 3 Nos.				
	• 765 kV line bays -2 Nos.				
	• 400 kV ICT bays – 5 Nos.				
	• 220 kV ICT bays - 3 Nos.				
	• 220 kV line bays: 5 Nos.				
	<ul> <li>330 MVAR Bus Reactor-2 Nos. (7x110 MVAR, including one spare unit)</li> </ul>				
	<ul> <li>765 kV reactor bay- 2 Nos</li> </ul>				
	<ul> <li>125 MVAR, 420 kV bus reactor - 2 Nos.</li> </ul>				
	• 420 kV reactor bay - 2 Nes.				
	Future provisions: Space for				
	765/400 kV ICTs along with bays, 2 Nos.				
	<ul> <li>765 kV line bay along with switchable line reactor: 6 Nos.</li> </ul>				
	765 kV line bay: 4 Nos.				
	<ul> <li>765 kV Bus Reactor along with bays: 2 Nos.</li> </ul>				
	<ul> <li>400/220 kV ICTs along with bays, 10 Nos.</li> </ul>				
	• 400 kV line bays: 8 Nos.				
	<ul> <li>400 kV line bays along with switchable line reactors: 8 Nos.</li> </ul>				
	<ul> <li>400 kV Bus Reactor along with bays: 2 Nos.</li> </ul>				
	400 kV Sectionalization bay: 2 sets				
	<ul> <li>220 kV line bays: 12 Nos.</li> </ul>				
	220 kV Sectionalization bay: 2 sets				
2.	Bhadla-3 PS – Sikar-II S/s 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-3 PS – Sikar-II S/s 765 kV D/c line				
	<ul> <li>Switching equipment for 765 kV 330 MVAR switchable line reactor – 4 Nos.</li> </ul>				
	<ul> <li>765 kV, 330 MVAR Switchable line reactor- 4 Nos.</li> </ul>				

Gel

54

	765 kV line bays at 51kar-11 765 kV line bays = 2 iNos.
i.	Provision of suitable sectionalization shall be kept at Bhadla 3 at 400 kV & 220 kV level to limit short tircuit level.
	Developer of Sikur-H S/s to provide space tot 3 Nes. of 765 kV line bays at Sikar-H S/s along with space for switchable line reactors.
III.	Space provision for future 2 Nos. 220 kV Bus Coupler bay and 2 Nos. Transfer Bus Coupler Bay shall be kept for bus switching scheme (equirement,

Bid Process Co-ordinators for above scheme with remain unchanged, as per original notification.

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

HITARLUAL, Under Secy. (Trans).

1. promited by Die of Printing at Covernment of Endin Press, Ring Road, Mayapari, New Delle-(10064 and Published by the Controller of Publications, Detail(10053).



सत्यमेव जयते

#### 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 contribute that KHAVDA IV C POWER TRANSMISSION LIMITED is incorporated on this. TWENTY SEVENTH day of SEPTEMBER TWO THOUSAND TWENTY THREE under the Companies Act. 2013 (18 of 2013) and that the company is Company limited by shares.

The Corporate Identity Number of the company s U42202DL2023GOI420655

The Permanent Account Number (PAN) of the company is AAKCK5537B\*

The Tax Deduction and Collection Account Number (TAN) of the company is DELK26869D\*

Given under my hand at Manesar this. TWENTY SEVENTH day of SEPTEMBER. TWO THOUSAND TWENTY, THE BE

Signature Not Verified Digitally signed by DS MINISTRY OF CORPORATE AFFAIRS 10 Date: 2023.10.05 23:32:30 IST

#### PRAMOD MEENA

Assistant Registrar of Companies/ Debuty Registrar of Companies/ Registrar of Companies

For and on behalf of the Jurisdictional Registrar of Companies

Registrar of Companies

Central Registration Centre

Disclaimer: This perifficate only evidences incorporation of the company on the **basis** of documents and declarations of the applicant(s). This perifficate is neither a license ner permission to conduct business or solicit **dopos** is or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other dotails of the company can be verdied on multipovun

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

KHAVITA IVIC POWER TRANSMISSION LIMITED.

CORE-4, SCOPE COMPLEX,7, CODHI ROAD,Lodi Roas,Deihi Central Delhi 110003,Delhi

Gd

'as issued by Income tax Department



# Annexure- 4 (Colly.)

## FormNo, INC-33

e-MOA(c-Memorandum of Association) (Pursulant to Schedule I (see Sections 4 and 5) to the Companies Act, 2013)]

Refer (Fistruction kit for filing the form

All fielOsmarked in \* are mandatory



Form language

English

C Hind

256

# \* Table applicable to company as notified under schedule Lof the Companies Act, 2013 IN MENORANDUM OF ASSUCIATION OF A COMPANY LIMITED BY SHARES 5 MENORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY GUARAN TE AND NOT HAVING A SHARE JAPITAL . MEMORANDUM OF A SSOCIATION OF A COMPANY UMLED BY GUARANTEE AND HAVING A SHARE CAPITAL 5. MEMORANDUM OF ASSOCIATION OF AN UNUMITED COMPANY AND NOT HAVING SHARE CAPITAL " MC MORANDUM OF ASSOCIATION OF AN UNUMITED COMPANY AND HAVING SHARE CAPITAD Table A/B/C/D/E \* The name of the company is 2 The registered office of the company will be situated in the State of Delhi 3 (a) The objects to be pursued by the company on its incorporation are

A - MEMORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY SHARES

#### KHAVDA IV C POWER TRANSMISSION LIMITED

Triplan, promute and devolop ad integrated and efficient. dewer transmission system. network in a lits aspects including planning hivestigation research design and congretering, preparation of presim hary reastbility and definite project reports, construction, operation and maintenance of transmission I nes, sub-stations, load dispatch stations and communication fac lifties and appurtement works coordination of integrated operation of regional and national grig system, execution. of turn key jobs for other utilities/organizations and wheeling of power in accordance. with the policies, guidelines and objectives (a.d down by the Central Government from time to lime

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

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

3 To act as consultants, technical advisors, surveyors and providers. of technical and other services to Public or Private Sector unterprises engaged in the planning investigation, research, design and preparations of preliminary feasibility and definite project reporits, manufacture of power plant and equipment construction. generation, operation and maintenance of power transmission system from power generating stations and projects. transmission and distribution of power 4 To plan promote develop erect and maintain, operate and ntherwise deal in Telecommunication networks and services in a lits aspects including planning, Investigation research design and enquineering, preparation of ofeliminary, feasibility ann definite project reports to parchase, sell, moort expertissemble menuracione install commission maintain operate commercially whether on own or along with other, on lease or otherwise. These networks and for such purposes to set up and/ or install all reguls te communications facilities and other facilities including fibre optic links, digital microwave links, communication cables other telecommunication means. telephone and other exchanges co-axial stations, microwave stations, repeater stations security system databases, billing systems, subscriber management systems and other communication systems whether consisting of sound, v sual impulse, or otherwise existing or that may be developed or invented in the future and to manufacture, purchase sell, import, export, assemble, take or nive on lease/rental/subscription

Gel

basis or by similar means or otherwise deal in all components and other support and anciliary hardware and software systems, accessories, parts and equipments etclused in or in connection with the operation of the above communication systems and networks including to deal with telecommunication operations or directly with the general public, commercial companies or otherwise

1.To obtain license, approvals and authorization from Governmental Statutory and Regulatory Authorities, as may be necessary to carry out and achieve the Objects of the Company and connected matters which may seem expedient to develop the business interests of the Company in India and abroad.

2 To enter into any arrangement with the Government of India or with any State Government on with other author/hes/ commissions, local bodies or public sector of private sector undertakings, Power Utilities, Financial Institutions, Banks International Funding Agencies and obtain such charters. subsidies, kians, advances or other money, grants, contracts. rights, sanctions, privileges, licenses or concessions whatsoever (whether statutory or otherwise) which the Company may think it desirable to obtain for carrying its act vities in furthering the interests of the Company or its members. 3. To enter into any agreement contract or any arrangement for the implementation of the power ocheration, evacuation transmission and distribution system and network with Power/ Transmission Utilities, State Electricity Boards, Vidhyut Boards Transmission Companies, Generation Companies Licensees, Statutory bodies,

Gel

(b) \* Matters which are necessary for furtherance of the objects specified

in clause 3(a) are

other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power atc To secure the payments of money, receivables on transmission and distribution of electricity and sale of fue, as the case may be, to the State Electricity Boards, Vid yut Boards Transmission Utilities, Generating Companies Transmission Companies, Distribution Companies, State Governments. Licensees, statutory biodies, other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power etc. through Letter of Credits/ESCROW and other security documents 5." o coordinate with the Central Transmission Utility of electricity cenerated by it under the relevant provisions of Electricity Act 2003 and any amondments thereto. 6 Subject to provisions of Sections 73, 74, 179, 180 & 186 and other applicable provisions. of the Companies Act, 2013 and rules made thereunder and subject to other laws or directives of any, of SEBVRBI, to borrow money in Retran eraless or foreign currencies and obtain foreign lines of credits/ grants/ aids etc. or to receive money or deposits from public for the purpose of the Company's

pusiness in such manner and ch such terms and with such rights. privileges and obligations as the Company may think fit The Company may issue bonds/ depentures whether secured or unsecured bills of exchange, promissory notes or other securities, mortgage or charge on all or any of the immovable and movable properties present or future and all or any of the uncalled capital for the time being of the Company as the Company may deem fit and To repay, redeem or pay off any such securities or charges. 7 To lend money on property or on mortgage of immovable properties or against Bank

guarantee and to make advances int money against future supply of goods and services on such. terms as the Directors may consider necessary and to invest money of the Company in such manner as the Directors may mink fit and to sell transfer or to deal with the same a To own, possess, acquire by aurchase lease or otherwise lights, title and interests in and to exchange or hire real estate. equipment Transmission Lines lands buildings, apartments, plants, equipment, machinery fuel blocks and hereditaments of any tenure or descriptions. ituated in India or abroad or any estate or interest therein and any right over or connected with land so situated and turn the same to account in any manner. as may seem necessary or convenient for the purpose of business of the Company and to hold, improve, exploit, repruarize. manabe lease to L exchange or otherwise disposeof the whole or any part thereof. ØSubject to applicature. providions of Company as Arity 20 Seto subscribe for Underwhile, or otherwise actions? hold dispose of and deal with the shares islacks, debentures on other securities and titles of Indebtedness or the right to part cipate in profits or other similar documents issued by any Government authority Corporation or body or by any company or body of persons and any option or right in respect there of. \$0.To create any depreciation fund, reserve fund, sinking fund insurance fund, gratulty, provident fund or any other lund, for depreciation or for repairing, improving extendingor maintaining any of the properties of the Company or for

properties of the Company of for any other purposes whatsoever conducive to the interests of the Company

11.10 acquire shares istocks, depentures or securities of any company carrying on any

Gel

Dusiness which this Ccompany is enlitled to carry on or acquisition of undertaking itself which may seem I kely or calculated to promote or advance the interests of the Company and to sell or discuse of or transfer any such shares, stocks or securities and the acquired undertaking. 12 To enter into parth ership or into any agreement for joint working sharing or pooling nralits joint venture malgamation, union of interests co-operation, reciprocal concessions of otherwvise or amalgamate with any person or company carrying on lonengaged in or about to carry on or engaged in any business or transaction in India or abroad which the Company is authorized to carry on or engage in any business under taking having objects identical or similar to as are being carried on by this Company 13.To establish and maintain agencies branch offices and local agencies to produre business in any part of India and world and to take such stops as may on necessary to give the Company. such lights and provinces in guy part of the world as userned. proper in the interest of the Company 14 To promote and undertake the formation of any institution or Company or subsidiary company or for any aforesaid objects intended to benefit the Company directly or indirectly and to coordinate, control and ouide their activities. 15(a) To negotiate and enter into agreements and contracts. with domestic and foreign companies, persons or other organizations banks and financial institutions. in relation to the business of the Company including that of technical know-how import, o port, purchase or sale of plant machinery, equipment tools, accessories and consumables, financial assistance and for carrying out all or any of the

Page 6 of 13

objects of the Company

Gel

15(b). To negotiate an dienter Into

agreements and contracts for execution of turnkey jobs, works, supplies and export of plant, machinery, tools and accessories etc.

16 Upon and for the purpose of invissue of shares debentures or any other securities of the Company, to enter into agreement with Intermediarles including brokers, managers of issue/commission agents and underwriters and to provide for the remuneration of such persons for their services by way of payment in cash or issue of shares debentures or other securities of the Company or by granting options to take the same or In any other manner as permissible under the law. 17.To enter Into contracts of Indomnity and get guarantee and allocations for the business of the Company

18. To make arrangements for training of all categories of employees and to employ or otherwise engage expension advises consultants electronic interest of achieving the Company's objects

theft, safety of life and to protect environments including air, land

and water etc. 20.To pay and provide for the remuneration, amelloration and wellare of persons employed or formerly employed by the Company and their families providing for pension, llowances, bonuses, other payments or by creating for the purpose from time to time the Provident Fund Gratuity and other Funds or Trusts Further to undertake building or contributing to the building or houses dwellings or chaw's by grants of money, or by helping persons employed by the Company to effect or maintain Insurance on their lives by contributing to the payment of premium or otherwise and by providing or subscribing or

Gel

contributing towards educational institutions, recreation hospitals aind dispensaries medical and other assistance as the Comipany may cleem fit.

2 To ensure any rights. properties undertakings, contracts guarantees or obligations or profits of the Company of every nature and kind in any manner with any person, firm, association, Institution or company 22 To distribute among members of the Company dividend Including bonus shares out of profits, accumulated profits or funds and resources of the Company in any manmer permissible under law 23 To institute conduct, defend. compound or abandon any logaproceedings by or against the Company or its officers pr otherwise concerning the affairs. of the Company and also to compound and to allow time fer payment or satisfaction of any debts or recovery due, claims or demands by or against the Company and its eter any claims. or demands by or against the Company phany differences acking in execution of contracts to consiliation and a cottamonand to observe, comply with and/or challenge any awards prelim nary, interim or final made in any such arbitration 24 To pay out of the funds of the Company all costs, charges, expenses and preliminary and incidental to the promotion, formation, establishment and registration of the Company or other expenses incurred in this regard. 25 Subject to provisions of Sections 181, 182 & 183 c\* Companies Act, 2013 to contribute money or otherwise assist to charitable benevalent, religious, scientific national, defense public or other institutions or objects or purposes.

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

Gd

firm or company or with any bank bankers or shroofs and to pay Into and withdraw money from such account or accounts. 27.To accept gifts, bequests, devises and donations from memoers and others and to make gifts to members and others of money, assets and properties of any kind 28 To carry out all or any of the objects of the company and do all or any of the above things in any part of the wor'd and either as principal, agent, contractor or trustee or otherwise and either alone or in conjunction with others.

29.To negotiate and/or enter into agreement and contract with individuals, companies, corporations, foreign or Indian for obtaining or providing technical, financial or any other assistance for carrying on all or any of the objects of the Company and also for the purpose of activating, research. development of projects on the basis of know-new ang/or financial participation and for tecnosal collaboration, and to acquire or provide necessary formuli te and patent rights for furthering the objects of the company. 30 to aid peculiarly or otherwise

any association, body or movement having for its object the solution, settlement or surmounting of industrial or about problems or trouble or the promotion of industry or trade.

31 Subject to the provisions of Companies Act, 2013 or any amendment or re-enactment thereof in the event of winding up to distribute among the members in specie any property of the Company or any proceeds of sale on disposal of any property in accordance with the provisions of the Act 32.To do all such other things as may be deemed incidental or conducive to the attainment of the above Objects or any of them and to carry on any business which may seem to the Company

Gel

# 265

capable of being conveniently carried in connection with any of the Company's Objects or calculated directly or undirectly to enhance the value of or render profitable any of the Company's property or rights 33.To estab ish, provide maintain and conduct or otherwise subsidies research laboratories and experimental workshops for scientific, technical or researches, experiments and to undertake and carry on directly or in collaboration with other agencies scientific and technical research experiments and tests of all kinds and to process, Improve and inventinew products and their techniques of manufacture and to promote. encourage, reward in every manner studies and research cientific and technical investigations and inventions of any kind that may be considered likely to assist, encourage and promote rapid advances in lechnology, economies, import substitution or any business. which the Company is mathorized to carry on. 34:Subject to provisions of the Companies Act. 2013. To evolve scheme for restructuring or arrangement to amalgamate or merge or to enter into partnership or into any consortium or arrangement for sharing of profits, union of Interests co-operation, joint venture with any Person or Persons partnership firm/firms, er company or companies carrying on or engaged in any operation capable of being conducted so conveniently in cooperation with the business of the Company or to benefit the Company or to the act vit es for which the Company has been established 35 To apply for purchase, or otherwise acquire any trade marks, patents, brevets inventions licenses, concessions and the like, conferring any exclusive or nonexclusive or

Gel

limited rights to use, or any secret or other information as to any invention which may be capable of being used for any of the purposes of the Company or he acquisition of which may benefit the Company and to use exercise, develop or grant licenses in respect of or otherwise turn to account the property rights or information so acquired 6.To sell, dispose or hive off an undertaking of the Company or iny part thereof for such consideration as the Company may think fit and in particular for shares, debentures or securities of any other association comporation or company. 37 To sell, improve, manage levelop, exchange. 'oan. lease or let under-lease sub - let, morigage dispose of dea with in any manner, turn to account or otherwise deal with any rights or property of the Company.

4 The liability of the member(s) is limited, and this liability is limited to the amount unpaid if any, on the shares held by them,

The liability of the member(s) is limited The liability of the member(s) is Unlimited

٢

5 Every member of the company undertakes to contribute.

(i) to the assets of the company in the event of its being wound up while he is a member, or within one year after he ceases to be a member, for payment of the debts and liabilities of the company or of such debts and liabilities as may have been contracted before he ceases to be a member, and

(ii) to the costs, charges and expenses of winding up (and for the adjustment of the rights of the contributories among

nselves), such amour	n', as may be roqu	uired, not exceeding *		rupees
he share capital of th	he company is	500000	rupees, divided in	to
Equity Share	Shares of	10	Rupees each	50000

We the soveral persons, whose names and address are subscribed, are desirous of being formed into a company in pursuance of this memorandum of association, and we respectively agree to take the number of shares in the capital of the company set against our respective names.

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

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

Г

	Subscriber Details					
S. NO.	*Name, Address, Description and Occupation	DIN / PAN / Passport number	No. of shares taken	DSC	Dated	
1	ALOK SINGH S/O JAGDHARI SINGH NOM NEL OF REC POWER DEVELOPMENT AND CONSULTANCY L MITED R/O ME-23 ELDECC MANSIONZ, SECTOR-48, SOHNA ROAD, GURUGRAM - 122018, OCCUPATION- SERVICE	07498786	1 Equity,0 Preference	ALOK SINGH	25/09/2023	
2	REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI- 110003, THROUGH ITS CEO RAJESH KUMAR S/O SHRINIWAS GUPTA R/O L-187, NAG MANDIR KE PAS SHASTRI NAGAR, ASHOK V HAR, DELHI-110052 OCCUPATION-SERVICES	06941428	49994 Equity 0 Preferenc	RAJESH (down)	25/09/2023	
3	ARVIND KUMAR S/O NAND KISHOR SINGH NOM NEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED R/O T4-8A, SAI VATIKA APARTMENT, SECTOR-63 FARIDABAD - 121004 OCCUPATION- SERVICE	АННРК0531С	1 Equity,0 Preference	ARV NC KUMAR	25/09/2023	
4	MOFAN LAL KUMAWAT S/O SHRI RAMU RAM KUMAWAT NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO 142 TOWER -1 GC EMERALD, RAMPRASTHA GREENS VAISHALI SECTOR-7, GHAZIABAD-201010 UTTAR PRADESH, OCCUPATION-SERVICE	07682898	1 Equity,0 Preference	Mohan La Kumawat	25/09/2023	
	THANGARAJAN BOSH S/O SHRI SITHAN THANGARAJAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY		1 Equity 0	Annual Carlos and Annual Carlo	25/09/2023	

Gel

L'MITED M DDLE MATHUR ROAD NEW DEL OCCUPA	R/O APARTMENT NO PORTION 2-B JANGPU A HI-110014, HION SERVICE	S-2. JRA.	02772316		Preference				
<ul> <li>PUTHIYARKATTU SHIVARAN HARIHARAN S/ O SHR PUTHIYARAKAT VEL SIVARAMAN NOMINI FOLF DEVELOPMENT AND CONS L MITED FLATINO 104, SADAR APAR MAYUR VIHAR EXTENTION, PLOTINC 9 NEW DELFI-110091_OCCUPATIC</li> </ul>		N UDHAN POWLR TANCY IENT, IASE-1, SERVICE	08657652		1 Equity.0 Preference	And 1 - All	25/09/2023		
SAHAB N NOMINE OF REC P CONSUL NO	ARAIN S/O HARI NAR - OWER DEVELOPMEN FANCY LIMITED R/O A MENAGAR, MALVIYA	AIN TIAND A-1, FLAT NAGAR	03641879	3641879 1 Fquity.0 Preference		1 Fquity,0 Preference		SAMAS HAS	25/09/2023
DELHI-11	0017 OCCUPATION-	SERVICE							
DELH-1	0017 OCCUPATION-	SERVICE es taken			50000 Equily,0 Protection				
DELH-1	0017 OCCUPATION-	SERVICE es taken	Signed	betore me	50000 Equity,0 Proterence				
dembership two di the witness (ACA/YCA/ICS/FGS- ACM/YCA/ICS/FGS-	0017 OCCUPATION- Total share Name of the witness	SERVICE es taken *Ac Descri Occ	Signed ddress, iption and upation	betore me DIN / Passport Memo num	50000 Equily,0 Protection PAN / number / hersnip noer	DSC	Dated		
Membership two of the witness (ACM/CAMOS/FOS- ACMA/FCMM)	Name of the witness	SERVICE es taken *Ac Descri Occ 1803, TO RESIDEN ZONE-4, NOIDA W	Signed ddress, iption and upation WER-9, 1,A TIA, TECH GREATER JEST-201306	betore me DiN / Passport Memo num	SOCO Equily,0 Proterence PAIN / number / hersmip noer	DSC Vindy wedgers Kunger Winderste	Dated		

hel

FormNo. INC-34	000	Form langua;	10
e-ACTA(e-Articles of Association) (Furs Uent to Section 5 of the Companies Act, 2013		← r̄nglish	CHind
Refer Instruction kit for filing the form.			
Table applicable to company as notified under schedule	Lof the Companies Act. 2013	F	
Table 17 G / H (basis on the selection of above-mentione the companies Act. 2013: s applicable to (F = a company limited by shares C - a company limited by guarantee and having a share c H = a company limited by guarantee and not having shar	F - A COMPA SHARES	NY LIMITED BY	
The name of the company is		KHAVDA IV O	POWER ON LIMITED

Check if not applicable	Check if altered Article No.	Description
		Interpretation
		<ul> <li>(1) In theseregulations- (a) the Act means the Companies Act2013 (b)the seal means the common seal of the company (2)Unless thecontext otherwise requires words or expressions contained in these regulationsshall bear the same meaning as in the Act or any statutory modification thereofin force at the date at which these regulations become binding on thecompany (3)Public company means a company which (a) is not a privated empany(b) has a minimum paid-up share capital as maybe prescribed Provided that a company which is a subsidiary of a company not being a private companyshall be deemed to be public company for the purposes of this Act even wheresuch subsidiary company continues to be a private company inits articles.</li> </ul>
		Share Capital and Variation of rights
	Г   -	<ul> <li>Subject to the provisions of the Act and these Articles the shares in the capital of the company shall be under the control of the Directors who may issue allut or otherwise dispose of the same or any of them to such persons in such proportion and on such terms and conditions and either at a premium or at par and at such time as they may from time to time think fit.</li> </ul>
		Every person whose namels entered as a member in the register

269

hd

r			ormembers shall be artiflad toracable within two momine
	7	2	afterincorporation in case of subscribers to the memorandum or afterallotment or within one month after the application for theregistration of transfer or transmission or within such otherperiodas the conditions of issue shall be provided one certificate for all his shares without payment of any charges or severalcertificateseach for one or more of his shares upon payment of twentyrupeesfor each certificate after the first. Every certificate shall beunder theseal and shall specify the shares to which it relates and the amountpaid - up thereon in respect of any share or shares held joint ybyseveral persons the company shall not be bound to issue more than one certificate and delivery of certificate for a share to one of several joint holders shall be sufficient delivery to all such holders.
		3	<ul> <li>If any share cert ficate be worn out defaced mutilated or tormonif there be no further space on the back tor endorsement of transfer then upon production and summeder thereof to the company a new certificate may be issued in lieu thereof and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company doem adequate a new certificate in lieu thereof shall be given Every certificate under this Article shall be issued on payment of twenty ruppes for each certificate. The provisions of Articles(2) and(3) shall mutatis mutandis apply to debentures of the company.</li> </ul>
[		4	<ul> <li>Except as required by law no person shall be recognised by free company as holding any share upon any trust and the company shall not be bound by or be compelled in any way to recognise (even when having notice thereof) any equitable contingent tuture or partial interest in any share or any interest in any fractional part of a share or (except only as by these regulations or by law otherwise provided) any other rights in respect of any shall except an absoluteinght to the entirety thereof in the registered holder</li> </ul>
		5	<ul> <li>The company may exercise the powers of paying commissions conferred by sub-section (6) of section 40 provided that the rate per cent or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by that section and rules made thereunder. The rate or amount of the commission shall not exceed the rate or amount prescribed in rules made under sub section (6) of section 40. The commission may build shares or partly in the one way and partly in the other.</li> </ul>
F		6	<ul> <li>If at any time the share capital is divided into different classes of shares the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may subject to the provisions of section 48 and whether or not the company is being wound up be varied with the consent in writing of the holders of three-fourths of the issued shares of that class or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class. To every such separate meeting the provisions of these regulations relating to general meetings shall mutatis mutandis apply but so that the necessary cubrum shall be at least two persons holding at least one third of the issued shares</li> </ul>

			of the class in question
Г~~	<b>[</b>	7	<ul> <li>The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not unless otherwise expressly provided by the terms of issue of the shares of that class be deemed to be varied by the creation or issue of further shares ranking part passu therewith</li> </ul>
Г	F	8	<ul> <li>Subject to the provisions of section 55 any preference snares may with the sanction of an ordinary resolution be issued on the terms that they are to be redeemed on such terms and in such manner as the company before the issue of the snares may by special resolution determine</li> </ul>
			Lien
		9	<ul> <li>The company shall have a first and paramount lienon every share (not being a fully paid share) for all monies (whether presently payable or not) called or payable at a fixed time in respect of that share and on all shares (not being fully paid shares) standing registered in the name of all single person for all monies presently payable by him or his estate to the companyProvided that the Board of directors may at any time declare any share to be wholly or in part exempt from the provisions of this clause. The companys lien if any on a share shall extend to all dividends payable and bonuses declared from time to time in respect of such shares.</li> </ul>
	F	10	<ul> <li>The company may sell in such manner as the Board thinks fit any shares on which the company has all chProvided that no sale shall be madea unless a sum in respect of which the lien exists is presently payable or bluntil the expiration of fourteen days after a notice in writing stating and demanding payment of such part of the amount in respect or which the lien exists as is presently payable has been given to the registered holder for the time being of the share or the person entitled thereto by reason of his death or insolvency.</li> </ul>
Γ-	Γ	11	<ul> <li>To give effect to any such sale the Board may authorise some person to transfer the shares sold to the burchaser thereof. The purchaser shall be registered as the helder of the shares comprised in any such transfer. The purchaser shall not be bound to suc to the application of the purchase money nor shall his title to the shares be affected by any irregularity or invalidity in the proceedings in reference to the sale.</li> </ul>
	F	12	<ul> <li>The proceeds of the sale shall be received by the company and applied in payment of such part of the amount in respect of which the lien exists as is presently payable. The residue if any shal subject to a like lien for sums not presently payable as existed upon the shares before the sale be paid to the person entitled to the shares at the date of the sale.</li> </ul>
			Calls on shares
F	1		<ul> <li>The Board may from time to time make calls upon the munitiers in respect or any monies unbaid on their spares (whether on account)</li> </ul>

Page 3 cf 17

hel

			272
		13	of the nominal value of the shares of by way of premilum) and not by the conditions of allotment thereof made payable at fixed timesProvided that no call shall exceed one-fourth of the nomina value of the share of be payable at less than one month from the date fixed for the payment of the last preceding call. Each member shall subject to receiving at least fourteen days not be specifying the time or times and place of payment pay to the company at the time or times and place so specified the amount call eg on his shares. A call may be revoked or postponed at the discretion of the Board
<b>_</b>	[F	14	<ul> <li>A call shall be deemed to have been made at the time when the resolution of the Board authorizing the call was passed and may be required to be paid by instalments.</li> </ul>
٢-	F	15	<ul> <li>The joint holders of a share shall be jointly and severally liable to pay ail calls in respect thereof.</li> </ul>
Γ	<b>F</b>	16	<ul> <li>If a sum called in respect of a share is not paid before or on the day appointed for payment thereof the person from whom the sum is due shall pay interest thereon from the day appointed for payment thereof to the time of actual payment at ten per centiper annum or at such lower rate if any as the Board may determine. The Board shall be at I berty to waive payment of any such interest wholly or in part.</li> </ul>
<b>Г</b>	F	17	<ul> <li>Any sum which by the terms of issue of a share becomes payable on ai otment or at any fixed date whether on account of the nominal value of the share or by way of premium shall for the purposes of these regulations be deemed to be a call duly made and payable on the date on which by the terms of issue such sum becomes payable. In case of non-payment of such sum all the relevant provisions of these regulations as to payment of interest and expenses forfeiture or otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.</li> </ul>
Г 	<b>Г</b>	18	<ul> <li>The Board - all may if it thinks fit receive from any member willing to advance the same all or any part of the monies uncalled and unpaid upon any shares held by him andb, upon all or any of the monies so advanced may (until the same would but for such advance become presently payable) pay interest at such rate not exceeding unless the company in general meeting shall otherwise direct twelve per cent per annum as may be agreed upon between the Board and the member paying the sum in advance</li> </ul>
		11	Transfer of shares
[-		19	<ul> <li>The instrument of transfer of any share in the company shall be executed by or on behalf of both the transferor and transferee. The transferor shall be deemed to remain a holder of the share until the name of the transferee is entered in the register of members in respect thereof.</li> </ul>
Г	Г	20	The Brack may subject to the right of appeal conferred by section 5B deel no to register the transfer of a share ont brong a fully paid shars to a person of whom they do not approve of any transfer of a

-			213
			shares on which the company has a lien.
F	1	21	<ul> <li>The Board may decline to recognise any instrument of transfer unlessa, the instrument of transfer is in the form as prescribed in rules made under sub-section (1) of section 56b, the instrument of transfer is accompanied by the certificate of the shares to which it relates and such other evidence as the Board may reasonably require to show their ght of the transfer or to make the transfer and the instrument of transfer is in respect of only one class of shares</li> </ul>
Γ	<b></b>	22	<ul> <li>On giving not less than seven days previous not ce in accordance with section 91 and rules made thereunder the registration of transfers may be suspended at such times and for such periods as the Board may from time to time determineProvided that such registration shall not be suspended for more than thirty days at any one time or for more than forty-five days in the aggregate in any year</li> </ul>
			Transmission of shales
Г	F	23	<ul> <li>On the death of a member the survivor or survivors where the member was a joint holder and his nominee or nominees or legal representatives where he was a sole holder shall be the only persons recognised by the company as having any title to his interest in the shares Nothing in clause (i) shall release the estate of a deceased joint holder from any hability in respect of any share which had been jointly held by him with other persons</li> </ul>
	<b>-</b>	24	<ul> <li>Any person becoming entitled to a share in consequence of the death or insolvency of a member may upon such evidence being produced as may from time to time ploperly be required by the Board and subject as hereinafter provided elect either to be registered himself as holder of the share or to make such transfer of the share as the deceased or insolvent member could have made. The Board shall in either case have the same right to decline or suspend registration as it would have had if the deceased or insolvent member had transferred the share before his death or his livency.</li> </ul>
<b>Г</b>		25	<ul> <li>If the person so becoming entitled shall elect to be registered as nolder of the share himself he shall deliver or send to the company a notice in writing signed by him stating that he so elects. If the berson aforesaid shall elect to transfer the share he shall test fy his election by executing a transfer of the share. All the limitations restrictions and provisions of these regulations relating to the right to transfer and the registration of transfers of shares shall be applicable to any such notice or transfer as aforesaid as if the death or insolvency of the member had not occurred and the notice or transfer were a transfer signed by that member</li> </ul>
Г			<ul> <li>A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same cividends and other advantages to which he would be entitled if he were the registered holder of the share except that he shall not before being registered as a member in respect of the share be entitled in</li> </ul>

Page 5 Cf 17

			274
		26	respect of it to exercise any right conferred by memb@rship in relation to meetings of the company Provided that the Board may at any time give notice requiring any such person to ellect either to be registered himself or to transfer the shard and if the notice is not complied with within ninety days the Board may thereafter withhold payment of all dividends bonuses or other monies payable in respect of the share until the requirements of the notice have been complied with.
7		27	<ul> <li>In case of a One Person Company on the death of the sole member the person nominated by such member shall be the pierson recognised by the company as having title to all the shares of the member the nominee on becoming entitled to such shares in case of the members death shall be informed of such even't by the Board of the company such nominee shall be entitled to the same dividends and other rights and Pabilities to which such sole member of the company was entitled or liable on becoming member such nominee shall nominate any other person with the prior written consent of such person who shall in the event of the death of the member become the memoer of the company</li> </ul>
			Forfeiture of shares
<b></b>		28	<ul> <li>If a member fails to pay any call or instalment of a call on the day appointed for payment thereof the Board may at any time thereafter during such time as any part of the call or instalment remains unpaid serve a notice on him reduiring payment of so much of the call or instalment as is unpaid together with any interest which may have accrued.</li> </ul>
1	F	29	<ul> <li>The notice aforesaid shall name a further day (not being capter than the expiry of fourteen days from the date of service of the notice) on or before which the payment required by the notice is to be made and state that in the event of non-payment on or before the day so named the shares in respect of which the dall was made shall be liable to be forfeited.</li> </ul>
		30	<ul> <li>If the requirements of any such notice as aforesald are not complied with any share in respect of which the notice has been given may at any time thereafter before the payment required by the notion has been made be forfeited by a resolution of the Board to that effect</li> </ul>
-	Г	31	<ul> <li>A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the Board thinks fit.At any time before a sale or disposal as aforesald the Board may cancel the forfeiture on such terms as if thinks fit.</li> </ul>
		32	<ul> <li>A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares but shall notwithstanding the forfeiture remain liable to pay to the company all monies which at the date of forfeiture were presently payable by him to the company in respect of the shares. The liability of such person shall cease if and when the company shall have received payment in full of all such monies in respect of the shares.</li> </ul>
			A duly ventied declaration in writing that the declarations ad rector

Page 6 of 17

			275
F		33	the manager or the secretary of the company and thait a share in the company has been duly forfeited on a date stated in the declaration shall be conclusive evidence of the facts there in stated as against all dersons claiming to be entitled to the share. The company may receive the consideration if any given for the share on any sale or disposal thereof and may execute a transfer of the share in favour of the person to whom the share is solid or disposed of The transferee shall thereupon being stered as the holder of the share and The transferee shall not be bound to see to the application of the purchase money if any nor shall his title to the share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture sale or disposal of the share
Γ	Г	34	<ul> <li>The provisions of these regulations as to forfecture shall apply in the case of non-payment of any sum which by the terms of issue of a share becomes payable at a fixed time whether on account of the nominal value of the share or by way of premium as if the same had been payable by virtue of a call duly made and notified.</li> </ul>
			Alteration of capital
Г	Г	35	<ul> <li>The company may from time to time by ordinary resolution increase the share capital by such sum to be divided into shares of such amount as may be specified in the resolution.</li> </ul>
Γ	<u>۲</u> -	36	<ul> <li>Subject to the provisions of section of the company may by prolinary resolution consolidate and dwite all or any of its share capital into shares of larger amount that its outstitt) strates convert all or any of its fully up of up shares into story and econvert that stock into fully paid-up shares of any determined on sub-store that is existing shares or any of them into shares of small or amount that is fixed by the memorandum cancel any shares which at the date of the bassing of the resolution have not been taken or agreed to be taken by any person.</li> </ul>
		37	• Where shares are converted into stock the holders of stock may transfer the same or any part thereof in the same manner as and subject to the same regulations under which the shares from which the stock arose might before the conversion have been transferred or as near thereto as circumstances admit. Provided that the Board may from time to time fix the minimum amount of stock transferable so however that such minimum shall not exceed the norminal amount of the shares from which the stock arose the nolders of stock shall according to the amount of stock held by them have the same rights privileges and advantages as regards dividends voting at meetings of the company and other matters as if they held the shares from which the stock arose but ho such privilege or advantage (except participation in the dividends and profits of the company and in the assets on winding up) shall be conferred by an amount of stock which would not if existing in shares have conferred that privilege or advantage, such of the regulations of the company as are applicable to paid-up shares shall apply to stock and the words share and shareholder in those regulations shall include stock and stock-holder respectively.

r		33	<ul> <li>The company may by special resolution reduce in any manner and with and subject to any incident authorised and consient required by law it share capital any capital redemption reserve laccount or any share premium account.</li> </ul>
-			Capitalisation of profits
	F	39	The company in general meeting may upon the recommendation or the Board resolve that it is desirable to capitalise any part of the amount for the time being standing to the credit of any or the companys reserve aucounts or to the credit of the profit and loss accountor otherwise available for distribution and that such sum be accordingly set free for distribution in the manner specified in clause (i) amongst the members who would have been entitled thereto if distributed by way of dividend and in the same proportions. The sum aferesaid shall not be paid in clause (ii) either in or towards paying up any amounts for the time being upon divided in sub-shall be applied subject to the provision contained in clause (iii) either in or towards paying up any amounts for the time being upon divided credited as fully paid-up to and amongst such members in the proportions aferesaid partly in the way specified in sub-clause (A) and partly in that specified in sub-clause (B) A securities premium account and a capital redemption reserve account may for the purposes of this regulation be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares to be issued to members of the company as fully paid bonus shares to be issued to members of the company as fully paid bonus shares to be issued to members of the company as fully paid bonus shares to be issued to members of the company as fully paid bonus shares to be issued to members of the resolution passed by the company in pursuance of this regulation.
	Γ.	40	• Whenever such a resolution as aforesaid shall have been passed the Board shall make a Lappropriations and applications of the undivided profits resolved to be capital sed thereby and all all otments and issues of fully paid shares if any and generally do at acts and things required to give effact thereto. The Board shall have bower to make such provisions by the issue of fractional certificates or by payment in cash or otherwise as it thinks fit for the case of shares becoming distributable in fractions and to authorise any person to enter on behalf of all the members entitled thereto into an agreement with the company providing for the allotment to them respectively credited as fully paid-up of any further shares to which they may be entitled upon such capitalisation or as the case may require for the payment by the amount or any part of the amounts remaining unpaid on their existing shares Any agreement made under such authority shall be effective and binding on such members.
			Buy-back of shares
r	Г	41	<ul> <li>Notwithstanding anything contained in these articles but subject to the provisions of sections 68 to 70 and any other applicable provision of the Actionary other law for the time being in force the company may purchase its own shares or other specified securities.</li> </ul>

			General meetings
r	Г	42	<ul> <li>All general meetings other than abriual general meeting shall be called extraordinary general meeting.</li> </ul>
Г	Γ	43	<ul> <li>The Board may whenever it thinks fit call an extraordinary general meeting. If at any time directors capable of acting who are sufficient in number to form a quorum are not within India any director or any two members of the company may call an extraordinary general meeting in the same manner as nearly as possible as that in which such a meeting may be called by the Board.</li> </ul>
			Proceedings at general meetings
Г	Г	44	<ul> <li>No business shall be transacted at any general meeting unless a quorum of members is present at the time when the meeting proceeds to business. Save as otherwise provided herein the quorum for the general meetings shall be as provided in section 103.</li> </ul>
Г	Г	45	<ul> <li>The chairberson if any of the Board shall preside as Chairperson at every general meeting of the company</li> </ul>
Г	F	46	<ul> <li>If there is no such Chairperson or if he is not present with n fifteen minutes after theit me appointed for holding the meeting or is unwilling to act as chairperson of the meeting the directors present shall electione of their members to be Chairperson of the meeting</li> </ul>
Г	F	47	If at any meeting no director is willing to act as Chairperson or if no director is present within fifteen minutes after the time appointed for holding the meeting the members present shall phoose one of their mombers to be Chairperson of the meeting
য		48	In case of a One Person Company the resolution required to be passed at the general meetings of the company shall be deemed to have been passed if the resolution is agreed upon by the solu- member and communicated to the company and entered in the minutes book maintained under section 118 such minutes book shall be signed and dated by the member the resolution shall become effective from the date of signing such minutes by the sole member.
			Adjournment of meeting
Γ-	Г	49	<ul> <li>The Chairperson may with the consent of any meeting at which a quorum is present and shall if so directed by the meeting adjourn the meeting from time to time and from place to place. No business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for thirty days or more notice of the adjourned meeting shall be given as in the case of an original meeting. Save as aforesaid and as provided in section 103 of the Act it shall not be necessary to give any not de of an adjournment or of the business to be transacted at an</li> </ul>

			adjourned meeting
			Voting rights
F	F	50	<ul> <li>Subject to any rights or restrictions for the time being attached to any class or classes of shares on a show of hands everly member present in person shall have one vote and on a poll the voting rights of members shall be in proportion to his share in the paid up equity share capital of the company.</li> </ul>
<b>F</b>	Г	51	<ul> <li>A member may exercise his vote at a meeting by electronic means in accordance with section 108 and shall vote only once</li> </ul>
r	Г	52	<ul> <li>In the case of joint holders the vote of the senior whol tenders a vote whether in person or by proxy shall be accepted to the exclusion of the votes of the other joint holders For this purpose seniority shall be determined by the order in which the hamps stand in the register of members.</li> </ul>
-		53	<ul> <li>A member of unsound mind or in respect of whom an order has been made by any court having jurisdiction in lunacy may vote whether on a show of hands or on a poll by his committee or other legal guardian and any such committee or guardian may on a poll vote by proxy.</li> </ul>
5	Г	54	<ul> <li>Any business other than that upon which a poll has been domanded maybe proceeded with cending the taking of the poll</li> </ul>
[-	F	55	<ul> <li>No member shall be entitled to vote at any general meeting unless a Lealls or other sums presently payable by him in respect of shares in the company have been paid.</li> </ul>
-	F	56	<ul> <li>No objection shall be raised to the qual fication of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered and every vote not disallowed at such meeting shall be valid for all purposes. Any such objection made in due time shall be referred to the Chairperson of the meeting whose decision shall be final and conclusive</li> </ul>
			Proxy
<u>۲</u>	F	57	<ul> <li>The instrument appointing a proxy and the power of attorney or other authority if any under which it is signed or a notarised copy of that power or authority shall be deposited at the registered office of the company not less than 48 hours before the time for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote or in the case of a poll not less than 24 hours before the time appointed for the taking of the poll and in default the instrument of proxy shall not be treated as valid.</li> </ul>
Г	Γ	58	An instrument appointing a proxy shall be in the form as prescribed in the rules made under section 105
Г	Г		<ul> <li>A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity.</li> </ul>

hd

 	213
59	of the principal or the revocation of the proxy or of the authority under which the proxy was executed or the transfer of the shares in respect of which the proxy is givenProvided that no intimation in writing of such death insanity revocation or transfer shall have been received by the company at its office before the commencement of the meeting or adjourned meeting at which the proxy is used.
	Board of Directors
60	Theday to day management of the business of the Company Shallbevested with the Board of Directors of the Company or Suchpersensas may be authorized by the Board from time to time TheBoardmay exercise all such overs of the Company and to all such acted and things as are not prohibited by the Act or any otherlawfor the time being in force on by the MemorandumolAssociation of the Company and without prejudice to theforogoingshalt be responsible for all policy matters and thesupervision enterton and control of the conduct of the number site actions of the Company in The first Directors of the Company shall be 1. ALAY MATHER 2. ALCK SINGE 3. MUKUL AGARWAILL at every annual general meeting Oneth TI of such of the directors for the time noing as are liable foreflicely rotation at every annual general meeting shall be those who have been longest in office since their tastappointment but as between persons who became directors but the time toring as the lable to refine who have been longest in office since their tastappointment but as between persons who became directors but but and equipment adult at an director sort the time of the 2 more stall in director resus affres and the company shall be nowed with the Board of Directors of the Company shall be there are underaneshall be the company shall be used as the between person there to TheBoardef Directors of the Company shall be avery annual guerear/meeting all which a directorre trass affres and the company shall consist of not less than butnotmore than Directors. The appointment of the licetors including theCharman Managing Director Whole time Directors and the regions of the Company shall be shall not declare and engine of any Directors to be appointed the Board of the Company is adding the vertice of any there are any structure declared any structure of the director and the structure of the company is director shore the director and the structure of the Company is director. The appointment the very annual gupper intemption any dinctors of the Gempany shall be act

Page 11 of 17

			Casualvacanciesamong Directors may be filled by the Board of Directors attheirmeeting and any person so apod hte dishall hold the office asperithe provision of section of the Act Subject to the provisions of Section and other applicable provisions if any of the Act the Boardshallhave power at any time and from time to time to appointaperson as an Additional Director but so that the total number of Directorsshall not at any time exceed the maximum number fixed by these Articles The Additional Director iso appointed shall refrom Office at next annual General Meeting, but shall be eligible for election by the company at that moeting as a Director
L.	F.	61	<ul> <li>The remuneration of the directors shall in so far as it consists of a monthly payment be deemed to accrue from day to- day. In addition to the remuneration payable to them in pursuance of the Act the directors may be paid all travelling hote, and, other expenses properly incurred by them in attending and lettering from meetings of the Board of Directors or any committee thereof or general meetings of the company or in connection with the business of the company.</li> </ul>
Г	F	62	<ul> <li>The Board may pay all expenses incurred in getting up and registering the company.</li> </ul>
Г	F	63	<ul> <li>The company may exercise the powers conferred on it by section 88 with regard to the keeping of a foreign register and the Board may (subject to the provisions of that section) make and vary such regulations as it may think fit respecting the keeping of any such register.</li> </ul>
Γ		64	<ul> <li>All cheques promissory notes drafts bundls bills of exchange and other negotiable instruments and all receipts for monies paid to the company shall be signed drawn accepted endorsed or otherwise executed as the case may be by such person and in such macher as the Board shall from time to time by resolution determine.</li> </ul>
<b>F</b>	<u>۲</u>	65	<ul> <li>Every director present at any meeting of the Board or of a committee thereof shall sign his name in a book to be kept for that purpose</li> </ul>
F -	F	55	<ul> <li>Sunject to the provisions of section 149 the Board shall have power at any time and from time to time to appoint a person as an additional director provided the number of the directors and additional directors together shall not at any time exceed the maximum strength fixed for the Board by the articles. Such person shall hold office only up to the date of the next annual general meeting of the company but shall be eligible for appointment by the company as a director at that meeting subject to the provisions of the Act.</li> </ul>
			Proceedings of the Board
F	Г	67	<ul> <li>The Board of Directors may meet for the conduct of business adjourn and otherwise regulate its meetings as it thinks fit. A director may and the manager or secretary on the requisition of a director shall at any time summon a meeting of the Board.</li> </ul>

			281
r	F	63	<ul> <li>Save as otherwise expressly provided in the Act questions arising at any meeting of the Board shall be decided by a majority of votes. In case of an equality of votes the Chairperson of the Board if any shall have a second or casting vote.</li> </ul>
E	F	69	<ul> <li>The continuing directors may act notwithstanding any vacancy in the Board but if and solong as their number is reduced below the quorum fixed by the Act for a meeting of the Board the continuing directors or director may act for the purpose of increasing the number of directors to that fixed for the quorum or of summoning a general meeting of the company but for no other purpose</li> </ul>
Г	Г	70	<ul> <li>The Board may elect a Chairperson of its meetings and determine the period for which he is to hold office. If no such Chairperson is elected or if at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting the directors present may choose one of their number to be Chairperson of the meeting.</li> </ul>
Г	F	71	• The Board may subject to the provisions of the Act delegate any of its powers to committees consisting of such member or members of its body as it thinks fit. Any committee so formed shall in the exercise of the powers so delegated conform to any regulations that may be imposed on it by the Board.
ſ		72	<ul> <li>A committee may doct a Champerson of its meetings. The such Chairperson is elected unif at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting the memberspresent may choose one of their members to be Chairperson of the meeting.</li> </ul>
(	F	73	<ul> <li>A committee may meet and adjourn as it thinks fit: Questions arising at any meeting of a committee shall be determined by a majority of votes of the memoers present and in case of an equality of votes the Chairperson shall have a second or casting vote</li> </ul>
Г.	Γ	74	<ul> <li>All acts donc in any meeting of the Board or of a committee thereof or by any person acting as a director shall notwithstanding that it may be afterwards discovered that there was some defect in the appointment of any one or more of such directors or of any person acting as aforesaid or that they or any of them were discualified be as valid as if every such director or such person had been duly appointed and was qualified to be a director.</li> </ul>
Г	F	75	<ul> <li>Save as otherwise expressly provided in the Act a resolution in writing signed by all the members of the Board or of a committee thereof for the time being entitled to receive notice of a meeting of the Board or committee shall be valid and effective as if it had been passed at a meeting of the Board or committee duly convened and held.</li> </ul>
ম	F	76	<ul> <li>In case of a One Person Company where the company is having only one director all the businesses to be transacted at the meeting of the Board shall be entered into minutes book maintained under section 118 such minutes book shall be signed and dated by the director the resolution shall become effective from the date of</li> </ul>

-			signing such minutes by the director
	-		Chief Executive Officer, Manager, Company Secretary or Chief Financial Officer
	Г	11	<ul> <li>Subject to the provisions of the Act A chief executive officer manager company secretary or chief financial officer may be appointed by the Board for such term at such remuneration and upon such conditions as it may think fit and any chief executive officer manager domoany secretary or chief financial officer so appointed may be removed by means of a reselution of the Board A director may be appointed as chief executive officer manager company secretary or chief financial officer</li> </ul>
Г	Γ	79	<ul> <li>A prevision of the Act or those regulations requiring or authorising a thing to be done by or to a director and chief executive officer manager company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as or in place of chief executive officer manager company secretary or chief financial officer.</li> </ul>
			The Seal
r	<b>Г</b>	19	<ul> <li>The Board shall provide for the safe custody of the seal. The seal of the company shall not be affixed to any instrument except by the authority of a resolution of the Board or of a committee of the Board authorised by it in that behalf and except in the presence of at least two directors and of the secretary or such other person as the Board may appoint for the purpose and those two directors and the secretary or other person aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.</li> </ul>
			Dividends and Reserve
<b>Г</b>	Г	80	<ul> <li>The company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the Board.</li> </ul>
Г	Г	81	<ul> <li>Subject to the provisions of section 123 the Board may from time to time pay to the members such interim dividends as appear to it to be justified by the profits of the company.</li> </ul>
	F	82	<ul> <li>The Board may before recommending any dividend set aside out of the profits of the company such sums as it thinks fit as a reserve or reserves which shall at the discretion of the Board be applicable for any purpose to which the profits of the company may be properly applied including provision for meeting contingencies or for equalizing dividends and bending such application may at the like discretion either be employed in the business of the company or be invested in such investments (other than shares of the company) as the Board may from time to time thinks fit. The Board may also carry forward any profits which it may consider necessary not to divide without setting them aside as a reserve.</li> </ul>
<b>[</b>	Г		<ul> <li>Subject to the rights of persons if any challed to shares with space i ghts as to dividends all dividends shall be declared and paid according to the amounts paid of credited as baid on the shares in</li> </ul>

Page 14 of 17

	83	respect whereof the dividend is paid but if and solong as nothing is paid upon any of the shares in the company dividends may be declared and paid according to the amounts of the shares. No amount paid or credited as paid on a share in advance of calls shall be treated for the purposes of this regulation as baid on the share. All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares during any portion or portions of the pariod in respect of which the dividend is baid but if any share is issued on terms providing that it shall rank for dividend as from a particular date such share shall rank for dividend accordingly.
r r	64	<ul> <li>The Board may deduct from any dividend payable to any member all sums of money if any presently payable by him to the company on account of calls or otherwise in relation to the shares of the company</li> </ul>
	85	<ul> <li>Any dividend interest or other monies payable in cash in respect of shares may be paid by cheque or warrant sent through the post directed to the registered address of the holder or in the case of joint holders to the registered address of that one of the joint holders who is first named on the register of members or to such person and to such address as the holder or joint holders may in writing direct. Every such cheque or warrant shall be made payable to the order of the person to whom it is sent.</li> </ul>
r r	86	<ul> <li>Any one of two or more joint holders of a share may give effective receipts for any dividends bonuses or other monies payable in respect of such share</li> </ul>
Г	37	<ul> <li>Not be of any dividend that may have been declared shall be given to the persons entitled to share therein in the manner ment oned in the Act</li> </ul>
ГГГ	88	<ul> <li>No dividend shall bear interest against the company-</li> </ul>
		Accounts
F F	59	<ul> <li>The Board shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations the accounts and books of the company or any of them shall be open to the inspection of members not being directors. No member (not being a director) shall have any right of inspecting any account or book or document of the company except as conferred by law or authorised by the Board or by the company in general meeting.</li> </ul>
		Windling up
Г		<ul> <li>Subject to the provisions of Chapter XX of the Act and rules made thereunder if the company shall be wound up the injuidator may with the sanction of a special resolution of the company and any other sanction required by the Act divide amongst the members re- specie or kind the whole or any pail of the assets of the company whether they shall consist of property of the same kind or not. For the purpose aforesaid the liquidator may set such value as he</li> </ul>

Page 15 of 17

		_	284
		90	deems fair upon any property to be divided as afores a d and may determine now such division shall be carried out as between the members or different classes of memoers. The liquid a ter may with the like sanction vest the whole or any part of such as sets in trustees upon such trusts for the benefit of the contributories if he considers necessary but so that no member shall be compelled to accept any shares or other securities whereon there is any liability
			Indemnity
<u>г</u>		91	<ul> <li>Every officer of the company shall be indemnified out of the assets of the company against any Lability incurred by him in opfending any proceedings whether civil or criminal in which judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal.</li> </ul>
			Others
Г	Г	92	

#### Subscriber Details

S. No	Subscriber Details						
	*Name, Address, Description and Occupation	DIN / PAN / Passport number	*Place	DSC	Dated		
1	REC DOWER DEVELOPMENT AND CONSULTANCY LIMITED CORE-4 SCOPE COMPLEX 7, JODH ROAD, NEW DELHI- 110003, THROUGH ITS CEO RAJESH KUMAR SZO SHRIN-WAS GUPTA RZO JE187, NAG MANDIR KE PAS SHASTRENAGAR, ASHOK VIHAR, DELHI-110052 OCCUPATION-SERVICES	06941428	NEW DELHI	KUMAR	22/09/2023		
2	ARVIND KUMAR S/CINAND KISHOR SINGH NOMINEE OF RECIPOWER DEVELOPMENT AND CONSULTANCY LIMITED R/O 14-8A (SAT VATIKA APARTMENT, SECTOR-63, FARIDABAD (121004, OCCUPATION SERVICE)	AHHPK0531C	NEW DELHI	ALUMUT	22/09/2023		
~~	VOHAN LAL KUMAWAT S/O SHRI RAMU RAM KUMAWA - NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO 142 TOWER -1 GC EMERALD, RAMPRASTHA GREENS VAISHALI SECTOR-7, GHAZIABAD-201010 UTTAR PRADESH, COCUPATION-SERVICE	07682898	NEW DELHI	ARA U F.F.	22/09/2023		
4.	THANGARAJAN BOSH S/O SHRI SITHAN THANGARAJAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY FIMITED R/O APARTMENT NO S-2,	02772316	NEW DELHI	The spectral sector is a sec Of least sector is a sect	22/09/2023		

Page 16 of 17

hd

	~	7			285
	MIDDLE PORTION 2-B, JANGPURA, MATHURA ROAD, NEWDELHI-110014, OCCUPATION SERVICE				
5	PUTHIYARKATTU SHIVARAMAN HARLIARAN S/ O SHRI PUTHIYARAKAT VELAYUDHAN SIVARAMAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLATNO 104, SADAR APARTMENT, MAYUR VIHAR EXTENTION, PHASE-1, PLOT NO 9, NEW DELHI-110091, OCCUPATION-SERVICE	08657652	NEW DETHI		22/09/2023
6	SAHAB NARAIN S/O HARI NARAIN NOMINER OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED R/O A-1, FLAT NO 103, SOAM NAGAR, MALVIYA NAGAR, DELHI-110017 OCCUPATION-SERVICE	02641879	NEM DETHI	NARAIN ···	22/09/2023
7	ALOK SINGH S/O JAGDHAR; SINGH NOMINEF OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED R/O MF-23, ELDECO MANSIONZ, SECTOR-48, SCHNA ROAD GURUGRAM 122018 OCCUPATION-SERVICE	07498786	NEW DEL⊬I	SINGH	22/09/2023

Name Profix (ACA/ECA/ACS/ ECS/ACMA/ ECMA)	*Name of the witness	*Address, Description and Occupation	*DIN / PAN / Passport number / Membership		DSC	Dated
FCA	VINAY KUMAR	1803, TOWER-9-LA RESIDENTIA, TECH ZONE-4, GREATER NOIDA WEST-201306	402996	NEW DELHI	Vinay [] <b>Кцдивс (ј) но</b> с	22/09/2023

Page 11 of 1

hel

# Annexure- 5 (Colly.)

RFP for Selection of Bidder as Transmission Service Provider

# STANDARD SINGLE STAGE REQUEST FOR PROPOSAL DOCUMENT

## FOR

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

#### TO

#### **ESTABLISH INTER-STATE TRANSMISSION SYSTEM**

#### FOR

# TRANSMISSION SYSTEM FOR EVACUATION OF POWER FROM POTENTIAL RENEWABLE ENERGY ZONE IN KHAVDA AREA OF GUJARAT UNDER PHASE-IV (7GW): PART C

# **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: pshariharan@recpdcl.in & tbcb@recpdcl.in

28.11.2023

1

**REC Power Development and Consultancy Limited** 

Gel

#### 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 "Transmission System For Evacuation Of Power From Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C" is issued by REC Power Development and Consultancy Limited.

This RFP document is issued to -

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

\_\_\_\_

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

Email: .....

Place:

Date: .....

Signature: .....

Gel

#### **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

- Ministry of Power, Government of India vide its notification no 3733 [F. No. 15/3/2018-Trans-Part (1)] dated 04.09.2023 has notified REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish Inter-State transmission system for "Transmission System For Evacuation Of Power From Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C" through tariff based competitive bidding process.
- 2. REC Power Development and Consultancy Limited (hereinafter referred to as BPC) hereby invites all prospective Bidders for issue of Request for Proposal (RFP) for selection of Bidder as Transmission Service Provider (TSP) on the basis of international competitive bidding in accordance with the "Tariff Based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" issued by Government of India, Ministry of Power under section 63 of The Electricity Act, 2003 and as amended from time to time. The responsibility of the TSP would be to establish the following Inter-State Transmission System Transmission System For Evacuation Of Power From Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C (hereinafter referred to as 'Project') on build, own, operate & transfer basis and to provide transmission service:

SI.	Scope of the Transmission Scheme	Scheduled	COD in	months
No.		from Effective Date		
1	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAB 420 kV bus			
	reactors. (2x1500 MVA, 765/400 kV ICTs shall be on			
	each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus			
	Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus			
	Sectionaliser to be kept under normally OPEN condition)			
	• 765/400 kV, 1500 MVA ICT: 4 Nos. (13x500 MVA single phase units including one spare unit)			
	<ul> <li>400/220 kV, 500 MVA ICT: 2 Nos.</li> <li>765 kV ICT bays: 4 Nos.</li> </ul>			

Gel
RFP for Selection of Bidder as Transmission Service F	Provider
---	----------

SI.	Scope of the Transmission Scheme	Scheduled COD in	months
No.		from Effective Date	
No.	<ul> <li>400 kV ICT bays: 6 Nos. (2 Nos. on Bus Section-I and 4 Nos. on Bus Section-II)</li> <li>400 kV Bus Sectionaliser: 1 set</li> <li>220 kV ICT bays: 2 Nos.</li> <li>220 kV BC bay: 1 No.</li> <li>330 MVAR, 765 kV bus reactor: 2 Nos.</li> <li>125 MVAR, 420 kV bus reactor: 2 Nos.</li> <li>765 kV reactor bays: 2 Nos.</li> <li>765 kV line bays: 6 Nos.</li> <li>400 kV reactor bays: 2 Nos. (one on each bus section)</li> <li>400 kV line bay: 6 Nos. (4 Nos. on bus Section-I and 2 Nos. on bus Section-II)</li> <li>110 MVAR, 765 kV, 1-ph reactor (spare unit for line/bus reactor): 1 No.</li> </ul>	from Effective Date	
	<ul> <li>Future Provisions:</li> <li>Space for</li> <li>765/400 kV ICT along with bays: 2 No.</li> <li>765 kV line bays along with switchable line reactors: 8 Nos.</li> <li>765 kV Bus Reactor along with bay: 2 No.</li> <li>765 kV Sectionaliser bay: 1 set</li> <li>400 kV line bays along with switchable line reactor: 8 Nos.</li> <li>400/220 kV ICT along with bays: 6 Nos.</li> <li>420 kV Bus Reactor along with bay: 2 No.</li> <li>220 kV line bays: 12 Nos.</li> <li>220 kV Sectionalization bay: 1 set</li> <li>220 kV BC: 1 No.</li> </ul>	24 Months	
2	South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line		
3	<ul> <li>2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> <li>765 kV line bays (GIS) – 2 Nos. (for South Olpad end)</li> </ul>		

Gel

RFP for Selection of Bidder as	<b>Transmission Service Provider</b>
--------------------------------	--------------------------------------

Sl.	Scope of the Transmission Scheme	Scheduled COD in	months
No.		from Effective Date	
4	<ul> <li>240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>240 MVAR, 765 kV switchable line reactor- 4 [2 for Boisar-II (GIS) and 2 for South Olpad (GIS)]</li> <li>Switching equipment for 765 kV line reactor- 4 (2 for Boisar-II (GIS) and 2 for South Olpad (GIS))</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor – 1 No. (for Boisar-II end)</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor proposed for Ahmedabad – South Olpad (GIS) 765 kV line (under Khavda)</li> </ul>		
	Ph-IV Part B scheme) at South Olpad (GIS) S/s to be used as spare		
5	LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II		
6	Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line		
7	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line • 400 kV line bays (GIS): 2 Nos [for		
	Velgaon (MH) end]		
8	LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage		
9	80 MVAR switchable line reactors at Boisar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO		
	• 80 MVAR, 420 kV switchable line reactor including switching equipment: 2 Nos.		
10	±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar-II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125		

hd

RFP for Selection of Bidder as Transmission Service Provider

SI.	Scope of the Transmission Scheme	Scheduled COD in months
No.		from Effective Date
	MVAR MSR at 400 kV bus section-II of	
	Boisar-II	
	• $\pm 200$ MVAR STATCOM (with	
	MSC/MSR) on 400 kV Section-I	
	• 400 kV bay – 1 No. on Section-I	
	• $\pm 200$ MVAR STATCOM (with	
	MSC/MSR) on 400 kV section-II	
	• 400 kV bay – 1 No. on Section-II	
11	± 300 MVAR STATCOM with 3x125 MVAR	
	MSC, 1x125 MVAR MSR at 400 kV level of	
	Navsari (New)(PG) S/s with 1 No. of 400 kV	
	bay (GIS)	
	- 200 MUAD STATCOM ('4	
	• $\pm 300$ MVAR STATCOM (with MSC/MSR)	
	• 400 kV bay: 1 No.	

## Note:

- *i.* Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- ii. MSETCL shall carry out reconductoring of the balance portion of Padghe (M) Boisar-II 400 kV D/c line (i.e., from LILO point up to Padghe(M)) and shall also carry out corresponding upgradation of 400 kV bays at Padghe (M) as may be required in matching time-frame of the LILO line. MSETCL has confirmed the maximum capacity of the line which can be achieved after reconductoring considering clearances in existing towers of Babhaleswar – Padghe (M) 400 kV D/c line as 1700 MVA per ckt.
- *iii.* MSETCL shall implement the LILO of both circuits of Boisar-II Velgaon 220 kV D/c line at Boisar-II (ISTS) S/s along with 4 Nos. 220 kV GIS bays at Boisar-II in matching time-frame of Boisar-II (ISTS) S/s.
- iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at Sl. No. 3 and 4.
- v. MSETCL shall provide space for the work envisaged at Sl. No. 7 at Velgaon S/s.
- vi. TSP of the subject scheme shall implement Inter-tripping scheme on South Olpad (GIS)
   Boisar-II (GIS) 765 kV D/c line (for tripping of the switchable line reactor at either end along with the main line breaker).
- vii. The implementation timeframe: 24 months from date of SPV acquisition.
- 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.

Gel

RFP for Selection of Bidder as Transmission Service Provider

5. **Bidding Process:** The Transmission Service Provider shall be selected through tariff based competitive bidding process for the Project based on meeting stipulated Qualification Requirements prescribed in Clause 2.1 of Section 2 of RFP and the lowest Quoted Transmission Charges discovered from Final Offers quoted during the e-reverse bidding. The selection of the TSP shall be subject to it obtaining Transmission License from the Commission, which, after expiry, may be further extended by such period as deemed appropriate by the Commission under powers vested with it to amend the conditions of the Transmission License.

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

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

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

6. The objective of the bidding process is to select a Successful Bidder pursuant to this RFP, who shall acquire one hundred percent (100%) of the equity shares of Khavda IV C Power Transmission Limited 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 Khavda IV C Power Transmission Limited, 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

Gel

amended from time to time. Bidders shall quote the Transmission Charges as per the prespecified 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, <u>pshariharan@recpdcl.in & tbcb@recpdcl.in</u> 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 29.01.2024 via electronic transfer to the following Bank Account:

Bank Name, Address	IDFC First Bank Limited
& Branch	Wholesale Banking Outlet Express Building, 2nd Floor,
	9-10 Bahadur Shah Zafar Marg, New Delhi-110002
Bank Account Name	REC Power Development & Consultancy Limited
Bank Account No	10000697415
Bank IFSC Code No	IDFB0020101

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

The RFP document shall be issued to the Bidders on any working day from 28.11.2023 to 29.01.2024 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 1200 hours (IST) on 30.01.2024. Technical Bid will be opened by the Bid Opening Committee on the same day at 1230 hours (IST) in the office of Central Electricity Authority, in the online presence of Bidders' representatives who wish to attend. If the Bid Deadline is a public holiday at the place of submission of Bid, it shall be opened on the next working day at the same time and venue. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. Bidders meeting the Qualification Requirements, subject to evaluation as specified in Clause 3.2 to 3.4 shall be declared as "Qualified Bidders" and eligible for opening of Initial Offer.
- 11. The RFP document is not transferable. BPC reserves the right to reject all Bid and/or annul the process of tariff based competitive bidding for selection of Bidder as TSP to execute the Project without assigning any reason. BPC shall not bear any liability, whatsoever, in this regard.

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

Gel

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: pshariharan@recpdcl.in & tbcb@recpdcl.in

Gel

# DISCLAIMER

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

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

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

Gel

on behalf of BPC or any person working in the bidding process.

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

Gel

# INDEX

SECTION	CONTENTS	PAGE NO.
	DEFINITIONS	14
1.	INTRODUCTION	19
2.	INFORMATION AND INSTRUCTIONS FOR BIDDERS	28
3.	EVALUATION OF THE TECHNICAL AND FINANCIAL BID	55
4.	ANNEXURES FOR BID	61
	ANNEXURES	
1	Format for the Covering Letter	63
2	Format for Letter of Consent from Consortium Members	66
3	Format for evidence of authorized signatory's authority (Power of Attorney)	68
4	Format for Power of Attorney to be provided by each of the other members of the Consortium in favor of the Lead Member	70
5	Format for Bidder's composition and ownership structure and Format for Authorization	72
6	Format for Consortium Agreement	75
7A	Format for Qualification Requirement – Net worth	80
7B	Format for Technical Requirement	83
7C	Format for Technical and Financial Requirement – Relationship & Equity Shareholding	86
7D	Format for Additional Information for verification of Financial and Technical Capabilities of Bidders	88
8	Format for Undertaking and Details of Equity Investment	91
9	Format for Authorization from Parent / Affiliate of Bidding Company / Member of Bidding Consortium whose technical / financial capability has been used by the Bidding Company / Member of Bidding Consortium.	96
10	Format for Undertaking by Technically/Financially Evaluated Entity/Ultimate Parent Company	98
11	Format for Board Resolution	100
11A	Illustration for Applicable Board Resolution Requirements under Clause 2.5.2	103
12	Format for illustration of Affiliates	105
13	Format for disclosure	106
14	Format For Bid Bond	107
14 A	Format for Bid Security Declaration	<del>109</del>

**REC Power Development and Consultancy Limited** 

12

Gel

SECTION	CONTENTS	PAGE NO.
15	Format for Contract Performance Guarantee	110
16	Format for Checklist for Technical Bid Submission Requirements	112
17	List of Banks	115
18	Grid Map of the Project	116
19	Format for Clarifications / Amendments on the RFP / RFP Project Documents	117
20	Formats For RFP Project Documents	118
21	Format For Financial Bid	119
22	Format of Affidavit	120
	Annexure A	122
	Annexure-B	123
	Annexure-C	130

RFP for Selection of Bidder as Transmission Service Provider

Gel

## DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

**"Bid Bond"** shall mean the unconditional and irrevocable bank guarantee for Rupees Thirty Seven Crore Forty Lakhs Only (Rs. 37.40 Crore), to be submitted along with the Technical Bid by the Bidder under Clause 2.11 of this RFP, as per the format prescribed in Annexure 14;

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

**"Bid Process Coordinator or BPC"** shall mean a person or its authorized representative as notified by the Government of India, responsible for carrying out the process for selection of Bidder who will acquire Transmission Service Provider;

Gel

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

"CEA" shall mean the Central Electricity Authority constituted under Section - 70 of the Electricity Act;

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

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

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

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

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

"Contract Performance Guarantee" shall have the meaning as per Clause 2.12 of this RFP;

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

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

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

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

**"Designated ISTS Customers"** or "DICs" shall have the meaning as ascribed in Regulation 2(1) of Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulation 2020 and as amended or modified from time to time;

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

Gel

#### RFP for Selection of Bidder as Transmission Service Provider

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

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

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

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

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

"Government" shall mean the Central Government;

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

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

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

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

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

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

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

"Member in a Bidding Consortium/Member" shall mean each company in the Bidding Consortium;

Gel

"MOP" shall mean the Ministry of Power, Government of India;

"MOEF" shall mean the Ministry of the Environment and Forests, Government of India;

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

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

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

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

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

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

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

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

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

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

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

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

Gel

"Successful Bidder" or "Selected Bidder" shall mean the Bidder selected pursuant to this RFP to acquire one hundred percent (100%) equity shares of Khavda IV C 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 Transmission Service Agreement and other RFP Project Documents;

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

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

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

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

**"Transmission Service Provider" or "TSP"** shall mean Khavda IV C Power Transmission Limited which has executed the Transmission Service Agreement and which shall be acquired by the Selected Bidder;

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

Gel

**SECTION – 1** 

# INTRODUCTION

Gel

## **SECTION 1**

## 1. INTRODUCTION

1.1 Ministry of Power, Government of India vide its notification no 3733 [F. No. 15/3/2018-Trans-Part (1)] dated 04.09.2023 has notified REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish Inter-State transmission system for **"Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C"** through tariff based competitive bidding process.

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

1.2 The TSP will be required to establish the following Inter State Transmission System for **Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C** (hereinafter referred to as 'Project') on build, own, operate and transfer basis, and to provide transmission service.

SI.	Scope of the Transmission Scheme	Scheduled COD in months
No.		from Effective Date
1	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV ICTs shall be on	
	each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition)	
	• 765/400 kV, 1500 MVA ICT: 4 Nos. (13x500 MVA single phase units including one spare unit)	

Gel

RFP for Selection of Bidder as	Transmission Service Provider
--------------------------------	-------------------------------

SI. No.	Scope of the Transmission Scheme	Scheduled COD in from Effective Date	months
	• 400/220 kV, 500 MVA ICT: 2 Nos.		
	• 765 kV ICT bays: 4 Nos.		
	• 400 kV ICT bays: 6 Nos. (2 Nos. on Bus		
	Section-I and 4 Nos. on Bus Section-II)		
	• 400 kV Bus Sectionaliser: 1 set		
	• 220 kV ICT bays: 2 Nos.		
	• 220 kV BC bay: 1 No.		
	• 330 MVAR 765 kV bus reactor: 2 Nos		
	• 125 MVAR 420 kV bus reactor: 2 Nos		
	<ul> <li>765 kV reactor bays: 2 Nos</li> </ul>		
	<ul> <li>765 kV line bays: 6 Nos</li> </ul>		
	<ul> <li>400 kV reactor bays: 2 Nos. (one on each</li> </ul>		
	bus section)		
	• 400 kV line bay: 6 Nos (4 Nos on bus		
	Section-L and 2 Nos on bus Section-II)		
	• 110 MVAR 765 kV 1-nh reactor (spare		
	unit for line/bus reactor): 1 No		
	Future Provisions:		
	Space for		
	• 765/400 kV ICT along with bays: 2 No.	24 Months	
	• 765 kV line bays along with switchable		
	line reactors: 8 Nos.		
	• 765 kV Bus Reactor along with bay: 2		
	No.		
	• 765 kV Sectionaliser bay: 1 set		
	• 400 kV line bays along with switchable		
	line reactor: 8 Nos.		
	• 400/220 kV ICT along with bays: 6 Nos.		
	• 420 kV Bus Reactor along with bay: 2		
	No.		
	• 220 kV line bays: 12 Nos.		
	• 220 kV Sectionalization bay: 1 set		
	• 220 kV BC: 1 No.		
2	South Olpad (GIS) – Boisar-II (GIS) 765 kV		
	D/c line		
3	2 Nos. of 765 kV line bays at South Olpad		
	(GIS) for termination of South Olpad (GIS) –		
	Boisar-II (GIS) 765 kV D/c line		
	• 765 kW line have (CIS) - 2 Not (for		
	• 703 KV line bays (GIS) $-2$ Nos. (Ior South Oland and)		
	South Olpad end)		

Gel

RFP for Selection of Bidder as T	ransmission Service Provider
----------------------------------	------------------------------

Sl.	Scope of the Transmission Scheme	Scheduled COD in	months
No.		from Effective Date	
4	<ul> <li>240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>240 MVAR, 765 kV switchable line reactor- 4 [2 for Boisar-II (GIS) and 2 for South Olpad (GIS)]</li> <li>Switching equipment for 765 kV line reactor- 4 (2 for Boisar-II (GIS) and 2 for South Olpad (GIS))</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor – 1 No. (for Boisar-II end)</li> <li>1x80 MVAR, 765 kV 1-ph spare line reactor proposed for Ahmedabad – South Olpad (GIS) 765 kV line (under Khavda Ph-IV Part B scheme) at South Olpad</li> </ul>		
5	(GIS) S/s to be used as spare		
5	D/c line at Boisar-II		
6	Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line		
7	<ul> <li>2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> <li>400 kV line bays (GIS): 2 Nos. [for</li> </ul>		
	Velgaon (MH) end]		
8	LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage		
9	80 MVAR switchable line reactors at Boisar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO		
	• 80 MVAR, 420 kV switchable line reactor including switching equipment: 2 Nos.		
10	$\pm 200$ MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar-II and $\pm 200$ MVAR STATCOM with 2x125 MVAR MSC, 1x125		

Gel

RFP for Selection of Bidder as Transmission Service Provider

SI.	Scope of the Transmission Scheme	Scheduled COD in months
No.		from Effective Date
	MVAR MSR at 400 kV bus section-II of	
	Boisar-II	
	• ±200 MVAR STATCOM (with	
	MSC/MSR) on 400 kV Section-I	
	• 400 kV bay – 1 No. on Section-I	
	• ±200 MVAR STATCOM (with	
	MSC/MSR) on 400 kV section-II	
	• 400 kV bay – 1 No. on Section-II	
11	± 300 MVAR STATCOM with 3x125 MVAR	
	MSC, 1x125 MVAR MSR at 400 kV level of	
	Navsari (New)(PG) S/s with 1 No. of 400 kV	
	bay (GIS)	
	• $\pm 300$ MVAR STATCOM (with	
	MSC/MSR)	
	• 400 kV bay: 1 No.	

## Note:

- *i.* Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- ii. MSETCL shall carry out reconductoring of the balance portion of Padghe (M) Boisar-II 400 kV D/c line (i.e., from LILO point up to Padghe(M)) and shall also carry out corresponding upgradation of 400 kV bays at Padghe (M) as may be required in matching time-frame of the LILO line. MSETCL has confirmed the maximum capacity of the line which can be achieved after reconductoring considering clearances in existing towers of Babhaleswar – Padghe (M) 400 kV D/c line as 1700 MVA per ckt.
- MSETCL shall implement the LILO of both circuits of Boisar-II Velgaon 220 kV
   D/c line at Boisar-II (ISTS) S/s along with 4 Nos. 220 kV GIS bays at Boisar-II in matching time-frame of Boisar-II (ISTS) S/s.
- iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at Sl. No. 3 and 4.
- v. MSETCL shall provide space for the work envisaged at Sl. No. 7 at Velgaon S/s.
- vi. TSP of the subject scheme shall implement Inter-tripping scheme on South Olpad (GIS) Boisar-II (GIS) 765 kV D/c line (for tripping of the switchable line reactor at either end along with the main line breaker).
- vii. The implementation timeframe: 24 months from date of SPV acquisition

Gel

# 1.3 **Project Description**

Govt. of India has set a target for establishing 500 GW capacity from non-fossil energy sources by 2030. In this direction, in December 2020, Hon'ble Prime Minister laid the foundation stone of the world's largest renewable energy park in Gujarat's Kutch. This 30 GW capacity hybrid renewable energy park is being built along the Indo-Pak border at Khavda using both wind and solar energy and is expected to play a major role in fulfilling India's vision of 500 GW of non-fossil generation capacity by 2030.

Out of 30GW, 15GW RE capacity is expected to come up by 2024-25 and balance by 2026-27 timeframe. The transmission system for evacuation of up to 15GW power from Khavda RE Park is already under implementation/bidding in 3 phases as per details below:

Phase	RE	Capacity	Status of Transmission System
	(GW	')	
Ι	3		Under Implementation:
			• KPS1 S/s and KPS1 – Bhuj 765 kV D/c line: Awarded to
			Adani Transmission Ltd. with SCOD of Jan'24.
			• KPS2 S/s: Awarded to POWERGRID with SCOD of
			Dec'24.
			• KPS1 – KPS2 765 kV D/c line: Awarded to Megha Engg
			with SCOD of Jan'25.
II	5		Under Implementation:
			• KPS3 S/s and KPS3 – KPS2 765 kV D/c line: Awarded to
			POWERGRID with SCOD of Dec'24.
			• Khavda Ph-II Part A - Awarded to Adani Transmission
			Ltd. with Expected SCOD of March'25.
			• Khavda Ph-II Parts B and C – Awarded to POWERGRID
			with Expected SCOD of March'25.
			• Khavda Ph-II Part D: Awarded to Torrent Power Limited
			with Expected SCOD of March'25.
III	7		Under Bidding:
			• Agreed in 11th NCT – MoP Gazette issued in Apr'23 and
			expected SCOD is Aug'25.

The Phase-IV (Part A to E) transmission scheme has been planned to enable evacuation of additional 7 GW (beyond 15GW) RE power from Khavda RE park.

The subject scheme (under Part C) includes establishment of a new 765/400/220 kV Boisar II (GIS) S/s along with LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar II (GIS) and LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar II (Sec-I), South Olpad (GIS) – Boisar II (GIS) 765 kV D/c line, Boisar II (Sec-II) – Velgaon (MH) 400 kV D/c line,  $\pm 200$  MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR each at 400 kV bus section-I and II of Boisar-II (GIS) respectively and  $\pm 300$  MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV

Gel

level of Navsari (New)(PG) S/s. The transmission scheme alongwith other Ph-IV schemes will facilitate integration of additional 7 GW REZ in Khavda area (beyond 15 GW) under Ph-IV.

1.4 Transmission Grid Map

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

1.5 The objective of the bidding process is to select a Successful Bidder pursuant to this RFP, who shall acquire one hundred percent (100%) of the equity shares of Khavda IV C Power Transmission Limited 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.

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

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

## 1.6 **Brief Scope of Work**

## 1.6.1 Scope of Transmission Service Provider

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

- 1.6.1.1 Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/ road/river/canal/power crossing/PTCC, etc.), land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. Further, the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.
- 1.6.1.2 The TSP shall ensure that design, construction and testing of all equipment, facilities, components and systems of the Project shall be in accordance with Transmission Service Agreement and applicable Rules/ Regulations, Orders and Guidelines issued by the Central Government.

Gel

- 1.6.1.3 The TSP shall ensure timely completion of entire scope of Project in all respects and its operation and maintenance, as shall be specified in the RFP documents.
- 1.6.1.4 The TSP shall seek Transmission License from the Commission, as per the provisions of the Electricity Act and regulations made thereunder.
- 1.6.1.5 The TSP shall seek approval under Section 164 of Electricity Act, from CEA after acquisition of Khavda IV C Power Transmission Limited. The approval shall be granted by CEA generally within 30 days but in no case later than 45 days from the date of receipt of application (complete in all aspects).

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

BPC's scope of work is briefly outlined hereunder:

- 1.6.2.1 The BPC has initiated development of the Project and shall be responsible for the tasks in this regard as specified hereunder:
  - 1. Provide to the Bidders a Survey Report for the Project at least forty-five (45) days prior to the Bid Deadline. The Survey Report shall include the suggested route with approximate route length, type of terrain likely to be encountered and its likely implication in terms of Right of Way (ROW), statutory clearances, location of substations or converter stations and land area to be acquired for the substation or converter station.
  - 2. To obtain approval for laying of overhead transmission lines under Section 68 of Electricity Act, from the Government at least twenty (20) days prior to Bid Deadline.
  - 3. To initiate acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations, if required.
  - 4. To initiate process of seeking forest clearance, if required
  - 5. The BPC shall intimate to the Bidders, the Acquisition Price payable by the Selected Bidder to the REC Power Development and Consultancy Limited for the acquisition of one hundred percent (100%) of the equity shareholding of Khavda IV C Power Transmission Limited, along with all its related assets and liabilities at least twenty (20) days prior to the Bid Deadline.
  - 6. The BPC shall ensure issuance of all finalized RFP Project Documents, at least fifteen (15) days prior to the Bid Deadline.

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

- 1.6.2.2 The details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project shall be handed over to the TSP on an as-is-where-is basis, so that it may take further actions to obtain Consents, Clearances and Permits.
- 1.7 All costs (including direct and indirect) incurred by the BPC/ project specific SPV in connection with the activities concerning the Project shall be recovered from the TSP,

Gel

which shall be included in the Acquisition Price.

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

Gel

**SECTION - 2** 

# INFORMATION AND INSTRUCTIONS FOR BIDDERS

Gel

# <u>SECTION – 2</u>

## 2. INFORMATION AND INSTRUCTIONS FOR BIDDERS

#### 2.1 Qualification Requirements

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

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

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

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

Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure of not less than Rs.1,870 Crore or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than Rs.374 Crore or equivalent USD (calculated as per provisions in Clause 3.4.1).

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

OR

Gel

(ii) Experience in construction of project in infrastructure sector: The Technically Evaluated Entity should have received aggregate payments not less than Rs.1,870 Crore or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. However, the payment received from each project shall not be less than Rs. 374 Crore or equivalent USD (calculated as per provisions in Clause 3.4.1).

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

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

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

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

2.1.3.1 The Bidder must fulfill following financial requirements:

## A. Networth:

Networth should be not less than **Rs. 748 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1) computed as the Networth based on unconsolidated audited annual accounts (refer to Note below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years should not be negative.

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

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

Gel

#### A. Networth

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

- 2.1.3.3 If the Technical Bid is submitted by a Bidding Consortium the financial requirement shall be met individually and collectively by all the Members in the Bidding Consortium. The financial requirement to be met by each Member of the Bidding Consortium shall be computed in proportion to the equity commitment made by each of them for investment in the Project.
- 2.1.4 The Bidder may seek qualification on the basis of technical and financial capability of its Parent and/ or its Affiliate(s) for the purpose of meeting the Qualification Requirements. However, in the case of the Bidder being a Consortium, the Lead Member has to meet the technical requirement on its own or by seeking the technical capability of its Parent and/or its Affiliate(s). Authorization for use of such technical or financial capability shall have to be provided from its Parent and/or Affiliate(s) as per Annexure 9. The technical and financial capability of a particular company/ particular project, including its Parents and/or Affiliates, shall not be used directly or indirectly by more than one Bidder/ Member of a Bidding Consortium/ Bidding Company. However, development and construction experience of a particular project may be used by more than one company.

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

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

2.1.5 A Bidder shall submit only one Bid in the same bidding process, either individually as Bidding Company or as a Member of a Bidding Consortium (including the Lead Member). It is further clarified that any of the Parent/ Affiliate/Ultimate Parent of the Bidder/ Member in a Bidding Consortium shall not separately participate directly or indirectly in the same bidding process. Further, if any Bidder is having a Conflict of Interest with other Bidders participating in the same bidding process, the Bids of all such

Gel

Bidders shall be rejected.

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

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

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

## 2.2 Submission of Bid by the Bidder

Gel

- 2.2.1 The information and documents in Technical Bid will be submitted by the Bidder as per the formats specified in Section -4 (Formats for RFP) of this document
- 2.2.2 Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures/ pamphlets. Non-adherence to formats and/ or submission of incomplete information may be a ground for declaring the Technical Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of Bidder.
- 2.2.3 The Technical Bid shall contain unconsolidated/consolidated audited annual accounts (consisting of unabridged Balance Sheet, Profit and Loss Account, profit appropriation account, Auditors Report, etc.), as the case may be, of Bidding Company or each Member in Consortium including Lead Member or the Financially Evaluated Entity for the last three (3) financial years immediately preceding the last date for submission of Bid for the purpose of calculation of Networth.

In case the annual accounts for the financial year immediately preceding the Bid Deadline is not audited, the Bidder shall give declaration in this regard duly certified by its statutory auditor. In such a case, the Bidder shall provide the audited annual accounts for the three (3) financial years preceding the financial year as above for which the annual accounts have not been audited.

- 2.2.4 Bid submitted by a Bidding Consortium:
- 2.2.4.1 The Technical Bid shall contain a legally enforceable Consortium Agreement entered amongst the Members in the Bidding Consortium, designating one of the Members to be the Lead Member (as per Annexure 6). There shall be only one Lead Member which shall continue to hold twenty six percent (26%) equity in the TSP and cannot be changed upto one (1) year from the Commercial Operation Date (COD) of the Project. Each Member in Bidding Consortium shall duly sign the Consortium Agreement making it liable for raising the required funds for its respective equity investment commitment as specified in the Consortium Agreement. In absence of Consortium Agreement, the Technical Bid will not be considered for evaluation and will be rejected.

Provided that the Lead Member of the Bidding Consortium will be required to be liable to the extent of 100% of the total proposed commitment of equity investment of the Bidding Consortium i.e. for both its own equity contribution as well as the equity contribution of other Members.

Provided further that the Consortium Agreement shall not be amended without the explicit approval of the BPC.

The Lead Member of the Consortium will be the single point of contact for the purposes of the bid process before the date of signing of Share Purchase Agreement. Settlement of any dispute amongst the Consortium Members shall not be the responsibility of the BPC and/or the CTU and the BPC and/or the CTU shall not bear any liability whatsoever on this account.

2.2.4.2 The Lead Member should designate at the most two persons to represent the Consortium in its dealings with the BPC. The person(s) designated by the Lead Member should be authorized through a Power of Attorney (as per Annexure 3) to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Technical Bid on behalf of the Consortium, etc. The Bidding Consortium shall provide

Gel

board resolutions from their respective Boards for committing their respective portion of equity requirement for the Project. Additionally, the Lead member shall provide a Board resolution committing to make good any shortfall in the equity for the project, in case of any member not meeting its equity commitment.

2.2.4.3 The Technical Bid should also contain signed Letter of Consent (as per Annexure 2) from each Member in Consortium confirming that the entire Technical and Financial Bids has been reviewed and each element of the Technical and Financial Bids is agreed to by them including investment commitment for the Project.

In addition, the Technical Bid should also contain Board Resolution from each Member of the Consortium other than the Lead Member in favour of their respective authorized representatives for executing the POA, Consortium Agreement and signing of the requisite formats.

- 2.2.5 Bid submitted by a Bidding Company
- 2.2.5.1 The Bidding Company should designate at the most two persons to represent the Bidding Company in its dealings with BPC. The person(s) should be authorized to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Technical and Financial Bids etc. The Bidding Company should submit, along with Technical Bid, a Power of Attorney (as per Annexure 3), authorizing the signatory of the Technical and Financial Bids. The Bidding Company shall submit the board resolution committing 100% of equity requirement for the Project, in the Technical Bid.

# 2.3 Clarifications & Pre-Bid Meeting

- 2.3.1 The Bidders may seek clarifications or suggest amendments to the RFP by sending an email to the BPC at the email id indicated in Clause 2.14 within the date and time mentioned in Clause 2.7.2. For any such clarifications or amendments, the Bidders should adhere to the format as per Annexure -19.
- 2.3.2 Only those Bidders or their authorized representatives, who have purchased the RFP documents are invited to attend the pre-bid meeting(s), which will take place on date as specified in Clause 2.7.2, or any such other date as notified by the BPC. The time and address of this would be intimated later.
- 2.3.3 The purpose of the pre-bid meeting will be to clarify any issues regarding the RFP, including in particular, issues raised in writing by the Bidders as per the provisions of Clause 2.3.1.
- 2.3.4 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
- 2.3.5 The BPC is not under any obligation to entertain / respond to suggestions made or to incorporate modifications sought for.
- 2.3.6 In case Bidders need any further clarifications not involving any amendments in respect of final RFP, they should ensure that request for such clarification is submitted through email to the BPC at least ten (10) days prior to the Bid Deadline as mentioned in Clause 2.7.1. The BPC may issue clarifications only, as per its sole discretion, which is considered reasonable by it. Any such clarification issued shall be sent to all the Bidders to

Gel

whom the RFP has been issued. Clarifications sought after this date shall not be considered in any manner and shall be deemed not to have been received. There shall be no extension in Bid Deadline on account of clarifications sought as per this clause 2.3.6.

#### 2.4 Amendment of RFP

- 2.4.1. At any time before the timeline mentioned in Clause 2.7.1, the BPC may, for any reason, whether at its own initiative or in response to clarifications requested by any Bidder modify or amend the RFP, including the timelines specified in Clause 2.7.2 by issuance of addendum/modification/errata and/or revised document. Such document shall be notified in writing through a letter or fax or e-mail to all the entities to which the RFP has been issued and shall be binding on them. In order to ensure that Bidders have reasonable time to take the modification, extend the due date for submission of Bid. Late receipt of any addendum/modification/errata and/or revised document will not relieve the Bidder from being bound by that modification.
- 2.4.2. All modifications shall become part of the terms and conditions of this RFP. No interpretation, revision or communication regarding this RFP is valid, unless made in writing.
- 2.4.3. The amendment to the RFP shall be notified to all the Bidders through the electronic bidding platform and shall be binding on them.

#### 2.5 The Bidding Process

The entire bidding process shall be conducted on electronic bidding platform created by MSTC Limited. The Bid shall comprise of the Technical Bid and the Financial Bid. The Bidders shall submit the Technical Bid & Financial Bid through the electronic bidding platform. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. There shall be no physical submission of the Financial Bid.

Evaluation of Technical Bid will be carried out considering the information and documents furnished by the Bidders as required under this RFP. This step would involve responsiveness check, technical and financial evaluation of the details/ documents furnished by the Bidding Company / Bidding Consortium in support of meeting the Qualification Requirements. Bidders meeting the Qualification Requirements, subject to evaluation as specified in Clause **3.2** to **3.4** shall be declared as "Qualified Bidders" and eligible for opening of Initial Offer. The BPC shall also upload the list of all Qualified Bidders and Non-Qualified Bidders on the bidding portal along with the reasons for non-qualification. Also, the Financial Bids of Qualified Bidders shall be opened after at least 24 hours from the date of declaration of the Technically Qualified Bidders.

The Financial Bid will comprise of two rounds. In the first round the Initial Offer (submitted online along with the Technical Bids) of the responsive bids would be opened and Quoted Transmission Charges of Initial Offer shall be ranked on the basis of ascending order for determination of the Qualified Bidders as provided in Section-III of RFP. The Qualified Bidders, in the first fifty per cent of the ranking (with any fraction rounded off to higher integer) or four Qualified Bidders, whichever is higher, shall

Gel

qualify for participating in the electronic reverse auction stage and submit their Final Offer.

Provided however, in case only one Bidder remains after the evaluation of Technical Bid as per Clause 3.2, 3.3 and Clause 3.4, the Initial Offer of such Bidder shall not be opened and the matter shall be referred to the Government.

Provided that in the event the number of qualified Technical Bids is between two and four, then each of the qualified Bidder shall be considered as "Qualified Bidders".

Provided that in the event of identical Quoted Transmission Charges discovered from the Initial Offer having been submitted by one or more Bidders, all such Bidders shall be assigned the same rank for the purposes of determination of Qualified Bidders. In such cases, all the Qualified Bidders who share the same rank till 50% of the rank (with any fraction rounded off to higher integer) determined above, shall qualify to participate in the electronic e-reverse auction stage. In case 50% of the ranks (with any fraction rounded off to higher integer) is having less than 4 (four) Bidders and the rank of the fourth (4<sup>th</sup>) Bidder is shared by more than one (1) Bidder, then all such Bidders who share the rank of the fourth (4<sup>th</sup>) Bidder shall qualify to participate in the electronic reverse auction.

The applicable ceiling for electronic reverse bidding shall be the lowest Quoted Transmission Charges discovered from the Initial Offer received from the Qualified Bidders. The Qualified Bidders shall be permitted to place their Final Offer on the electronic bidding platform, which is lower than zero point two five (0.25) % of the prevailing lowest Quoted Transmission Charges.

The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by 30 minutes from the last received bid time, if the bid is received during the last 30 minutes of the scheduled or extended bid time. Subsequently, it will be extended again by 30 minutes from the latest received bid time.

The technical details with respect to access to such electronic platform are provided in Annexure-A (Technical Details with respect to electronic reverse auction).

In case of any technical clarification regarding access to the electronic reverse auction platform or conduct of the auction process, the Bidders may contact MSTC Limited directly at the address provided in Annexure-A.

#### 2.5.1 Bid Formats

The Bids in response to this RFP will be submitted online through the electronic bidding platform by the Bidders in the manner provided in Clause 2.9. The Bids shall comprise of the following:

#### 2.5.2 Technical Bid comprising of:

- 1. Covering Letter (as per prescribed format enclosed as **Annexure 1**);
- 2. Letter of Consent from Consortium Members in Annexure 2;

Gel

3. Power of attorney issued by the Bidding Company or the Lead Member of the Consortium, as the case may be, in favour of the person signing the Bid, in the format attached hereto as **Annexure 3**.

Additionally, in case of a Bidding Consortium, the power of attorney in favour of the Lead Member issued by the other Members of the Consortium shall be provided in as per format attached hereto as **Annexure 4**. Further, the Lead Member shall furnish Board resolution(s) from each Member of the Consortium other than the Lead Member in favour of their respective authorized representatives for executing the POA and signing of the requisite formats.

Provided that in the event the Bidding Company or the Lead Member of the Consortium or any Member of the Bidding Consortium, as the case may be, is a foreign entity, it may issue Board resolutions in place of power of attorney for the purpose of fulfilling these requirements.

- 4. Bidder's composition and ownership structure in **Annexure 5**
- 5. Format for Authorization submitted in Non-Judicial stamp paper duly notarized as per **Annexure 5** from the Bidding Company / each Member of the Consortium authorizing the BPC to seek reference from their respective bankers & others.
- 6. In case of Bidding Consortium, the Consortium Agreement shall be provided in as per format attached hereto as **Annexure 6**
- 7. Format of Qualification Requirement (Annexures 7A, 7B, 7C and 7D)
- 8. Bidders Undertakings and details of equity investment in Project (as per prescribed formats 1 and 2 of **Annexure 8**);
- 9. Authorization from Parent / Affiliate of Bidding Company / Member of Bidding Consortium whose technical / financial capability has been used by the Bidding Company / Member of Bidding Consortium (Annexure 9).
- 10. Undertaking from the Technically / Financially Evaluated Entity(ies) **OR** Undertaking from the Ultimate Parent Company, for total equity investment commitment, in the prescribed format in **Annexure 10**, to meet any shortfall in the equity investment by the Selected Bidder in the Khavda IV C Power Transmission Limited.

**Note:** The effective Equity holding of the Selected Bidder in the Khavda IV C Power Transmission Limited. , as specified in Clause 2.5.8.1 shall be computed as per the provisions of Clause 2.5.8.3 of this RFP.

Provided further, in case the Bidding Company or Member of a Consortium, (as the case may be) holds at least twenty six percent (26%) equity in such Technically/ Financially Evaluated Entities, whose credentials have been considered for the purpose of meeting the Qualification Requirements as per the RFP, no such Undertaking shall be required from the Technically / Financially Evaluated Entities.

11. Board resolutions, as per prescribed formats enclosed as Annexure – 11, duly certified by the Company Secretary or any Whole-time Director / Manager (supported by a specific Board Resolution), as applicable to the Bidder and mentioned hereunder,

Gel

- Board resolution from the Bidding Company (and any investing Affiliate / Parent Company / Ultimate Parent Company) committing one hundred percent (100%) in aggregate of the equity requirement for the Project -Format-1 of Annexure 11;
- (b) Board resolutions from each of the Consortium Member of the Bidding Consortium (and any investing Affiliate / Parent Company / Ultimate Parent Company) together committing to one hundred percent (100%) in aggregate of equity requirement for the Project, in case Bidder is a Bidding Consortium - Format-1 of **Annexure 11**;
- (c) In either of the cases as in (a) or (b) above as applicable, Board resolutions as per Format 2 of Annexure 11 for total equity investment commitment from the Technically / Financially Evaluated Entity(ies) whose technical / financial credentials had been considered for the purpose of meeting Qualification Requirements as per the RFP

#### OR

Board resolutions as per Format 2 of **Annexure 11** from the Parent Company or the Ultimate Parent Company for total equity investment commitment.

Provided that such Board resolutions, as specified in (a) or (b) or (c) above, in case of a foreign entity, shall be supported by an unqualified opinion issued by an independent legal counsel practicing in the relevant country, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.

For clarity sake, illustrations identifying which Board Resolution shall be applicable in typical cases are provided in **Annexure 11A**.

12. Format for Illustration of Affiliates at the most seven (7) days prior to Bid Deadline, duly certified by Company Secretary and supported by documentary evidence (Annexure 12).

Certified copy of the Register of Members / Demat Account Statement, Share Certificate, Annual Return filed with ROC etc. submitted as documentary evidence along with **Annexure 12**.

- 13. Disclosure as per **Annexure 13** regarding participation of any related companies in this bidding process.
- 14. Bid Bond, as per the prescribed format at **Annexure 14** or Bid Security Declaration as per prescribed format at **Annexure-14A** (as applicable);
- 15. Checklist for Technical Bid submission requirements as per Annexure 16.
- 16. Last three (3) financial years' unconsolidated / consolidated audited annual accounts / statements, as the case may be, of the Financially Evaluated Entity / Technical Evaluated Entity

Gel

- 17. Unconsolidated audited annual accounts of both the TEE and the Bidding Company/Lead member, as applicable, for the financial years in which financial closure was achieved and the financial year in which the said project was completed / commissioned.
- 18. Copy of the Memorandum and Articles of Association and certificate of incorporation or other organizational document (as applicable), including their amendments, certified by the Company Secretary of Bidding Company or each Member in case of a Consortium including Lead Member.
- 19. For each project listed in Annexure 7(D), certified true copy of the certificates of final acceptance and / or certificates of good operating performance duly issued by owners or clients for the project, duly signed by duly signed by authorized signatory.

In addition to the online submission of above formats through the electronic platform, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. In case, there is a discrepancy between the online submission and physical documents, the bid would be out rightly rejected and the bidder shall be construed to have engaged in the fraudulent practice as defined in Clause 2.19.3 with consequences as mentioned in Clause 2.19.2.

# 2.5.3 Financial Bid (as per prescribed format at Annexure-21)

Financial Bid shall comprise of: (i) the Initial Offer; and (ii) the Final Offer. The Initial Offer is required to be submitted along with the Technical Bid. It is hereby clarified that the Financial Bid will comprise of two rounds. In the first round the Initial Offer of the responsive bids would be opened and Quoted Transmission Charges of Initial Offer shall be ranked on the basis of ascending order for determination of the Qualified Bidders as provided in Section-III of RFP.

In accordance with clause 2.5 of this RFP, the qualified Bidders shall be eligible to participate in the electronic reverse auction and submit their Final Offer.

The applicable ceiling for electronic reverse bidding shall be the lowest Quoted Transmission Charges discovered from the Initial Offer received from the Qualified Bidders. The Qualified Bidders shall be permitted to place their Final Offer on the electronic bidding platform, which is lower than zero point two five (0.25) % of the prevailing lowest Quoted Transmission Charges.

The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by 30 minutes from the last received bid time, if the bid is received during the last 30 minutes of the scheduled or extended bid time. Subsequently, it will be extended again by 30 minutes from the latest received bid time.

The Bidders shall inter-alia take into account the following while preparing and submitting the Initial Offer and Final Offer of Financial Bid :-

a. The Bidders shall quote single annual Quoted Transmission Charges for a period of 35 years commencing from the Scheduled COD of the Project.

Gel
- b. The Quoted Transmission Charges as per the format at Annexure-21 shall be inclusive of all charges and no exclusions shall be allowed. The Bidders shall take into account all costs including capital and operating, statutory taxes, duties, levies. Availability of the inputs necessary for operation and maintenance of the Project should be ensured by the TSP at the Project site and all costs involved in procuring the inputs (including statutory taxes, duties, levies thereof) at the Project site must be included in the Quoted Transmission Charges.
- c. Annexure 21 duly digitally signed by authorized signatory.
- 2.5.4 Wherever information has been sought in specified formats, the Bidders shall fill in the details as per the prescribed formats and shall refrain from referring to any other document for providing any information required in the prescribed format.

#### 2.5.5 Transmission Charges

- 2.5.5.1. The Transmission Charges shall be specified in the Transmission Service Agreement and shall be payable to the TSP in Indian Rupees only. The Bidders shall quote single Transmission Charges as per the format at Annexure -21.
- 2.5.5.2. The Transmission Charges of the Selected Bidder shall be inserted in Schedule 5 of the Transmission Service Agreement.

#### 2.5.6 Bidders may note that:

- a) All the information and documents in Bid shall be submitted in English language only.
- b) Bidders shall mention the name, designation, telephone number, fax number, email address of the authorized signatory and complete address of the Bidder in the covering letter.
- c) All pages of the Bid submitted shall be initialed and stamped by the authorized signatory on behalf of the Bidder.
- d) A Bidder shall submit only one Bid in the same bidding process, either individually as Bidding Company or as a Member of a Bidding Consortium.
- e) The technical and financial capability of a particular company / particular project (Parent and/ or Affiliate) shall not be used directly or indirectly by more than one Bidder/ Member of a Bidding Consortium including Lead Member / Bidding Company.
- f) This Request for Proposal (RFP) document is not transferable. The RFP document and the information contained therein is for the use only by the Bidder to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors). In the event that the recipient does not continue with its involvement in the Project, this RFP document must be kept confidential.
- g) Though adequate care has been taken while preparing this RFP document, the Bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to the BPC immediately. If no intimation is received from

Gel

any Bidder within ten (10) days from the date of issue of RFP document, it shall be considered that the RFP document is complete in all respects and has been received by the Bidder.

- h) Bids submitted by the Bidder and opened on scheduled date and time as stipulated in this RFP shall become the property of the BPC and BPC shall have no obligation to return the same to the Bidder.
- i) If any Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in its Bid, in any manner whatsoever, the BPC reserves the right to reject such Bid or cancel the Letter of Intent, if issued. If such event is discovered after the Effective Date, consequences specified in Transmission Service Agreement shall apply.
- j) If for any reason the Bid of the Bidder with the lowest Quoted Transmission Charges is not selected or Letter of Intent issued to such Selected Bidder is cancelled or such Bidder withdraws its Bids, the BPC may :
  - i. Invite all the remaining Bidders to revalidate or extend their respective Bid Security, as necessary, and match the Bid of the Bidder with the lowest Quoted Transmission Charges (the "second round of bidding") with following cases:
    - If in the second round of bidding, only one Bidder matches the Bid of the Bidder with lowest Quoted Transmission Charges, it shall be the Selected Bidder.
    - If two or more Bidders match the Bid of the Bidder with the lowest Quoted Transmission Charges in the second round of bidding, then the Bidder whose Quoted Transmission Charges was lower as compared to other Bidder(s) in the first round of bidding shall be the Selected Bidder. For example, if the third and fifth lowest Bidders in the first round of bidding offer to match the Bid of the Bidder with lowest Quoted Transmission Charges in the second round of bidding, the said third lowest Bidder shall be the Successful Bidder.
    - In the event that no Bidder offers to match the Bid of the Bidder with the lowest Quoted Transmission Charges in the second round of bidding, the BPC may, in its discretion, invite fresh Bids (the "third round of bidding") from all Bidders except the Bidder which quoted the lowest Quoted Transmission Charges in the first round of bidding. In case the Bidders are invited for the third round of bidding to revalidate or extend their Bid Security, as necessary, and offer fresh Bids, they shall be eligible for submission of fresh Bids provided, however, that in such third round of bidding only such Bids shall be eligible for consideration which are lower than the Quoted Transmission Charges of the second lowest Bidder in the first round of bidding; or;
  - ii. Annul the bid process; or
  - iii. Take any such measure as may be deemed fit in the sole discretion of the BPC<sup>1</sup>
- k) The BPC may, at its sole discretion, ask for additional information / document and/or

Gel

<sup>&</sup>lt;sup>1</sup> BPC shall record reasons for the same.

seek clarifications from a Bidder after the Bid Deadline, inter alia, for the purposes of removal of inconsistencies or infirmities in its Bid. However, no change in the substance of the Quoted Transmission Charges shall be sought or permitted by the BPC.

- Non submission and/or submission of incomplete data/ information required under the provisions of RFP shall not be construed as waiver on the part of BPC of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing.
- m) Bidders shall familiarize itself with the procedures and time frames required to obtain all Consents, Clearances and Permits.
- n) All Bidders are required to ensure compliance with the standards and codes mentioned in Clause 1.6.1.2.
- o) BPC reserves the right to reject all Bids and/or annul the process of tariff based competitive bidding for selection of Bidder as TSP to execute the Project without assigning any reason. BPC shall not bear any liability, whatsoever, in this regard.
- p) Foreign companies submitting the Bid are required to follow the applicable law in their country for execution of POA, Consortium Agreement and affixation of Common Seal (wherever required) and in such cases, their Bid should be supported by an unqualified opinion issued by an independent legal counsel practicing in the relevant country, stating that execution of such POA, Consortium Agreement and the authorizations granted therein are true and valid. Foreign companies executing POA outside India shall necessarily pay the adequate stamp charges in India as per the provisions of Stamp Act.

#### 2.5.7 Bidders to inform themselves fully

- 2.5.7.1. The Bidders shall make independent enquiry and satisfy themselves with respect to all the required information, inputs, conditions and circumstances and factors that may have any effect on his Bid. Once the Bidders have submitted their Bids, the Bidders shall be deemed to have inspected and examined the site conditions (including but not limited to its surroundings, its geological condition and the adequacy of transport facilities to the site), the laws and regulations in force in India, the transportation facilities available in India, the grid conditions, the adequacy and conditions of roads, bridges, railway sidings, ports, etc. for unloading and/or transporting heavy pieces of material and has based its design, equipment size and fixed its price taking into account all such relevant conditions and also the risks, contingencies and other circumstances which may influence or affect the transmission of power. Accordingly, each Bidder acknowledges that, on being selected as Successful Bidder and on acquisition of one hundred percent (100%) of the equity shares of the Khavda IV C Power Transmission Limited, the TSP shall not be relieved from any of its obligations under the RFP Project Documents nor shall the TSP be entitled to any extension in Scheduled COD mentioned in this RFP or financial compensation for any reason whatsoever.
- 2.5.7.2. In their own interest, the Bidders are requested to familiarize themselves with all relevant laws of India, including without limitation, the Electricity Act 2003, the Income Tax Act 1961, the Companies Act, 1956 / Companies Act, 2013 (as the case may be), Environment Protection Act 1986 and Forest (Conservation) Act, 1980, the Customs Act, the Foreign Exchange Management Act, Land Acquisition Act, 1894, the

Gel

Indian Telegraph Act 1885, Labor & Employment Laws of India, [Insurance Act] the regulations/standards framed by the Commissions and CEA, all other related acts, laws, rules and regulations prevalent in India, as amended from time to time.

In addition to the above, the Bidders are required to familiarize themselves with all relevant technical codes and standards, including but not limited to the Grid Code / State Grid Code, Central Electricity Authority (Installation and Operations of Meters) Regulations, 2006, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007, Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium - Term Open Access in Inter-State Transmission and related matters) Regulations, 2009, Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2010, Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020, Central Electricity Regulatory Commission Charges and Losses) Regulations, 2020 and other relevant Rules/ Regulations/ Guidelines issued by the Central Government, the CERC and the CEA and amendments thereof.

The BPC shall not entertain any request for clarifications from the Bidders regarding the above laws / acts / rules / regulations / standards. Non-awareness of the same shall not be a reason for the Bidder to request for extension in Bid Deadline. The Bidders undertake and agree that, before submission of their Bid, all such factors as generally brought out above, have been fully investigated and considered while submitting their Bids.

- 2.5.7.3. The Survey Report has been prepared in good faith, and on best endeavor basis. Neither BPC & Nodal Agency nor their employees or advisors/consultants make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions made in the Survey Report, or the accuracy, completeness or reliability of information contained therein, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of such Survey Report, even if any loss or damage is caused to the Bidders by any act or omission on their part.
- 2.5.7.4. Bidders shall make best efforts and carry out its own due diligence upon survey report provided by BPC and shall consider all possible techno-commercial factors before submission of Bid. Bidders may also visit the route of the Transmission Lines associated with the Project and the surrounding areas and obtain / verify all information which they deem fit and necessary for the preparation of their Bid. Bidders may also carry out required surveys and field investigation for submission of their Bid. Bidders may also opt for any other route and is not bound to follow the route suggested in survey report provided by BPC.
- 2.5.7.5. Failure to investigate, examine and to inspect site or subsurface conditions fully shall not be grounds for a Bidder to alter its Bid after the Bid Deadline nor shall it relieve a Bidder from any responsibility for appropriately eliminating the difficulty or costs of successfully completing the Project.
- 2.5.7.6. The Selected Bidder shall obtain all necessary Consents, Clearances and Permits as required. The Bidders shall familiarize itself with the procedures and time frame required to obtain such Consents, Clearances and Permits.
- 2.5.7.7. The technical requirements of integrated grid operation are specified in the Indian

Gel

Electricity Grid Code (IEGC). The Bidders should particularly acquaint themselves with the requirements of connection conditions, operating code for regional grids, scheduling and dispatch instructions/codes, etc. The Bidders are also advised to fully familiarize themselves with the real time grid conditions in the country. Information regarding grid parameters such as voltage and frequency is available on the websites of Regional / State Load Dispatch Centers.

#### 2.5.8 Minimum Equity holding/Equity Lock-in

2.5.8.1. (a) The aggregate equity share holding of the Selected Bidder, in the issued and paid up equity share capital of Khavda IV C Power Transmission Limited shall not be less than Fifty-one percent (51%) up to a period of (1) one year after COD of the Project;

(b) In case the Selected Bidder is a Bidding Consortium, then any Member (other than the Lead Member) of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified in (a) above.

(c) If equity is held by the Affiliates, Parent Company or Ultimate Parent Company, then subject to the second proviso of this Clause 2.5.8.1 (c), such Affiliate, Parent Company or Ultimate Parent Company shall be permitted to transfer its shareholding in Khavda IV C Power Transmission Limited to another Affiliate or to the Parent Company / Ultimate Parent Company. If any such shareholding entity, qualifying as an Affiliate / Parent Company / Ultimate Parent Company / Ultimate Parent Company, is likely to cease to meet the criteria to qualify as an Affiliate / Parent Company / Ultimate Parent Company / Ultimate Parent Company, the shares held by such entity shall be transferred to another Affiliate / Parent Company / Ultimate Parent Company.

Provided that in case the Lead Member or Bidding Company is holding equity through Affiliate/s, Ultimate Parent Company or Parent Company, such restriction shall apply to such entities.

Provided further, that the aggregate equity share holding of the Bidding Consortium or a Bidding Company in the issued and paid up equity share capital of Khavda IV C 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 and the lead Member of the Consortium shall have the equity share holding not less than twenty-six percent (26%). In case the Selected Bidder is a Bidding Consortium, then any Member (other than the Lead Member) of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified in (a) above.

(d) All transfer(s) of shareholding of Khavda IV C Power Transmission Limited by any of the entities referred to above, shall be after prior written intimation to the Nodal Agency.

2.5.8.2. The Selected Bidder may invest in the equity share capital Khavda IV C Power Transmission Limited through its Affiliate(s) or Ultimate Parent Company or Parent Company. Details of such investment will have to be specified in the Technical Bid as per Format 2 of Annexure 8 of the RFP. If the Selected Bidder so invests through any Affiliate(s) or Ultimate Parent Company or Parent Company, the Selected Bidder shall be liable to ensure that minimum equity holding/lock-in limits specified in Clause 2.5.8.1 and as computed as per the provisions of Clause 2.5.8.3 are still maintained.

Gel

2.5.8.3. For computation of effective Equity holding, the Equity holding of the Selected Bidder or its Ultimate Parent Company in such Affiliate(s) or Parent Company and the equity holding of such Affiliate (s) or Ultimate Parent Company in Khavda IV C Power Transmission Limited shall be computed in accordance with the example given below:

If the Parent Company or the Ultimate Parent Company of the Selected Bidder A directly holds thirty percent (30%) of the equity in Khavda IV C Power Transmission Limited , then holding of Selected Bidder A in Khavda IV C 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 Khavda IV C 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 Khavda IV C Power Transmission Limited shall be fifteen percent (15%), (i.e., 30%\* 50%);

2.5.8.4. The provisions as contained in this Clause 2.5.8 and Article 19.1 of the Transmission Service Agreement shall override the terms of the Consortium Agreement submitted by the Bidder as part of the RFP.

#### 2.6 **Project Schedule**

2.6.1. All Elements of the Project are required to be commissioned progressively as per the schedule given in the following table;

Sl. No.	Scope of the Transmission Scheme	Scheduled	Percentage	Element(s) which
		COD	of Quoted	are pre-required
			Transmission	for declaring the
			Charges	commercial
			recoverable	operation (COD) of
			on Scheduled	the respective
			COD of the	Element
			Element of	
			the Project	
1.	Establishment of 4x1500 MVA,	24 months	84.19%	Elements at sl. (1)
	765/400 kV and 2x500 MVA,	from date		to (9) are required
	400/220 kV Boisar-II (GIS) S/s with	of SPV		to be
	2x330 MVAR, 765 kV bus reactors	acquisition		commissioned
	and 2x125 MVAR, 420 kV bus			simultaneously as
	reactors.			their utilization is
				dependent on
	(2x1500 MVA, 765/400 kV ICTs			commissioning of
	shall be on each 400 kV section and			each other.
	2x500 MVA, 400/220 kV ICTs shall			
	be on 400 kV Bus Section-II. 2x125			
	MVAR Bus reactors shall be such			
	that one bus reactor is placed on each			
	400 kV bus section. 400 kV Bus			

Gel

REF 101 Selection of bluder as transmission Service Fronder
---

Sl. No.	Scope of the Transmission Scheme	Scheduled	Percentage	Element(s) which
		COD	of Quoted	are pre-required
			Transmission	for declaring the
			Charges	commercial
			recoverable	operation (COD) of
			on Scheduled	the respective
			COD of the	Element
			Element of	
			the Project	
	Sectionaliser to be kept under			
	normally OPEN condition)			
2.	South Olpad (GIS) – Boisar-II (GIS)			
	765 kV D/c line			
3.	2 Nos. of 765 kV line bays at South			
	Olpad (GIS) for termination of South			
	Olpad (GIS) – Boisar-II (GIS) 765			
	kV D/c line			
4.	240 MVAR switchable line reactors			
	on each ckt at South Olpad (GIS) and			
	Boisar-II (GIS) end of South Olpad			
	(GIS) = Boisar-II (GIS) 765  kV D/c			
5	line (with NGR bypass arrangement)			
3.	LILO of Navsari (New) – Padgne $(DC)$ 7(5 kV D/s line at Deiser H			
6	(PG) 765 KV D/c line at Bolsar-II			
0.	$\frac{1}{400} \frac{1}{100} \frac{1}$			
	ACSR/AAC/AI59 moose			
	equivalent) line			
7	2 Nos of 400 kV line bays at			
	Velgaon (MH) for termination of			
	Boisar-II – Velgaon (MH) 400 kV			
	D/c (Quad ACSR/AAAC/AL59			
	moose equivalent) line			
8.	LILO of Babhaleswar – Padghe (M)			
	400 kV D/c line at Boisar-II (Sec-I)			
	using twin HTLS conductor with a			
	minimum capacity of 1700 MVA per			
	ckt at nominal voltage			
9.	80 MVAR switchable line reactors at			
	Boisar-II end of Boisar-II –			
	Babhaleswar 400 kV D/c line (with			
	NGR bypass arrangement) formed			
4.7	after above LILO			
10.	±200 MVAR STATCOM with 2x125		8.94%	Elements at sl. no.
	MVAR MSC, 1x125 MVAR MSR at			(1) and $(10)$ are

Gel

SI. No.	Scope of the Transmission Scheme	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
	400 kV bus section-I of Boisar-II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II			required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
11.	± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)		6.87%	Element at sl. 11 may be commissioned independently.

RFP for Selection of Bidder as Transmission Service Provider

#### 2.7 Due dates

- 2.7.1. The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1200 hours (IST) on 10.01.2024. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI.
- 2.7.2. Important timelines are mentioned below:

Date	Event
28.11.2023	Issuance of RFP
18.12.2023	Submission of written clarifications/amendments, if any, on the
	RFP / RFP Project Documents by Bidders so as to reach BPC by
	1700 hours. Such written clarifications/amendments shall be in
	the format provided in Annexure-20.
26.12.2023	Pre-Bid meeting(s)
05.01.2024	Issue of written clarifications and revised RFP documents
15.01.2024	Issue of final RFP Project Documents
30.01.2024	Submission of Bid (Online submission of Bid through electronic
	bidding portal)
30.01.2024	Opening of Technical Bid
07.02.2024	Short listing and announcement of Qualified Bidders on bidding
	portal
08.02.2024	Opening of Financial Bid - Initial Offer
09.02.2024	Electronic reverse auction (Financial Bid - Final Offer) for the
	Qualified Bidders.

Gel

RFP for Selection of Bidder as Transmission Service Provider

Date	Event
12.02.2024	Submission of original hard copies of Annexure 3, Annexure 4,
	Annexure 6, as applicable and Annexure 14 by the bidder with
	lowest Final Offer
19.02.2024	Selection of Successful Bidder and issue of LOI
19.02.2024	Signing of RFP Project Documents and transfer of of Khavda IV
	C Power Transmission Limited

2.7.3. To enable BPC to meet the schedule, all Bidders are expected to respond expeditiously during the bidding process. If any milestone/activity falls on a day which is not a working day or which is a public holiday then the milestone/activity shall be achieved/ completed on the next working day.

#### 2.8 Validity of the Bid

- 2.8.1. The Bid shall remain valid for a period of one hundred and eighty (180) days from the Bid Deadline. The BPC reserves the right to reject any Bid which does not meet aforementioned validity requirement.
- 2.8.2. The BPC may solicit the Bidders' consent for an extension of the period of validity of the Bid. The request and the response, thereafter, shall be in writing. In the event any Bidder refuses to extend its Bid validity as requested by the BPC, the BPC shall not be entitled to invoke the Bid Bond. A Bidder accepting the BPC's request for validity extension shall not be permitted to modify its Bid and such Bidder shall, accordingly, extend the validity of the Bid Bond as requested by the BPC within seven (7) days of such request, failing which the Bid shall not be considered as valid.

#### 2.9 Method of Submission

- 2.9.1. Both the Technical and Financial Bids duly filled in, all formats and supporting shall be scanned and uploaded online through electronic bidding platform in the manner specified in Annexure A
- 2.9.2. It may be noted that Technical Bid shall not contain any information/document relating to Financial Bid. If Technical Bid contains any such information/documents, the BPC shall not be responsible for premature opening of the Financial Bid.

All pages of the Bid, except for the Bid Bond (Annexure 14) and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder. It is clarified that the same authorized signatory shall sign all pages of the Bid. However, any published document submitted in this regard shall be signed by the authorized signatory at least on the first and last page of such document.

2.9.3. No change or supplemental information to a Bid already submitted will be accepted after the Bid Deadline, unless the same is requested for by the BPC as per Clause 2.5.6 (k).

Provided that a Bidder shall always have the right to withdraw / modify its Bid before the Bid Deadline. No Technical Bid or Initial Offer shall be modified, substituted or withdrawn by the Bidder on or after the Bid Deadline.

#### 2.10 Preparation cost



- 2.10.1. The Bidders shall be responsible for all the costs associated with the preparation of the Bid and participation in discussions and attending pre-bid meetings, and finalization and execution of the RFP Project Documents (other than the TSA), etc. BPC shall not be responsible in any way for such costs, regardless of the conduct or outcome of the process of tariff based competitive bidding for selection of Bidder as TSP as per Bidding Guidelines.
- 2.10.2. The cost of this RFP is Rupees Five Lakh Only (Rs. 5,00,000) or U.S. Dollar Seven Thousand Only (US\$ 7,000) plus GST as per applicable rate, which shall be non-refundable. This amount shall be paid via electronic transfer to the following Bank Account:

Bank Name, Address	IDFC First Bank Limited
& Branch	Wholesale Banking Outlet Express Building, 2nd Floor,
	9-10 Bahadur Shah Zafar Marg, New Delhi-110002
Bank Account Name	REC Power Development & Consultancy Limited
Bank Account No	10000697415
Bank IFSC Code No	IDFB0020101

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

#### 2.11 Bid Bond

- 2.11.1. Each Bidder shall submit the Bid accompanied by Bid Bond issued by any of the Banks listed in Annexure-17. The Bid Bond shall be valid for a period of thirty (30) days beyond the validity of the Bid.
- 2.11.2. Subject to the provisions of Clause 2.15.5, the Bid Bond may be invoked by the BPC or its authorized representative, without any notice, demure, or any other legal process upon occurrence of any of the following:
  - Bidder withdraws during the period of Bid Validity as specified in this RFP or as extended by mutual consent of the respective Bidder(s) and the BPC
  - Failure to execute the Share Purchase Agreement as per the provisions of Clause 2.15.2; or
  - Failure to furnish the Contract Performance Guarantee as per Clause 2.12; or
  - Failure to acquire one hundred percent (100%) equity shares of Khavda IV C Power Transmission Limited , along with all its related assets and liabilities, in accordance with the provisions of Clause 2.15.2; or
  - Failure to comply with the provisions of Clause 2.15.5 and Clause 2.15.6, leading to annulment of the award of the Project.

Gel

• Bidders submitting any wrong information or making any misrepresentation in their Bid as mentioned in Clause 2.5.6.

Intimation of the reasons of the invocation of the Bid Bond shall be given to the Selected Bidder by the BPC within three (3) working days after such invocation.

- 2.11.3. The Bid Bond of the Selected Bidder shall be returned on submission of the Contract Performance Guarantee as per Clause 2.12 and the relevant provisions of the Transmission Service Agreement.
- 2.11.4. The Bid Bond of all the Bidders, whose Bids are declared non-responsive, shall be returned within a period of thirty (30) days after the date on which the Financial Bids are opened.
- 2.11.5. The Bid Bond of all unsuccessful Bidders shall be returned and released by the BPC on the same day on which the Khavda IV C Power Transmission Limited, is transferred to the Selected Bidder. The Bid Bond of the Successful Bidder shall be returned on submission of Contract Performance Guarantee as per Clause 2.12 of this RFP and the provisions of the Transmission Service Agreement.

#### 2.12 Contract Performance Guarantee

- 2.12.1. Within ten (10) days from the date of issue of the Letter of Intent, the Selected Bidder, on behalf of the TSP, will provide to the Nodal Agency the Contract Performance Guarantee for an amount of Rs. 93.50 Crore (Rupees Ninety-Three Crore Fifty lakh Only). The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the Scheduled up to three (3) months after the COD of the Project and thereafter shall be dealt with in accordance with the provisions of the Transmission Service Agreement. The Contract Performance Guarantee shall be issued by any of the banks listed in Annexure-17.
- 2.12.2. In case the Selected Bidder is unable to obtain the Contract Performance Guarantee for the total amount from any one bank specified in Annexure-17, the Selected Bidder may obtain the same from not more than three (3) banks specified in Annexure-17.

#### 2.13 **Opening of Bids**

2.13.1. Technical Bid will be opened by the Bid Opening Committee as per the following time schedule and in the office of Central Electricity Authority, in the online presence of Bidders' representatives who wish to attend:

Opening of Envelope (Technical Bid): 1230 hours (IST) on 30.01.2024.

or such other dates as may be intimated by BPC to the Bidders.

In the event of any of above dates falling on a day which is not a working day or which is a public holiday, then the bids shall be opened on the next working day at the same venue and time.

Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on 08.02.2024 in the office of CEA.

Gel

- 2.13.2. The following information from each Bid will be read out to all the Bidders at the time of opening of Technical Bid:
  - Name of the Bidding Company / Consortium Members in case of Bidding Consortium.

#### Information to be provided after opening of Initial Offer:

Only the lowest Initial Offer (s) shall be communicated to all the Qualified Bidders to participate in the e-reverse bidding process. During the e-reverse bidding process only the lowest prevailing bid should be visible to all the bidders on the electronic platform.

#### 2.14 Enquiries

Written clarifications on the RFP and other RFP Project Documents as per Clause 2.3 and 2.4 may be sought from:

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

#### 2.15 Other Aspects

2.15.1. The draft of the Transmission Service Agreement has been attached to this RFP. In addition to above, the following documents have also been attached to this RFP:

a) Share Purchase Agreement

When the drafts of the above RFP Project Documents are provided by the BPC, these RFP Project Documents shall form part of this RFP as per Formats -1 & 2 of Annexure 20.

Upon finalization of the RFP Project Documents after incorporating the amendments envisaged in Clause 2.4 of this RFP, all the finalized RFP Project Documents shall be provided by BPC to the Bidders at least fifteen (15) days prior to the Bid Deadline.

The Transmission Service Agreement and Share Purchase Agreement shall be signed in required number of originals so as to ensure that one (1) original is retained by each party to the Agreement(s) on the date of transfer of SPV.

- 2.15.2. Within ten (10) days of the issue of the Letter of Intent, the Selected Bidder shall:
  - a) provide the Contract Performance Guarantee in favour of the Nodal Agency as per the provisions of Clause 2.12;
  - b) execute the Share Purchase Agreement and the Transmission Service Agreement;

Gel

c) acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of Khavda IV C Power Transmission Limited from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of Khavda IV C Power Transmission Limited, along with all its related assets and liabilities;

Stamp duties payable on purchase of one hundred percent (100%) of the equity shareholding of Khavda IV C Power Transmission Limited, along with all its related assets and liabilities, shall also be borne by the Selected Bidder.

Provided further that, if for any reason attributable to the BPC, the above activities are not completed by the Selected Bidder within the above period of ten (10) days as mentioned in this Clause, such period of ten (10) days shall be extended, on a day for day basis till the end of the Bid validity period.

- 2.15.3. After the date of acquisition of the equity shareholding of Khavda IV C Power Transmission Limited, along with all its related assets and liabilities, by the Selected Bidder,
  - i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be taken thereafter will be undertaken by the Nodal Agency,
  - ii. all rights and obligations of Khavda IV C Power Transmission Limited , shall be of the TSP,
  - iii. any decisions taken by the BPC prior to the Effective Date shall continue to be binding on the Nodal Agency and
  - iv. contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP.
  - v. Further, the TSP shall execute the Agreement(s) required, if any, under Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time.
- 2.15.4. Within five (5) working days of the issue of the acquisition of the SPV by the Successful Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section 63 of The Electricity Act 2003.
- 2.15.5. If the Selected Bidder / TSP fails or refuses to comply with any of its obligations under Clauses 2.15.2, 2.15.3 and 2.15.4, and provided that the other parties are willing to execute the Share Purchase Agreement and REC Power Development and Consultancy Limited is willing to sell the entire equity shareholding of Khavda IV C Power Transmission Limited, along with all its related assets and liabilities, to the Selected Bidder, such failure or refusal on the part of the Selected Bidder shall constitute sufficient grounds for cancellation of the Letter of Intent. In such cases, the BPC / its authorized representative(s) shall be entitled to invoke the Bid Bond of the Selected Bidder.
- 2.15.6. If the TSP fails to obtain the Transmission License from the Commission, it will constitute sufficient grounds for annulment of award of the Project.
- 2.15.7. The annulment of award, as provided in Clauses 2.15.5 and 2.15.6 of this RFP, will be



done by the Government on the recommendations of National Committee on Transmission. However, before recommending so, National Committee on Transmission will give an opportunity to the Selected Bidder / TSP to present their view point.

2.15.8. The annulment of the award, under Clause 2.15.5 or 2.15.6 of this RFP, shall be sufficient grounds for blacklisting the bidder, whose award has been annulled, for a period of five years or more, as decided by the National Committee on Transmission, provided that the blacklisting shall be done only after giving the bidder an opportunity for showing cause.

#### 2.16 Confidentiality

- 2.16.1. The parties undertake to hold in confidence this RFP and RFP Project Documents and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:
  - a) to their professional advisors;
  - b) to their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities;
  - c) disclosures required under Law, without the prior written consent of the other parties of the concerned agreements.

Provided that the TSP agrees and acknowledges that the Nodal Agency may at any time, disclose the terms and conditions of the RFP and RFP Project Documents to any person, to the extent stipulated under the Law or the Bidding Guidelines.

#### 2.17 Right of the BPC to reject any Bid

BPC reserves the right to reject all or any of the Bids/ or cancel the RFP without assigning any reasons whatsoever and without any liability.

**2.18** Non submission and/or submission of incomplete data/ information required under the provisions of RFP shall not be construed as waiver on the part of BPC of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing.

#### 2.19 Fraudulent and Corrupt Practices

- 2.19.1. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bid process and subsequent to the issue of the LoI Notwithstanding anything to the contrary contained herein, or in the LoI, the BPC shall reject a Bid, withdraw the LoI, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the BPC shall forfeit the Bid Bond, without prejudice to any other right or remedy that may be available to the BPC hereunder or otherwise.
- 2.19.2. Without prejudice to the rights of the BPC under Clause 2.19.1 hereinabove and the rights and remedies which the BPC may have under the LoI, if a Bidder is found by the

Gel

#### RFP for Selection of Bidder as Transmission Service Provider

BPC to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of the LoI, such Bidder & its Affiliates shall not be eligible to participate in any tender or RFP issued by any BPC for an indefinite period from the date such Bidder is found by the BPC to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

- 2.19.3. For the purposes of this Clause 2.19, the following terms shall have the meaning hereinafter respectively assigned to them:
  - "corrupt practice" means (i) the offering, giving, receiving, or soliciting, a) directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the BPC who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the LoI or has dealt with matters concerning the Transmission Service Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the BPC, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or (ii) engaging in any manner whatsoever, whether during the Bid Process or after the issue of the LoI or after the execution of the Transmission Service Agreement, as the case may be, any person in respect of any matter relating to the Project or the LoI or the Transmission Service Agreement, who at any time has been or is a legal, financial or technical adviser of the BPC in relation to any matter concerning the Project:
  - b) **"Fraudulent practice"** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;
  - c) **"Coercive practice"** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bid process;
  - d) **"undesirable practice"** means (i) establishing contact with any person connected with or employed or engaged by the BPC with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and
  - e) **"Restrictive practice"** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process.

Gel

**SECTION - 3** 

#### EVALUATION OF THE TECHNICAL AND FINANCIAL BID

Gel

#### SECTION 3

#### 1. EVALUATION OF BID

#### **3.1.** The evaluation process of Technical Bid comprises the following five steps:

- Step I Responsiveness check
- Step II- Compliance with submission requirements
- Step III– Evaluation of Technical Bids
- Step IV– Evaluation of Financial Bids
- Step V Bidder Selection

#### **3.2.** STEP I – Responsiveness check

The Technical Bid submitted by the Bidder shall be initially scrutinized to establish "Responsiveness". Subject to clause 2.5.6 (k), any of the following conditions shall cause the Technical Bid to be "Non-responsive":

- a) Technical Bid that are incomplete.
- b) Technical Bid not signed by authorized signatory and / or stamped in the manner indicated in this RFP.
- c) All pages of the Technical Bid submitted but not initialed by the authorized signatories on behalf of the Bidder.
- d) Technical Bid not including the covering letter as per Annexure 1.
- e) Technical Bid submitted by a Bidding Consortium not including the Consortium Agreement.
- f) Technical Bid contains material inconsistencies in the information and documents submitted by the Bidder, affecting the Qualification Requirements.
- g) Bidder submitting or participating in more than one Bid either as a Bidding Company or as a Member of Bidding Consortium.
- h) More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.
- i) Information not submitted in formats specified in the RFP.
- j) Applicable Board resolutions, or any other document, as provided in Clause 2.5.2, not being submitted;
- k) Bid not accompanied by a valid Bid Bond or Bid Security Declaration, as applicable;
- 1) Non submission of power of attorney, supported by a Board resolution;
- m) Bid validity being less than that required as per Clause 2.8 of this RFP;
- n) Bid not containing Format-1 (Bidders' Undertakings) of Annexure-8;



- o) Bidder having Conflict of Interest
- p) The Bidder has not submitted a disclosure as per Annexure 13.
- q) Bidders delaying in submission of additional information or clarifications sought by the BPC.
- r) If the Bidder makes any misrepresentation as specified in Clause 3.7.
- s) Bid being conditional in nature.
- t) More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.

#### 3.3. STEP II - Compliance with submission requirements

Each Bidder's Technical Bid shall be checked for compliance with the submission requirements set forth in this RFP before the evaluation of Technical Bid is taken up. Annexure 16 and Annexure 11A shall be used to check whether each Bidder meets the stipulated requirements.

#### 3.4. STEP III - Evaluation of Technical Bid

Evaluation of Technical Bid will be carried out considering the information and documents furnished by the Bidders as required under this RFP. This step would involve technical and financial evaluation of the details/ documents furnished by the Bidding Company / Bidding Consortium in support of meeting the Qualification Requirements

#### 3.4.1. Interpolation of financial data.

For the Qualification Requirements data provided by the Bidders in foreign currency, equivalent rupees of Networth will be calculated using bills selling exchange rates (card rate) USD/INR of State Bank of India prevailing on the date of closing of the accounts for the respective financial year as certified by their Banker.

For the purpose of calculating the aggregate capital expenditure/construction experience of the projects completed/ commissioned where such projects are executed outside India and capital expenditure is denominated in foreign currency, bills selling exchange rates (card rate) USD/INR of State Bank of India prevailing on the date of closing of the financial year in which the projects were completed and as certified by their Banker shall be considered.

For the projects executed in the current financial year bills selling (card rate) USD/INR of State Bank of India prevailing on seven (7) days prior to the last date of submission of Technical Bid and as certified by their Banker shall be considered.

For currency other than USD, Bidders shall convert such currency into USD as per the exchange rates certified by their Banker prevailing on the relevant date and used for such conversion. Such Bidders shall submit necessary certification from their Banker for the exchange rate used in the conversation.

If the exchange rate for any of the above dates is not available, the rate for the immediately available previous day shall be taken into account.

Gel

3.4.3. The BPC shall upload the list of all Qualified Bidders and Non-Qualified Bidders on the bidding portal along with the reasons for non-qualification.

#### **3.5. STEP IV - Evaluation of Financial Bids**

3.5.1. The Bids which have been found Qualified by the BPC, based on the Steps I to III as specified above in Clauses 3.2.to 3.4, shall be opened and Quoted Transmission Charges of such Initial Offer shall be ranked on the basis of the ascending Initial Offer submitted by each Qualified Bidder.

Based on such ranking of the Qualified Bidders, in the first fifty per cent of the ranking (with any fraction rounded off to higher integer) or four Qualified Bidders, whichever is higher, shall qualify for participating in the electronic reverse auction.

Provided however, in case only one Bidder remains after the Evaluation of Technical Bid (Steps 1 to III) as per Clause 3.2 to 3.4, the Initial Offer of such Bidder shall not be opened and the matter shall be referred to the Government.

Provided that in the event the number of Qualified Bidders is between two and four, then each of the responsive Bidder shall be considered as Qualified Bidders.

Provided that in the event of identical Quoted Transmission Charges discovered from the Initial Offer having been submitted by one or more Bidders, all such Bidders shall be assigned the same rank for the purposes of determination of Qualified Bidders. In such cases, all Qualified Bidders who shares the same rank till 50% of the rank (with any faction rounded off to higher integer) determined above, shall qualify to participate in the electronic reverse auction stage. In case 50% of the rank is having less than four (4) Bidders and the rank of the fourth (4<sup>th</sup>) Bidder is shared by more than one Bidder, then all such all such Bidders who share the rank of the fourth Bidder shall qualify to participate in the electronic reverse auction.

- 3.5.2. The Financial Bids comprising of both Initial Offer and Final Offer submitted by the Bidders shall be scrutinized to ensure conformity with the provisions of Clause 2.5.3 of this RFP. Any Bid not meeting any of the requirements as per Clause 2.5.3 of this RFP may cause the Bid to be considered "Non-responsive", at the sole decision of the BPC. Financial Bid not in conformity with the requirement of SI. No. (c) of Clause 2.5.3 of this RFP shall be rejected.
- 3.5.3 The Bidders shall quote the single annual Quoted Transmission Charges as specified in the format at Annexure -21.

#### **3.6.** STEP V - Bidder Selection

3.6.1. The prevailing lowest Quoted Transmission Charges discovered from Final Offers shall only be displayed during the e-reverse bidding and the Bidder quoting such Final Offer will always remain anonymous during the e-reverse bidding. The Bidder with the prevailing lowest Quoted Transmission Charges discovered from Final Offers at the close of the

Gel

scheduled or extended period of e-reverse bidding as mentioned in clause 2.5 shall be declared as the Successful Bidder, subject to verification of the original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14. The Letter of Intent shall be issued to such Successful Bidder in two (2) copies.

However, if no bid is received during the e-reverse bidding stage then the Bidder with lowest quoted initial transmission charges ("Initial Offer") during e-bidding stage shall be declared as the Successful Bidder, subject to verification of the original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14. The Letter of Intent shall be issued to such Successful Bidder in two (2) copies.

In case, there is a discrepancy between the online submission and physical documents, the bid would be out rightly rejected and the bidder shall be construed to have engaged in the fraudulent practice as defined in Clause 2.19.3 with consequences as mentioned in Clause 2.19.2. Further, in such a case, the provisions of Clause 2.5.6 (j) shall apply.

- 3.6.2. The Selected Bidder shall unconditionally accept the LoI, and record on one (1) copy of the LoI, "Accepted unconditionally", under the signature of the authorized signatory of the Successful Bidder and return such copy to the BPC within seven (7) days of issue of LoI.
- 3.6.3. If the Successful Bidder, to whom the Letter of Intent has been issued, does not fulfill any of the conditions specified in Clauses 2.15.2, 2.15.3 and Clause 2.15.4, then subject to Clause 2.15.5, the BPC reserves the right to annul the award of the Project and cancel the Letter of Intent. Further, in such a case, the provisions of Clause 2.5.6 (j) shall apply.
- 3.6.4. The BPC, in its own discretion, has the right to reject all Bids if the Quoted Transmission Charges are not aligned to the prevailing prices.

#### **3.7.** Misrepresentation by the Bidder

If the Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in the Technical Bid or Bid, as the case may be, in any manner whatsoever, in order to create circumstances for the acceptance of its Technical Bid/Bid, the BPC reserves the right to reject such Technical Bid/Bid, and/ or cancel the Letter of Intent, if issued. Further, in case Letter of Intent is cancelled, consequences as per provisions of the RFP shall follow.

#### 3.8. Disposition of Technical Bid

- 3.8.1. Technical Bid found to be Non-responsive as per Clause 3.2, due to any of the following conditions, shall be liable for rejection.
  - Technical Bid that is incomplete.
  - Technical Bid not signed by authorized signatory and / or stamped in the manner indicated in this RFP.
  - All pages of the Technical Bid submitted but not initialed by the authorized signatories on behalf of the Bidder.
  - Technical Bid not including the covering letter as per Annexure 1.
  - Technical Bid contains material inconsistencies in the information and documents submitted by the Bidder, affecting the Qualification Requirements.
  - Information not submitted in formats specified in the RFP.
  - The Bidder has not submitted a disclosure as per Annexure 13.

Gel

- Bidders delaying in submission of additional information or clarifications sought by the BPC.
- 3.8.2. Technical Bid found to be Non-responsive as per Clause **3.2**, due to any of the following conditions, shall be rejected.
  - Technical Bid not received by the scheduled date and time.
  - Technical Bid submitted by a Bidding Consortium not including the Consortium Agreement.
  - Bidder submitting or participating in more than one response either as a Bidding Company or as a Member of Bidding Consortium.
  - More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.
  - Technical Bid having Conflict of Interest.
  - If the Bidder makes any misrepresentation as specified in Clause 3.7.
- 3.9. BPC reserves the right to interpret the Bid in accordance with the provisions of this RFP document and make its own judgment regarding the interpretation of the same. In this regard, BPC shall have no liability towards any Bidder and no Bidder shall have any recourse to BPC with respect to the qualification process.

BPC shall evaluate Bid using the process specified in Clause 3.1 to 3.6, at its sole discretion. BPC's decision in this regard shall be final and binding.

Gel

**SECTION - 4** 

#### **ANNEXURES FOR BID**

Gel

#### SECTION – 4

#### I. Formats for Bid

The following formats are required to be included in the Bidder's Technical and Financial Bid. These formats are designed to demonstrate the Bidder's compliance with the Qualification Requirements set forth in Clause 2.1 of Section -2.

#### **Technical Bid**

- 1. Format for the Covering Letter
- 2. Format for Letter of Consent from Consortium Members
- 3. Format for evidence of authorized signatory's authority (Power of Attorney)
- 4. Format for Power of Attorney from to be provided by each of the other Members of the Consortium in favor of the Lead Member
- 5. Format for Bidder's composition and ownership structure and Format for Authorization
- 6. Format for Consortium Agreement
- 7. Formats for Qualification Requirement
- 8. Format of Bidders Undertaking and details of Equity Investment
- 9. Authorization from Parent/Affiliate of Bidding Company/Member of Bidding Consortium whose technical/financial capability has been used by the Bidding Company/Member of Bidding Consortium.
- 10. Undertaking from the Technically / Financially Evaluated Entity(ies) or from Ultimate Parent Company for equity investment
- 11. Format of Board Resolutions
- 12. Format for Illustration of Affiliates
- 13. Format for Disclosure
- 14. Format for Bid Bond
- 14A. Format for Bid Security Declaration
- 15. Format for Contract Performance Guarantee
- 16. Checklist for Technical Bid submission requirements
- 22. Format for Affidavit

In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI.

#### **Financial Bid**

- 21. Format for Financial Bid
- II. The following formats are for the information to the Bidders to enable them to submit their Bid.
  - 11A. Illustration For Applicable Board Resolution Requirements Under Clause 2.5.2
  - 17. List of Banks
  - 18. GRID Map of the Project
  - 19. Format for clarification/amendments on the RFP/RFP Project Documents
  - 20. Formats for RFP Project Documents

Bidder may use additional sheets to submit the information for its detailed Bid.

Gel

#### **ANNEXURE 1 - COVERING LETTER**

(The covering letter should be on the Letter Head of the Bidding Company/ Lead Member of the Consortium)

Date:			•	•	• •						•		•	•					•			 			•	•		•			•	•	•	•
From:		•	•	•	• •				•	•	•	•	•	•	• •		•	•	•	•	• •	 	•	•	•	•	• •	•	•	•	•	•	•	•
	•	•	•	•	• •	• •	• •		•	•	•	•	•	•	• •	• •	•	•	•	•	• •	 • •	•	•	•	•	• •	•	•	•	•	•	•	•
	•	•	•	•	• •	• •	• •	• •	•	•	•	•	•	•	• •	• •	•	•	•	•	• •	 • •	•	•	•	•		•	•	•	•	•	•	•
Tel. No.:			•	•••	•	•••	•	•••	•••	•••	•	•••	••	•••		•••		•••	•	•••		 •	•••	•	••	•	••	•••	•	•••		•••	•••	•
Fax No.:			•	•••	•	•••	•	•••	•	•••	•	•••	•••	•••		•••	•••		•	• •	•	 •	•••	•	•••	•	•••	•••	•	•••	•••	•••		
E-mail address	s:		•	•••	•	•••	•	•••	•	•••	•			•••		•••	•••		•		•	 •	•••	•••		•••			•	•••	•••	•••		

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: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C " through tariff based competitive bidding process.
  - 1. Being duly authorized to present and act on behalf of M/s ...... (insert name of Bidding Company / Bidding Consortium) (hereinafter called the "Bidder") and having read and examined in detail the Request for Proposal (RFP) document, the undersigned hereby submit our Technical Bid with duly signed formats and Financial Bid (Initial Offer) as stipulated in RFP document for your consideration.
  - 2. It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP document and subsequent clarifications/amendments as per Clause 2.3 and 2.4 of RFP.
  - 3. The information submitted in our Bid is complete, is strictly as per the requirements stipulated in the RFP document and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.
  - 4. We hereby agree and undertake to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard.

We hereby also agree and undertake to comply with Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No.

Gel

6/18/2019-PPD, dated 24.07.2020, as amended from time to time, regarding public procurement from a bidder of a country, which shares land border with India.

- 5. We hereby agree to comply with Ministry of Power order no. 25-11/6/2018 PG dated 02.07.2020 as amended from time to time.
- 6. We are herewith submitting legally binding board resolution for the total equity requirement of the Project.

# [Sl. No 7 to be inserted only in case the Bidder is a Bidding Company / Lead Member of a Consortium and has sought qualification on the basis of technical and financial capability of its Affiliate(s) and/or its Parent]

- 8. We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to the Project.
- 9. We hereby confirm that we shall continue to maintain compliance with Qualification Requirements till the execution of the Transmission Service Agreement. Further, in case we emerge as Selected Bidder for the Project, we shall continue to maintain compliance with Qualification Requirements till the COD of the Project.
- 10. We confirm that we have studied the provisions of relevant Indian laws and regulations required to enable us to build, own, operate and transfer the said Project and to prepare this Bid.
- 11. We hereby confirm that we shall abide unreservedly with BPC's decision in the qualification process for selection of Qualified Bidder and further warrant that under no circumstances we shall challenge either the BPC's decision or its right to make such decision at any time in the future.
- 12. We confirm that the Bid shall remain valid for a period of one eighty (180) days from the Bid Deadline.
- 13. The details of contact person are furnished as under:

Name:	•••••••••••••••••	
Designation:		
Name of the Company	y:	
Address of the Bidden	:	
Phone Nos.:		
Fax Nos.:		
E-mail address:		

Gel

#### 14. Bid Bond

We have enclosed a Bid Bond of Rupees ...... Crores (Rs. ......) only or US\$ ...... (.....US Dollars), in the form of bank guarantee no......[Insert number of the Bank Guarantee] dated......[Insert Date of the Bank Guarantee] as per your proforma (Annexure-14) from.....[Insert name of bank providing Bid Bond] and valid up to .....in terms of Clause 2.11 of the RFP.

#### 15. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by the BPC on any matter regarding or arising out of the RFP shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

#### 16. Familiarity with Relevant Indian Laws & Regulations

We confirm that we have studied the provisions of relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RFP Project Documents (other than TSA), in the event of our selection as the TSP. We further undertake and agree that all such factors as mentioned in Clause 2.5.7 of RFP have been fully examined and considered while submitting the Bid.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from BPC.

The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RFP and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.

We confirm that we have not taken any deviation so as to be deemed non-responsive with respect to the provisions stipulated at Clause 2.5.1, of this RFP.

Thanking you,

Yours sincerely,

(Name and Signature of the authorized signatory in whose name Power of Attorney/ Board Resolution as per Clause 2.5.2 is issued)

Name:	
Designation:	
Address:	

Date: ..... Place: ....

#### **Company Rubber Stamp**



#### **ANNEXURE 2 - LETTER OF CONSENT FROM CONSORTIUM MEMBERS**

#### (On the letter head of each Member of the Consortium including Lead Member)

Date:		•	•	•				•				•	•								•			•					•			•			
From:		•	•	•				•	•	•	•	•	•	• •				•	•	•	•			•	•	•	•	•	•			•		•	
	•	•	•	•	• •	• •		•	•	•	•	•	•	• •	• •		•	•	•	•	•	•		•	•	•	•	•	•			•	•	•	•
	•	•	•	•				•	•	•	•	•	•	• •	• •			•	•	•	•	•		•	•	•	•	•	•			•	•	•	•
Tel. No.:		•	•	•				•	•	•	•	•	•					•	•	•	•			•	•		•	•	•			•	•	•	•
Fax No.:		•	•	•				•	•		•	•	•					•	•	•	•	•		•	•	•	•		•			•	•		•
E-mail address	:		•	•	•	•	•	•	•					•	•	•	•	•		• •	•	•	•	•	•	•		•		•	•	•	•		•••

To,

Chief Executive Officer, REC Power Development and Consultancy Limited (A wholly owned subsidiary of REC Limited) REC Corporate Head Quarter, D Block, Plot No. I – 4, Sec – 29 Gurugram – 122 001

Dear Sir,

Sub: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

We, the undersigned Member of ...... (Insert name of the Bidding Consortium) have read, examined and understood the RFP document for the short-listing of Bidders as prospective TSP to establish Inter-State Transmission System for **"Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV** (7 GW): Part C" through tariff based competitive bidding process. We hereby confirm our concurrence with the Bid including in particular the Consortium Agreement submitted by ...... (Insert name of the Lead Member) in response to the RFP document.

We hereby confirm our commitment to participate in the said Bidding Consortium and invest ....... % of the total equity requirement for the Project as per the terms of the Consortium Agreement dated ...... and board resolution for such investment commitment is enclosed herewith.

Gel

RFP for Selection of Bidder as Transmission Service Provider

The details of contact person	are furnished as under:
Name:	
Designation:	
Name of the Company:	
Address:	
Phone Nos.:	
Fax Nos.:	
E-mail address:	
Dated the day of Thanking you, Yours faithfully,	of 20
(Signature)	
Name: Designation:	

(Signature, Name, Designation of Authorized Signatory of Consortium Member and Company's Seal)

Gel

#### ANNEXURE 3 - FORMAT FOR EVIDENCE OF AUTHORIZED SIGNATORY'S AUTHORITY (POWER OF ATTORNEY)

#### **POWER OF ATTORNEY**

#### (To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

For ...... [Insert name of the Bidder on whose behalf PoA is executed]

(Signature)

Name:	
Designation:	

#### Accepted

## (Signature of the Attorney)

Name:	
Designation:	
Address:	

#### (Name, Designation and Address of the Attorney)

Specimen signatures of attorney attested by the Executant

#### 

(Signature of Notary Public)

Place:	
Date:	

#### Notes:

- 1) To be executed by Bidding Company or the Lead Member, in the case of a Bidding Consortium, as the case maybe.
- 2) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.
- 3) Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the Person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).
- 4) In case of foreign Bidders, refer to clause 2.5.6 (p)

Gel

#### ANNEXURE 4 - FORMAT FOR POWER OF ATTORNEY TO BE PROVIDED BY EACH OF THE OTHER MEMBERS OF THE CONSORTIUM IN FAVOUR OF THE LEAD MEMBER

#### **POWER OF ATTORNEY**

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)

KNOW ALL MEN BY THESE PRESENTS THAT M/s....., having its office registered at .....and M/s ...... having its registered office at ......, (Insert names and registered offices of all Members of the Consortium), the Members of Consortium, have formed a Bidding Consortium named ..... (insert name of the Consortium) (hereinafter called the "Consortium") vide Consortium Agreement dated..... and having agreed to appoint M/s.... as the Lead Member of the said Consortium do hereby constitute, nominate and appoint M/s.....a company incorporated under the laws of .....and having its Registered / Head Office at .....as our duly constituted lawful Attorney (hereinafter called as "Lead Member") which is one of the Members of the Consortium, to act as the Lead Member and our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of Consortium's Bid for the Project, including signing and submission of the Bid and all documents related to the Bid, including, undertakings, letters, certificates, acceptances, clarifications, guarantees, etc, making representations to the BPC, and providing information / responses to the BPC, representing us and the Consortium in all matters before the BPC, and generally dealing with the BPC in all matters in connection with our Bid for the said Project, till completion of the bidding process in accordance with the RFP and signing of the Share Purchase Agreement by all the parties thereto.

It is expressly understood that in the event of the Consortium being selected as Successful Bidder, this Power of Attorney shall remain valid, binding and irrevocable until the Bidding Consortium achieves execution of all RFP Project Documents.

We, as the Member of the Consortium, agree and undertake to ratify and confirm all whatsoever the said Attorney/Lead Member has done on behalf of the Consortium Members pursuant to this Power of Attorney and the same shall bind us and deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

**IN WITNESS WHEREOF** M/s ....., as the Member of the Consortium have executed these presents on this...... day of ......

For and on behalf of Consortium Member

(Signature of the Authorized Signatory)

Name: .....

**REC Power Development and Consultancy Limited** 

70

Gel

RFP for Selection of Bidder as Transmission Service Provider

Designation:
Place:
Date:
Name:
Designation:
Place:
Date:

Accepted Specimen signatures of attorney attested

(Signature)

.....

(Name, Designation and Address

of the Attorney)

#### (Signature of Notary Public)

.....

Place:	
Date:	

#### Notes:

- 1. The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.
- 2. Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the Person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).
- 3. In case of foreign Bidders, refer to clause 2.5.6 (p)

Gel

#### ANNEXURE 5 - FORMAT FOR BIDDER'S COMPOSITION AND OWNERSHIP STRUCTURE

#### **1. Corporate Details:**

Please provide the following information for the Bidder. If the Bidder is a Consortium, please provide this information for each Member including the Lead Member:

a. Company's Name, Address, and Nationality:

	Name:	
	Address:	
	Website Addre	ess:
	Country of Or	igin:
b.	Year Organiz	zed:
c.	Company's B	usiness Activities:
d. ii iii e.	<ul> <li>Status as a Bi</li> <li>Bidding Cor</li> <li>Lead Memb</li> <li>Member of t</li> <li>Note: tick th</li> <li>Company's L</li> </ul>	adder: npany er of the Bidding Consortium the Bidding Consortium <b>he applicable serial number</b> socal Address in India (if applicable):
f.	Name of the A	Authorized Signatory:
g.	Telephone Nu	ımber:
h.	Email Addres	\$8:
i.	Telefax Num	ber:
j.	Please provid	e the following documents:
	i. Copy of incorpor	the Memorandum and Articles of Association and certificate of ation or other equivalent organizational document (as applicable),

Gel

ii. Authority letter (as per format for authorization given below) in favour of BPC from the Bidder/every Member of the Consortium authorizing BPC to seek reference from their respective bankers & others as **Attachment 2** as per Clause 2.1.6 of the RFP.

#### 2. Details of Ownership Structure:

Equity holding of Bidding Company/ each Member of Bidding Consortium including Lead Member owning 10% or more of total paid up equity.

Name of the Bidding Company / Consortium Member: ..... Status of equity holding as on .....

	Name of the Equity Holder	Type and No. of Shares owned	Extent of Voting Control (%)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

#### Notes:

- 1. The above table is to be filled in separately for each Consortium Member.
- 2. Status of equity holding should be provided not earlier than thirty (30) days prior to Bid Deadline.

#### For and on behalf of Bidding Company / Lead Member of the Bidding Consortium

M/s.....

### (Signature of authorized representative) Name: Designation:

.....

(Stamp)

Date:	
Place:	

Gel

#### FORMAT FOR AUTHORISATION

#### (In case of Bidding Consortium, to be given separately by each Member) (On Non – judicial stamp paper duly attested by notary public. Foreign companies submitting bids are required to follow the applicable law in their country)

The undersigned hereby authorize(s) and request(s) all our Bankers, including its subsidiaries and branches, any person, firm, corporation or authority to furnish pertinent information deemed necessary and requested by REC Power Development and Consultancy Limited to verify our Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission system for **"Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C"** through tariff based competitive bidding process or regarding our project development experience, financial standing and general reputation.

For and on behalf of M/s..... (Insert Name of Bidding Company or Member of the Consortium)

(Signature)			
Name of Authorize	ed Signatory:		
(Signature and Na	ame of the authorized s	signatory of the Company)	
Place: Date:			
(Company rubber	• stamp/seal)		
(Signature of Nota	ary Public)		
Place: Date:			

Gel

#### ANNEXURE 6 - FORMAT FOR CONSORTIUM AGREEMENT

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)

BPC WHEREAS, the had invited Bid in response to RFP issued to ..... (insert the name of purchaser of RFP) for selection of the bidder as the Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C".

**AND WHEREAS,** Clause 2.2.4 of the RFP document stipulates that the Bidders qualifying on the strength of a Bidding Consortium will have to submit a legally enforceable Consortium Agreement in a format specified in the RFP document wherein the Consortium Members have to commit equity of a specific percentage in the Project.

**AND WHEREAS,** Clause 2.2.4 of the RFP document also stipulates that the Bidding Consortium shall provide along with the Bid, a Consortium Agreement as per prescribed format whereby the Consortium Members undertake to be liable for raising the required funds for its respective equity investment commitment as specified in Consortium Agreement.

#### NOW THEREFORE, THIS INDENTURE WITNESSTH AS UNDER:

In consideration of the above premises and agreement all the parties in this Consortium do hereby mutually agree as follows:

- 1. In consideration of the selection of the Consortium as the selected bidder by the BPC, we the Members of the Consortium and parties to the Consortium Agreement do hereby unequivocally agree that M/s..... (Insert name of the Lead Member), shall act as the Lead Member as defined in the RFP for self and agent for and on behalf of ....., ...., ...., ...., (the names of all the other Members of the Consortium to be filled in here).
- 2. The Lead Member is hereby authorized by the Members of Consortium and parties to the Consortium Agreement to bind the Consortium and receive instructions for and on behalf of the Members.
- 3. Notwithstanding anything contrary contained in this Consortium Agreement, the Lead Member shall always be liable for the equity investment obligations of all the Consortium


Members, i.e., for both its own equity contribution as well as the equity contribution of other Members.

- 4. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all their respective equity obligations. Each Consortium Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this agreement.
- 5. Subject to the terms of this agreement, the share of each Member of the Consortium in the "issued equity share capital of the project company" shall be in the following proportion: (if applicable)

Name	Percentage of equity holding in the Project
Party 1	
Party n	
Total	100%

[Note: The percentage equity holding for any Consortium Member in the Project cannot be zero in the above table]

- 6. The Lead Member shall inter alia undertake full responsibility for liaising with lenders and mobilizing debt resources for the Project and achieving financial closure.
- 7. In case of any breach of any of the equity investment commitment by any of the Consortium Members, the Lead Member shall be liable for the consequences thereof.
- 8. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid and equity investment obligations thereto shall not in any way be a limitation of responsibility of the Lead Member under these presents.
- 9. It is further specifically agreed that the financial liability for equity contribution of Lead Member shall, not be limited in any way so as to restrict or limit its liabilities. The Lead Member shall be liable irrespective of their scope of work or financial commitments.
- It is expressly understood and agreed between the Members that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as Appendix-I, forming integral part of this Agreement. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities and liabilities of the Members, with regards to all matters relating to the Project.
- 11. It is clearly agreed that the Lead Member shall ensure performance under the Agreements and if one or more Consortium Members fail to perform its /their respective obligations under the Agreement(s), the same shall be deemed to be a default by all the Consortium Members.
- 12. This Consortium Agreement shall be construed and interpreted in accordance with the Laws of India and courts at Delhi alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.



- 13. It is hereby agreed that, the Lead Member shall furnish the bid bond, as stipulated in the RFP, on behalf of the Consortium Members.
- 14. It is hereby agreed that in case of selection of Bidding Consortium as the selected bidder, the parties to this Consortium Agreement do hereby agree that they shall furnish the contract performance guarantee on behalf of the TSP in favor of the Nodal Agency, as stipulated in the RFP and Transmission Service Agreement.
- 15. It is further expressly agreed that the Consortium Agreement shall be irrevocable and shall form an integral part of the RFP Project Document and shall remain valid till the execution of the Share Purchase Agreement, unless expressly agreed to the contrary by the Nodal Agency. Over the term of the Transmission Service Agreement, Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time shall apply on the Consortium Members.
- 16. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Consortium Members respectively from time to time in response to the RFP and for the purposes of the Project.
- 17. It is hereby expressly agreed between the parties to this Consortium Agreement that neither party shall assign or delegate its rights, duties or obligations under this Agreement except with the prior written consent of the Nodal Agency.

#### THIS CONSORTIUM AGREEMENT:

- a. has been duly executed and delivered on behalf of each party hereto and constitutes the legal, valid, binding and enforceable obligation of each such party,
- b. sets forth the entire understanding of the parties hereto with respect to the subject matter hereof;
- c. may not be amended or modified except in writing signed by each of the parties and with prior written consent of the Nodal Agency.

**IN WITNESS WHEREOF,** the parties to the Consortium Agreement have, through their authorized representatives, executed these present on the Day, Month and Year first mentioned above.

For and on behalf of Consortium Member 1 (Party 1) M/s.....

(Signature of authorized signatory)

Name:			 
Designation:			 
Place:			 
Date:	•••••	•••••	 •••••

**REC Power Development and Consultancy Limited** 

# Gel

363

For and on behalf of Consortium Member n (Party n) M/s.....

(Signature of authorized signatory)

Name:							•••	 			•					•			•
Design	ation	1:	••••		••			 		•		•				•		•••	•
Place:	•••			•••		•		 	•••			•			•				•
Date:		••••	••	•••	••	••	•••	 	•	•	••	•	•••	•••	•		•	•••	•

Attested:

(Signature) (Notary Public)

Place: ..... Date: .....

Note: In case of foreign Bidders, refer to clause 2.5.6 (p)

Gel

Name of the Consortium Member	Responsibilities under the Consortium Agreement
M/s (Party 1)	
M/s	
M/s (Party n)	

# Appendix 1 to the Consortium Agreement:

Gel

# ANNEXURE 7 A - FORMAT FOR QUALIFICATION REQUIREMENT

# A. NET WORTH

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: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process

#### 1. [Note: Applicable in case of Bidding Company]

We certify that the Financially Evaluated Entity(ies) had a Networth of Rs. ..... Crore or equivalent USD\* computed as per instructions in this RFP based on unconsolidated audited annual accounts (refer Note-2 below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years is not negative.

Name of Financially Evaluated Entity(ies)	Relationship with Bidding Company**	Financial Year	Networth (Rs. Crore)
1			
2			
3			
Total 1	Networth		

\*Equivalent USD shall be calculated as per provisions of Clause 3.4.1. \*\* The column for "Relationship with Bidding Company" is to be filled in only in case financial capability of Parent/Affiliate has been used for meeting Qualification Requirements.

# 2. [Note: Applicable in case of Bidding Consortium]

We certify that the Financially Evaluated Entity(ies) had a minimum Networth of Rs. ...... Crore or equivalent USD\* computed as per instructions in the RFP and based on unconsolidated audited annual accounts (refer Note-2 below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years is not negative.

Gel

Name of Consortium Member	Equity Commitment in the Project (%)	Networth of Member (Rs. Crore)	Networth Requirement to be met by Member in proportion to the Equity Commitment (Rs. Crore)	Whether the Member meets the Networth Requirement
(1)	(2)	(3) (As per table below)	(4)= (2 x Total Networth requirement for the Project)	(5)
1				Yes / No
2				Yes / No
				Yes / No
Total Networth fo	r financial			
requireme	ent			

#### Member – I (Lead Member)

[Note: Similar particulars for each Member of the Consortium is to be furnished, duly certified by the Member's Statutory Auditors]

- i. Name of Member:
- ii. Total Networth requirement: Rs ..... Crore
- iii. Percentage of equity commitment for the Project by the Member: .....%
- iv. Networth requirement for the Member\*\*\*: Rs. ..... Crore
- v. Financial year considered for the Member:

Name of Financially Evaluated Entity(ies)	Relationship** with Member of Consortium	Financial Year	Networth (Rs. Crore)
2			(115) 01010)
1			
2			
3			
Total Netw	orth		

- \* Equivalent USD shall be calculated as per provisions of Clause 3.4.1;
- \*\* The column for "Relationship with Member of Consortium" is to be filled in only in case the financial capability of Parent / Affiliate has been used for meeting Qualification Requirements;
- \*\*\* Networth requirement to be met by Member should be in proportion to the equity commitment of the Member for the Project.

#### Yours faithfully



(Signature and name of the authorized signatory of the Company and Stamp)

Name:						• •	 					•			•				•				 		•	•			•	•
Date:	• •	•	•				 		•			•	•	•	•			•	•	 •	•		 •	•	•	•		•	•	•
Place:	• •	•	•	•	• •	• •	 	• •	•	•	•	•	•	•	•	• •	•	•	•	 •	•	•	 •	•	•	•	 •	•	•	•

(Signature and Stamp of statutory Auditors of Bidding Company / each Member of Consortium)

Name: Date: Place:	 •••	•••	•		• •	•	•	•	•	•	•	•••	· ·			•	•	•	•	•	•••	•••	• •	•	•	•	•	• •	•••	•	
Date:																			•	•						•					

#### Notes:

- 1. Along with the above format, in a separate sheet, please provide details of computation of Networth of last three (3) financial years duly certified by Statutory Auditor.
- 2. Audited consolidated annual accounts of the Bidder may be used for the purpose of financial criteria provided the Bidder has at least 26% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.
- 3. In case Bidder or a Member of Consortium takes recourse to its Parent/Affiliate for meeting technical / financial requirements, then the financial years considered for such purpose should be same for the Bidder / Member of Consortium and their respective Parent / Affiliate.

Gel

#### ANNEXURE 7B - FORMAT FOR TECHNICAL REQUIREMENT

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: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process

#### 1. To be used by Bidder using the development experience in infrastructure sector

We certify that M/s. ..... (Insert name of Technically Evaluated Entity(ies)) have experience of development of projects in the Infrastructure sector in the last five (5) years whose aggregate capital expenditure is Rs. ..... Crore or equivalent USD\*. We further certify that the capital expenditure of any single project considered for meeting the technical Qualification Requirement is not less than Rs. ..... Crore or equivalent USD\*. For this purpose, capital expenditure incurred on projects which have been either wholly completed / commissioned or partly completed projects put under commercial operation and for which operation has commenced till at least seven (7) days prior to the Bid Deadline has been considered.

The project(s) considered for the purpose of technical experience (as per table given below) have been executed and owned to the extent as indicated in the table below (to be atleast twenty – six percent (26%)) by the Bidding Company / Lead Member of the Consortium / our Parent / our Affiliate(s) [strike off whichever is not applicable] on operation of the projects.

This technical requirement has been calculated as per the instructions provided in the RFP on the basis of following projects:

Name of Company (which has executed the project at (3)) whose technical capability has been used for Qualification Requirement	Relationship** with Bidding Company / Lead Member	Project name	Nature of Project (BOOT, BOT, BOOM, DBFOT etc.)	Relevant Infrastructure sector	Date of Financial Closure of the Project (in DD / MM / YYYY)	Date of Completion / Commissioning / Commercial Operation of partly completed projects	Project cost (Rs. Crore)	Percentage Equity Holding of Company at (1) in Completed project(s)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		 (Project 1)						
Total (Rs. Crore)								

Equivalent USD shall be calculated as per provisions of Clause

Gel

\*\* The column for "Relationship with Bidding Company / Lead Member" is to be filled in only in case technical capability of Parent/Affiliate has been used for meeting Qualification Requirements.

We further certify that the Company(ies) as indicated in column (1) of the above table, whose technical capability has / have been used for meeting the qualification requirement, has / have held shareholding respectively of atleast twenty – six percent (26%)from the date of financial closure till the date of commissioning / completion of the above project(s).

# 2. To be used by Bidder using construction experience in infrastructure sector.

We certify that M/s. ...... (Insert name of Technically Evaluated Entity(ies)) have received aggregate payments not less than Rs. ...... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. We further certify that the payment received from each project shall not be less than Rs. ...... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1). For this purpose, payments received on projects that have been commissioned/completed at least seven (7) days prior to the Bid Deadline shall be considered. Further only the payments (gross) actually received, during such 5 (five) financial years shall qualify for purposes of computing the technical capacity.

We also confirm that construction works does not include cost of land supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract/ EPC contract for the project.

This technical requirement has been calculated as per the instructions provided in the RFP on the basis of following projects:

Name of Company (which has executed the project at (3)) whose technical capability has been used for Qualification Requirement	Relationship** with Bidding Company / Lead Member	Project name	Nature of Project (EPC, Turnkey etc)	Relevant Infrastructure sector	Date of award of contract (in dd/mm/yy)	Date of Completion / Commissioning	Payment received (Rs. Crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Project 1					
	Total (Rs. Crore)						

Yours faithfully

# (Signature and name of the authorized signatory of the Company and stamp)

**REC Power Development and Consultancy Limited** 

84

Gel

Name:				 •		•		•				•			•				•				•	•••			•		
Date:	•••	•••	•	 •	•	•		•		•		• •	•	•	•			•	•	 •		•	•	• •	•		•	••	•
Place:	•••	•••	•	 •	•	•	• •	•	•	•	• •	••	•	•	•	 •	•	•	•	 •	•	•	•	• •	•	•	•		•

(Signature and Stamp of statutory Auditors of Bidding Company/ Lead Member of Consortium)

Name:	•	 •	•	•	• •	•	•	•	•	•	•	• •	• •	•	•	••	•	•	•	•	•••	•	•	•	•		••	•	•	•••
Date:	•	 •	•	•		•		•	•	•		• •		•	•		•	•	•	•		•	•	•	•			•	•	•••
Place:	•	 •	•	•	• •	•	•	•	•	•	•	• •		•	•		•	•	•	•		•	•	•	•	• •		•	•	•••

Date: .....

#### Notes:

1. Along with the above format, in a separate sheet, please provide details of computation of capital expenditure of projects duly certified by Statutory Auditor of the project company. In addition, the Statutory Auditor of the project company should also certify that the capital expenditure of projects commissioned or completed 7 days prior to Bid Deadline has been capitalized in the books of accounts.

Additionally, in case construction experience is used, a certificate(s) from the statutory auditors stating the payments received and the concerned client(s) stating the works commissioned during the past 5 years in respect of the projects specified above. In case a particular job/ contract has been jointly executed by the Bidder (as part of a consortium), it should further support its claim for the share in work done for that particular job/ contract by producing a certificate from its statutory auditor or the client.

- 2. In case the accounts for the financial year in which the project claimed for meeting qualification requirement has been commissioned are not audited, the Bidder shall give declaration in this regard duly certified by its statutory auditor. In such a case, Bidder shall provide details of computation of capital expenditure of such project(s) duly certified by Statutory Auditor of the project company and the Statutory Auditor of the project company should also certify that the capital expenditure of projects commissioned or completed shall be capitalized in the books of accounts upon finalization.
- 3. The unconsolidated audited annual accounts of both the TEE and the Bidding Company / Lead Member for the respective financial years (financial years in which financial closure was achieved to the financial year in which the said project was completed / commissioned) should be submitted.

Gel

### ANNEXURE 7C - FORMAT FOR TECHNICAL & FINANCIAL REQUIREMENT – RELATIONSHIP & DETAILS OF EQUITY SHAREHOLDING

[To be filled by Bidding Company / each Member of the Bidding Consortium including Lead Member if credentials of Parent and / or Affiliates have been used by them]

To,

Chief Executive Officer, REC Power Development and Consultancy Limited (A wholly owned subsidiary of REC Limited) REC Corporate Head Quarter, D Block, Plot No. I – 4, Sec – 29 Gurugram – 122 001

Dear Sir,

Sub: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process

We certify that M/s. ..... (insert name of the **Bidding Company / Consortium Members**) have considered the technical and financial capability of its Parent and / or Affiliates, for the purpose of meeting Qualification Requirements as per the instructions provided in the RFP. The name of Parent and / or Affiliate, nature of relationship(s) with such Parent and / or Affiliate and details of equity holding are as follows:

Name of Company whose credentials considered	Type of credentials considered (technical and / or financial)	Relationship with Bidding Company / Consortium Member (Parent / Affiliate)	Details of equity shareholding (refer notes below)
Company 1			
••••			

# NOTES:

- i. In case of Parent, the equity holding of the Parent in the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium, need to be specified.
- ii. In case of Affiliate under direct control of Bidder, the equity holding of the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium in the Affiliate, needs to be specified.
- iii. In case of Affiliate under common control of Parent, the equity holding of the Parent in the Affiliate of the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium, needs to be specified.

Gel

iv. Relationship of Parent / Affiliate with Bidding Company / Member of Consortium to be at the most seven (7) days prior to the Bid Deadline (as per Clause 2.1.4 of RFP)

Yours faithfully

(Signature and name of the authorized signatory of the Company and stamp)

Name:	
Date:	
Place:	

.....

(Signature and Stamp of statutory Auditors of Bidding Company / each Member of Bidding Consortium)

Name:	•			 	 	 	 		 			•	•		•	•	•	•	•		• •	 	•
Date:	•			 	 	 	 		 	•		•	•		•	•	•	•	•	•	• •	 	•
Place:	•			 	 	 	 	 •	 	•		•	•	•	•	•	•	•	•	•	• •	 	•
Date:	•			 	 	 	 		 		•	•	•	•	•	•	•	•	•	•	• •	 	•

Gel

# ANNEXURE 7D - ADDITIONAL INFORMATION FOR VERIFICATION OF FINANCIAL AND TECHNICAL CAPABILITIES OF BIDDERS.

.....

(Name of Bidder (Bidding Company/ Bidding Consortium or Technically/Financially Evaluated Entity(ies))

(Note: In case of Consortium, details to be filled in by Lead Member for each Member of the Consortium including the Lead Member and in case of the qualification requirements of Technically / Financially Evaluated Entity(ies) being used, to be filled by each of such entity(ies)

# i. Financial capability (Attachment 1):

1. Bidders shall attach unconsolidated / consolidated audited annual accounts, statements, as the case may be, (refer Clause 2.1.3) for the last three (3) financial years as Attachment 1. Such unconsolidated audited annual accounts shall include a Balance Sheet, Profit and Loss Account, Auditors Report and profit appropriation account.

# ii. Technical capability (Attachment 2):

a. This attachment shall include details of projects completed/commissioned or partly completed projects for which commercial operation has commenced to be considered for the purpose of meeting Qualification Requirements.

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Name(s) of project(s) from					
Infrastructure sectors					
Location(s) including country(s)					
where project was set up					
Nature of Project					
Voltage level (if any)					
Capital cost of project(s) Rs. in					
Crore					
*Status of the project					
% of equity owned in the project(s)					

1. To be used by Bidder using development experience in infrastructure sector

- \*Note 1: Date of completion/commissioning/commercial operation to be mentioned
- **Note 2:** For each project listed in the table, the Bidder shall furnish an executive summary including the following information:
- Project model, i.e., BOO, BOOT, BOOM;
- Debt financing and equity raised and provided by Bidder/Bidder's Parent/Bidder's Affiliate for the project, including names of lenders and investors;
- Size and type of installation;

Gel

- Technical data/information on major equipment installed
- Description of role performed by the Bidder/Bidder's Parent/Bidder's Affiliate on the project
- Clearances taken by the Bidder/Bidder's Parent/Bidder's Affiliate including but limited to right-of-way (RoW), forest clearance and other statutory / Govt. clearances.
- Cost data (breakdown of major components)
- Name of EPC and/or other major contractor
- Construction time for the project
- Names, addresses and contact numbers of owners of the projects
- Operating reliability over the past five (5) years or since date of commercial operation
- Operating environmental compliance history
- Names of supervisory entities or consultant, if any
- Date of commercial operation
- Total duration of operation
- 2. To be used by Bidder using construction experience in infrastructure sector

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Name(s) of project(s) from					
Infrastructure sectors					
Location(s) including country(s)					
where project was set up					
Nature of Project					
Voltage level (if any)					
Revenue received Rs. in Crore					
*Status of the project					
% of equity owned in the project(s)					

- \*Note 1: Date of completion/commissioning/commercial operation to be mentioned
- **Note 2:** For each project listed in the table, the Bidder shall furnish an executive summary including the following information:
- Project model, i.e., EPC, Turnkey;
- Size and type of installation;
- Technical data/information on major equipment installed
- Description of role performed by the Bidder/Bidder's Parent/Bidder's Affiliate on the project
- Cost data (breakdown of major components)
- Name of sub-contractor
- Construction time for the project
- Names, addresses and contact numbers of owners of the projects
- Operating reliability over the past five (5) years or since date of commercial operation
- Operating environmental compliance history
- Names of supervisory entities or consultant, if any
- Date of commercial operation
- Total duration of operation

#### iii. Attachment-3:

a. For each project listed in Attachment 2 above, certificates of final acceptance and/or certificates of good operating performance duly issued by owners for the project and the same shall be certified as true by authorized signatory of the Bidding Company or the Lead Member of Consortium). In case the project listed in Attachment 2 is under BOOT / DBFOT mechanism, the certificates of final acceptance and/or certificates of good operating performance must be issued by the authority / independent engineer of the project as defined in the respective project agreement.

For and on behalf of Bidding Company/Consortium

M/s.....

(Signature of authorized signatory)

Gel

#### ANNEXURE 8 -UNDERTAKING AND DETAILS OF EQUITY INVESTMENT

#### Format 1: Bidders' Undertakings

[On the Letter Head of the Bidding Company/Lead Member of Bidding Consortium]

Date: .....

To,

Chief Executive Officer, REC Power Development and Consultancy Limited (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 "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C"

We hereby undertake on our own behalf and on behalf of the TSP, that if selected as the Successful Bidder for the Project:

- 1. The Project shall comply with all the relevant electricity laws, codes, regulations, standards and Prudent Utility Practices, environment laws and relevant technical, operational and safety standards, and we shall execute any agreements that may be required to be executed as per law in this regard.
- 2. We confirm that the Project shall also comply with the standards and codes as per Clause 1.6.1.2 of the RFP and the TSP shall comply with the provisions contained in the Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters Open Access) Regulations, 2009.
- 3. We give our unconditional acceptance to the RFP dated 28.11.2023 issued by the BPC and the RFP Project Documents, as amended, and undertake to ensure that the TSP shall execute all the RFP Project Documents, as per the provisions of this RFP.
- 4. We have submitted the Bid on the terms and conditions contained in the RFP and the RFP Project Documents. Further, the Financial Bid submitted by us is strictly as per the format provided in Annexure 21 of the RFP, without mentioning any deviations, conditions, assumptions or notes in the said Annexure.
- 5. Our Bid is valid up to the period required under Clause 2.8 of the RFP.
- 6. Our Bid has been duly signed by authorized signatory and stamped in the manner and to the extent indicated in this RFP and the power of attorney / Board resolution in requisite format as per RFP has been enclosed with this undertaking.

Gel

- 7. We have assumed that if we are selected as the Successful Bidder, the provisions of the Consortium Agreement, to the extent and only in relation to equity lock in and our liability thereof shall get modified to give effect to the provisions of Clause 2.5.8 of this RFP and Article 18.1 of the Transmission Service Agreement. *(Note: This is applicable only in case of a Bidding Consortium)*
- 8. We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:

SI.	Scope of the Transmission Scheme	Scheduled	Percentage of	Element(s) which
No.		COD	Quoted	are pre-required
			Transmission	for declaring the
			Charges	commercial
			recoverable	operation (COD)
			on Scheduled	of the respective
			COD of the	Element
			Element of	
			the Project	
1.	Establishment of 4x1500 MVA,	24 months	84.19%	Elements at sl.
	765/400 kV and 2x500 MVA,	from date of		(1) to (9) are
	400/220 kV Boisar-II (GIS) S/s with	SPV		required to be
	2x330 MVAR, 765 kV bus reactors	acquisition		commissioned
	and 2x125 MVAR, 420 kV bus			simultaneously
	reactors.			as their
				utilization is
	(2x1500 MVA, 765/400 kV ICTs			dependent on
	shall be on each 400 kV section and			commissioning
	2x500 MVA, 400/220 kV ICTs shall			of each other.
	be on 400 kV Bus Section-II. 2x125			
	MVAR Bus reactors shall be such			
	that one bus reactor is placed on			
	each 400 kV bus section. 400 kV			
	Bus Sectionaliser to be kept under			
	normally OPEN condition)			
2.	South Olpad (GIS) – Boisar-II (GIS)			
	765 kV D/c line			
3.	2 Nos. of 765 kV line bays at South			
	Olpad (GIS) for termination of			
	South Olpad (GIS) – Boisar-II (GIS)			
	765 kV D/c line			
4.	240 MVAR switchable line reactors			
	on each ckt at South Olpad (GIS)			
	and Boisar-II (GIS) end of South			
	Olpad (GIS) – Boisar-II (GIS) 765			
	KV D/c line (with NGR bypass			
	arrangement)			

Gel

|--|

SI.	Scope of the Transmission Scheme	Scheduled	Percentage of	Element(s) which
No.		COD	Quoted	are pre-required
			Transmission	for declaring the
			Charges	commercial
			recoverable	operation (COD)
			on Scheduled	of the respective
			COD of the	Element
			Element of	
			the Project	
5.	LILO of Navsari (New) – Padghe			
	(PG) 765 kV D/c line at Boisar-II			
6.	Boisar-II (Sec-II) – Velgaon (MH)			
	400   kV   D/c   (Quad			
	ACSR/AAAC/AL59 moose			
	equivalent) line			
7.	2 Nos. of 400 kV line bays at			
	Velgaon (MH) for termination of			
	Boisar-II – Velgaon (MH) 400 kV			
	D/c (Quad ACSR/AAAC/AL59			
	moose equivalent) line			
8.	LILO of Babhaleswar – Padghe (M)			
	400 kV D/c line at Boisar-II (Sec-I)			
	using twin HILS conductor with a			
	minimum capacity of 1/00 MIVA			
	per ckt at nominal voltage			
9.	80 MVAR switchable line reactors			
	at Bolsar-II end of Bolsar-II –			
	Babhaleswar 400 KV D/c line (with			
	after above LU O			
10	+200 MVAP STATCOM with		<b>9</b> 0/10/	Floments at sl. no
10.	$\pm 200$ MVAR STATCOM WIT		0.9470	(1) and $(10)$ are
	MSR at 400 kV bus section-I of			required to be
	Boisar-II and +200 MVAR			commissioned
	STATCOM with 2x125 MVAR			simultaneously as
	MSC. 1x125 MVAR MSR at 400			their utilization is
	kV bus section-II of Boisar-II			dependent on
				commissioning of
				each other.
11.	± 300 MVAR STATCOM with		6.87%	Element at sl. 11
	3x125 MVAR MSC, 1x125 MVAR			may be
	MSR at 400 kV level of Navsari			commissioned
	(New)(PG) S/s with 1 No. of 400			independently.
	kV bay (GIS)			

Gel

We agree that the payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after the successful commissioning of Element(s) which are pre - required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project: 24 months from the date of SPV Transfer.

- 9. We confirm that our Financial Bid conforms to all the conditions mentioned in this RFP, and in particular, we confirm that:
  - 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 Khavda IV C 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.

# Signature and name of the authorized signatory of the Company and stamp of Bidding Company or Lead member of Consortium

# Note:

1. In case of foreign Bidders, refer to clause 2.5.6

Gel

#### Format 2: Details of equity investment in Project

- 1.1.a Name of the Bidding Company/ Bidding Consortium:
- 1.1.b Name of the Lead Member in the case of a Bidding Consortium:
- 1.2 Investment details of the Bidding Company/Member of the Bidding Consortium investing in Khavda IV C Power Transmission Limited as per Clause 2.5.8.2.

S. No.	Name of the Bidding Company/ Member in case of a Bidding Consortium	Name of the Company investing in the equity of the Khavda IV C Power Transmission Limited	Relationship with Bidding Company /Member of the Bidding Consortium	% of equity participation in the Khavda IV C Power Transmission Limited
(1)	(2)	(3)	(4)	(5)
TOTAL				100%

\* In case the Bidder proposes to invest through its Affiliate(s) / Parent Company / Ultimate Parent Company, the Bidder shall declare shareholding pattern of such Affiliate(s) / Parent Company / Ultimate Parent Company and provide documentary evidence to demonstrate relationship between the Bidder and the Affiliate(s) / Parent Company / Ultimate Parent Company. These documentary evidences could be, but not limited to, demat account statement(s) / Registrar of Companies' (ROC) certification / share registry book, etc duly certified by Company Secretary.

Members of the Consortium or the Bidding Company making investment in the equity of the Khavda IV C Power Transmission Limited themselves to fill in their own names in the column (3)

# Signature and Name of authorized signatory in whose name power of attorney has been issued

Signature of authorized signatory

Name:
Designation:
Date
Company rubber stamp

Gel

# ANNEXURE 9 -AUTHORISATION FROM PARENT / AFFILIATE OF BIDDING COMPANY / MEMBER OF BIDDING CONSORTIUM WHOSE TECHNICAL / FINANCIAL CAPABILITY HAS BEEN USED BY THE BIDDING COMPANY / MEMBER OF BIDDING CONSORTIUM.

[On the Letter Head of the Parent /Affiliate]

	•••••
Full Address:	• • • • • • • • • • • • • •
Telephone No.:	•••••
E-mail address:	
Fax / No.:	

То

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: Authorization for use of Technical / Financial Capability of M/s...... (Insert name of Parent / Affiliate) by M/s ...... (Insert name of Bidding Company / Member of Bidding Consortium).

We refer to the RFP dated 28.11.2023 ('RFP') issued by you for selection of Bidder as Transmission Service Provider for establishing the Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C".

We confirm that M/s. ...... (Insert name of Bidding Company/ Consortium Member) has been authorized by us to use our technical and/or financial capability [strikeout whichever is not applicable] for meeting the Qualification Requirements for **"Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C"**.

We have carefully read and examined in detail the RFP including in particular, Clause 2.1.4 of the RFP, and we are also submitting legally binding undertaking supported by a board resolution that all the equity investment obligations of M/s..... (Insert Name of Bidding Company / Consortium Member), shall be deemed to be our equity investment obligations and in the event of any default the same shall be met by us.

For and on behalf of M/s..... (Insert Name of Parent / Affiliate)

(Signature and Name of the authorized signatory of the Company and stamp)

Gel

Name:	
Date:	
Place:	

# Notes:

1. The above undertaking can be furnished by Ultimate Parent of Technically Evaluated Entity or Financially Evaluated Entity, as the case maybe, if legally binding undertaking is also furnished by the Ultimate Parent on behalf of such Financially Evaluated Entity/Technically Evaluated Entity.

Gel

# ANNEXURE 10- FORMAT OF UNDERTAKING BY TECHNICALLY / FINANCIALLY EVALUATED ENTITY / ULTIMATE PARENT COMPANY

[On the Letter Head of the Technically / Financially Evaluated Entity / Ultimate Parent Company]

Name:	
Full Address:	
Telephone No.:	
E-mail address:	
Fax/No.:	

To:

Chief Executive Officer, REC Power Development and Consultancy Limited (A wholly owned subsidiary of REC Limited) REC Corporate Head Quarter, D Block, Plot No. I – 4, Sec – 29 Gurugram – 122 001

Sub: Undertaking for equity investment

Dear Sir,

We refer to the Request for Proposal dated \_\_\_\_\_\_ ('RFP') issued by you regarding setting up of Inter-State transmission system for **"Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C"** Project on build, own, operate and transfer basis.

In view of the above, we hereby undertake to you and confirm that in the event of failure of in part, in the equity share capital of Khavda IV C Power Transmission Limited as specified in the Bid. we shall invest the said amount not invested by......[Insert the name of the Bidder or the Consortium Member] in Khavda IV C Power Transmission Limited by purchase of existing shares or subscribing to the new shares of Khavda IV C Power Transmission Limited, as stipulated by you.

We have attached hereto certified true copy of the Board resolution whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

Gel

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the RFP.

Certified as true.

#### 

#### Note:

1. Wherever required, extract of the charter documents and documents such as a Board resolution should be submitted for verification.

Gel

# ANNEXURE 11 - FORMATS FOR BOARD RESOLUTIONS

#### <u>Format 1</u> Format of the Board resolution for the Bidding Company / each Member of the Consortium / investing Affiliate / Parent Company / Ultimate Parent Company, where applicable

[Reference Clause 2.5.2 of the RFP and the illustrations in Annexure 11A]

[Note: The following resolution no.1 needs to be passed by the Boards of each of the entity/(ies) making equity investment]

[Note: Equity investment obligations by the Bidding Company/each Member of the Bidding Consortium/investing Affiliate or Parent or Ultimate Parent should add up to 100%.]

[Note: In the event the Bidder is a Bidding Consortium, the following Board resolution no. 2 also needs to be passed by the Lead Member of the Bidding Consortium]

2. **RESOLVED THAT** approval of the Board be and is hereby accorded to contribute such further amount over and above the ;..... percentage (\_\_%) limit to the extent becoming necessary towards the total equity share in the of Khavda IV C Power Transmission Limited , obligatory on the part of the company pursuant to the terms and conditions contained in the Consortium Agreement dated ......executed by the company as per the provisions of the RFP.

[Note: In the event, the investing entity is an Affiliate or Parent or Ultimate Parent of the Bidder, the following Board resolution no. 3 shall also be passed by the Bidder]

[Note: The following resolution no. 4 is to be provided by the Bidding Company / Lead Member of the Consortium only]

Gel

4. FURTHER RESOLVED THAT MR/MS ......be and is hereby authorized to take all the steps required to be taken by the Company for submission of the Bid, including in particular, signing of the Bid, making changes thereto and submitting amended Bid, all the documents related to the Bid, certified copy of this Board resolution or letter or undertakings etc, required to be submitted to BPC as part of the Bid or such other documents as may be necessary in this regard.

Certified True Copy

Company rubber stamp to be affixed

# [Notes:

- 1) This certified true copy should be submitted on the letterhead of the Company, signed by the Company Secretary or any Whole Time Director/ Manager (supported by a specific board resolution) of the Bidding Company or the Lead Member of Consortium.
- 2) The contents of the format may be suitably re-worded indicating the identity of the entity passing the resolution, i.e., the Bidding Company, each Member of the Bidding Consortium.
- 3) This format may be modified only to the limited extent required to comply with the local regulations and laws applicable to a foreign entity submitting this resolution. For example, reference to Companies Act 1956 / Companies Act 2013 (as the case may be) may be suitably modified to refer to the law applicable to the entity submitting the resolution. However, in such case, the foreign entity shall submit an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.]

Gel

# <u>Format 2</u>

# Format for the Board resolution of Technically / Financially Evaluated Entity / Ultimate Parent Company (in case credentials of such TEE/ FEE has been utilized by the Bidding Company or Bidding Consortium)

**RESOLVED THAT** pursuant to the provisions of the Companies Act, 1956 / Companies Act, 2013 (as the case may be) and compliance thereof and as permitted under the Memorandum and Articles of Association of the company, approval of the Board be and is hereby accorded for issuing an Undertaking to the BPC, in the format specified in the RFP issued by the BPC, draft of which is attached hereto and initialed by the Chairman whereby the company undertakes to invest ......percent (.... %) of the total equity share capital of of Khavda IV C Power Transmission Limited representing the entire amount proposed to be invested by ......[insert the name of the Bidder or Member] for the said Project, in case of failure of ......[Insert the name of the Bidder or Member] to make such investment".

**FURTHER RESOLVED THAT** ....., be and is hereby authorized to take all the steps required to be taken by the Company, including in particular, signing the said Undertaking, submitting the same to the BPC through ......[Insert name of Bidding Company/Lead Member of the Consortium] of all the related documents, certified copy of this Board resolution or letter, undertakings etc, required to be submitted to BPC as part of the Bid or such other documents as may be necessary in this regard.

# **Certified True Copy**

#### Company rubber stamp to be affixed

#### Note:

- 1. This certified true copy should be submitted on the letterhead of the Company, signed by the Company Secretary or any Whole-time Director/Manager (supported by a specific board resolution) of Bidding Company or Lead Member of the Consortium.
- 2. The contents of the format may be suitably re-worded indicating the identity of the entity passing the resolution.
- 3. This format may be modified only to the limited extent required to comply with the local regulations and laws applicable to a foreign entity submitting this resolution. For example, reference to Companies Act 1956 / Companies Act 2013 (as the case may be) may be suitably modified to refer to the law applicable to the entity submitting the resolution. However, in such case, the foreign entity shall submit an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.

Gel

# ANNEXURE 11A – ILLUSTRATION FOR APPLICABLE BOARD RESOLUTION REQUIREMENTS UNDER CLAUSE 2.5.2

Investor in the TSP	Entities (other than Bidder) whose credentials (financial and/or technical) used by the Bidder for meeting RFP criteria	Applicable Board Resolutions	Requirement of Undertaking (Annexure 10)
Bidder himself for 100% equity	None	a) Format 1 of Annexure 11 - Resolution: 1, 2 and 4 from the Bidder	None
Bidder himself for 100% equity	Affiliate and/or Parent Company and/or Ultimate Parent	<ul> <li>a) Format 1 of Annexure 11 - Resolution: 1, 2, and 4 from the Bidder</li> <li>b) Format 2 of Annexure 11 by either Technically/ Financially Evaluated Entity(ies) whose credentials have been used, or Ultimate Parent.</li> <li>Provided, if the Bidder himself is the Ultimate</li> </ul>	Yes, by either Technically / Financially Evaluated Entity(ies) Affiliate(s) whose credentials have been used, or Ultimate Parent. Provided, if the Bidder himself is the Ultimate Parent, then the undertaking need not be provided.
Bidder himself + others (Affiliate and/or Parent Company and/or Ultimate Parent) in aggregate holding 100% equity	None	<ul> <li>a) Format 1 of Annexure 11 - Resolution: 1,2, 3 and4 from the Bidder.</li> <li>b) Format 1 of Annexure 11 - Resolution: 1 from the Affiliate and /or Parent and /or Ultimate Parent investing in the equity</li> </ul>	None
Bidder himself + others (Affiliate and/or Parent Company and/or Ultimate Parent) in aggregate	Affiliate and/or Parent Company and/or Ultimate Parent	a) Format 1 of Annexure 11 - Resolution: 1,2, 3 and 4 from the Bidder. b) Format 1 of Annexure 11 - Resolution: 1 from the Affiliate and/or Parent and/or Ultimate Parent investing in the equity	Yes, by either Parent/ Affiliate(s) whose credentials have been used, or Ultimate Parent

Gel

Investor in the TSP	Entities (other than Bidder) whose credentials (financial and/or technical) used by the Bidder for meeting RFP criteria	Applicable Board Resolutions	Requirement of Undertaking (Annexure 10)
holding 100%		c) Format 2 of	
equity		Annexure 11 by either	
		Parent / Affiliate(s)	
		whose credentials have	
		been used and /or	
		Ultimate Parent	
		investing in the equity	

Gel



ANNEXURE 12 - FORMAT FOR ILLUSTRATION OF AFFILIATES

**NOTE:** Bidder to provide the illustration, as applicable in their case, duly certified by the Company Secretary and supported by documentary evidence in this regard.

Gel

# ANNEXURE 13 - FORMAT FOR DISCLOSURE

### [On the letter head of Bidding Company / Each Member in a Bidding Consortium]

Date: .....

#### DISCLOSURE

We hereby declare that the following companies with which we/ have direct or indirect relationship are also separately participating in this Bid process as per following details

S. No.	Name of the Company	Relationship
1.		
2.		
3.		

In case there is no such company please fill in the column "name of the company" as Nil.

Further we confirm that we don't have any Conflict of Interest with any other company participating in this bid process.

#### **Certified as True**

.....

(Signature)

Name: .....

#### Signature & Name of authorized signatory of the Company and Stamp

The above disclosure should be signed and certified as true by the authorized signatory of the Bidding Company or of the Member, in case of a Consortium).

Gel

# ANNEXURE 14 - FORMAT OF THE BID BOND

# FORMAT OF THE UNCONDITIONAL AND IRREVOCABLE BANK GUARANTEE FOR BID BOND

# (To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

In consideration of the ......[Insert name of the Bidder] submitting the Bid inter alia for establishing the Inter-State transmission system for [Name of Project] on build, own, operate and transfer basis, in response to the RFP dated issued by Name of BPC], and the Bid Process Coordinator (hereinafter referred to as BPC) agreeing to consider such Bid of ..... [Insert the name of the Bidder] as per the terms of the RFP, the [Insert name and address of the bank issuing the Bid Bond, and address of the Head Office] (hereinafter referred to as "Guarantor Bank") hereby agrees unequivocally, irrevocably and unconditionally to pay to \_\_\_\_\_[Name of BPC] or its authorized representative at [Address of BPC] forthwith on demand in writing from \_\_\_\_\_ [Name of BPC] or any representative authorized by it in this behalf, any amount up to and not exceeding Rupees Only (Rs \_\_\_\_\_ Crore), on behalf of M/s......[Insert name of the Bidder].

Our liability under this Guarantee is restricted to Rupees \_\_\_\_\_\_Only (Rs \_\_\_\_ Crore). Our Guarantee shall remain in force until .......[Date to be inserted on the basis of Clause 2.11 of this RFP]. \_\_\_\_\_ [Name of BPC] or its authorized representative shall be entitled to invoke this Guarantee until ....... [Insert Date, which is three sixty five days (365) days after the date in the preceding sentence]. The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from \_\_\_\_\_ [Name of BPC] or its authorized representative, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to \_\_\_\_\_ [Name of BPC] or its authorized representative.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection, disputes, or disparities raised by the Bidder or any other person. The Guarantor Bank shall not require \_\_\_\_\_[Name of BPC] or its authorized representative to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against \_\_\_\_\_[Name of BPC] or its authorized representative in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly \_\_\_\_\_[Name of BPC] or its authorized representative shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder to enforce any security held by \_\_\_\_\_[Name of BPC] or its authorized representative or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this...... day of ......at.....

Witness: 1 Name and Address	Signature: Name:
2 Name and Address	Designation with Stamp:
	Signature
	Attorney as per power of attorney
	No
	For: [Insert Name of the Bank]
	Banker's Stamp and Full Address:

Dated this......day of...... 20......

# Notes:

1. The Stamp Paper should be in the name of the Executing Bank.

ANNEXURE 14 A- FORMAT OF THE BID SECURITY DECLARATION [VALID TILL RFP ISSUED ON OR BEFORE 31.12.2021]

#### ANNEXURE 15 - FORMAT FOR CONTRACT PERFORMANCE GUARANTEE

# (To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.

# Foreign entities submitting Bids are required to follow the applicable law in their country)

This guarantee shall be valid and binding on the Guarantor Bank up to and including ......and shall not be terminable by notice or any change in the constitution of the Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rupees ...... Crores (Rs......) only. Our Guarantee shall remain in force until.....

[Insert the date of validity of the Guarantee as per Clause 2.12.1 of the RFP]. The Nodal Agency shall be entitled to invoke this Guarantee up to three hundred sixty five (365) days of the last date of the validity of this Guarantee.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from the Nodal Agency, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to the Nodal Agency.

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.

Gel

**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.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to the Nodal Agency and may be assigned, in whole or in part, (whether absolutely or by way of security) by Nodal Agency to any entity to whom the Nodal Agency is entitled to assign its rights and obligations under the Transmission Service Agreement.

The Guarantor Bank hereby agrees and acknowledges that the Nodal Agency shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rupees ......Crores (Rs .....) only and it shall remain in force until

[Date to be inserted on the basis of Article 3.1.2 of TSA], with an additional claim period of three hundred sixty five (365) days thereafter. This BANK GUARANTEE shall be extended from time to time for such period, as may be desired by...... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if the Nodal Agency serves upon us a written claim or demand.

# In witness where of:

Signature.....

Name: .....

Power of attorney No.: ..... For: ...... [Insert Name of the Bank] Banker's Seal and Full Address, including mailing address of the Head Office

#### Notes:

1. The Stamp Paper should be in the name of the Executing Bank.
# ANNEXURE 16 – FORMAT OF CHECKLIST FOR TECHNICAL BID SUBMISSION REQUIREMENTS

[This format needs to be duly filled in, signed by the authorized signatory of the Bidder (Bidding Company / Lead Member in case of a Bidding Consortium) and submitted along with the Bidder's Technical Bid]

	Technical Bid Submission Requirements	Response (Yes / No)
1.	Format for the Covering Letter on the letterhead of Bidding Company or Lead Member of the Consortium, as applicable;	
2.	Format for Letter of Consent from each Consortium Member, including Lead Member, on their respective letterheads;	
3.	Format for evidence of authorized signatory's authority;	
4.	Board resolution from the Bidding Company / Lead Member of the Consortium in favour of the person executing the Power of Attorney as per <b>Annexure 3</b> ;	
5.	Power of Attorney from each Consortium Member in favour of Lead Member to be provided by each of the other Members of the Consortium as per <b>Annexure 4</b> ;	
6.	Board Resolution from each Member of the Consortium, other than the Lead Member, in favour of their respective authorized representatives for executing the POA, Consortium Agreement and signing of the requisite formats;	
7.	Format for Bidder's composition and ownership structure, along with status of equity holding (owning ten percent or more of the total paid up equity) not earlier than thirty (30) days prior to the Bid Deadline as per <b>Annexure 5</b> ;	
8.	Consortium Agreement duly signed as per <b>Annexure 6</b> , along with Appendix-1, indicating the responsibilities and obligations of each Member of the Consortium;	
9.	Format for Qualification Requirement:	
	a. Calculation sheets, detailing computation of Networth considered for meeting Qualifying Requirements, duly signed and stamped by the Statutory Auditor of the Bidding Company / each Member in case of a Bidding Consortium / FEE in cases where credentials of FEE is taken;	
	<ul> <li>b. Calculation sheets, detailing computation of capital expenditure of projects and revenue received in construction projects considered for meeting Qualification Requirements, duly signed and stamped by the Statutory Auditor of the Bidding Company / Lead Member in case of Bidding Consortium / TEE in cases where credentials of TEE is taken;</li> </ul>	

Gel

	Technical Bid Submission Requirements	Response (Yes / No)
	c. Last financial year unconsolidated / consolidated audited annual accounts / statements, as the case may be, of the Financially Evaluated Entity / Technical Evaluated Entity	
	d. Unconsolidated audited annual accounts of both the TEE and the Bidding Company/Lead member, as applicable, from the financial years in which financial closure was achieved till the financial year in which the said project was completed / commissioned.	
10.	Copy of the Memorandum and Articles of Association and certificate of incorporation or other organizational document (as applicable), including their amendments, certified by the Company Secretary of Bidding Company or each Member in case of a Consortium including Lead Member.	
11.	Attachment of <b>Annexure 7(D)</b> , detailing projects completed / commissioned and for which commercial operation has commenced including Executive Summary for each project.	
12.	For each project listed in the attachment above, certified true copy of the certificates of final acceptance and / or certificates of good operating performance duly issued by owners or clients for the project, duly signed by authorized signatory in support of technical capability as defined in Clause 2.1.2 of RFP.	
13.	Authority letter in favour of BPC from the Bidder/every Member of the Consortium authorizing the BPC to seek reference from their respective bankers & others.	
14.	Authorization from Parent / Affiliate of Bidding Company / Member of Bidding Consortium whose technical / financial capability has been used by the Bidding Company / Member of Bidding Consortium.	
15.	Initialing of all pages of Technical Bid by the Authorized Signatory in whose favour the POA ( <b>Annexure 3</b> ) has been executed.	
16.	Format for Illustration of Affiliates at the most seven (7) days prior to the Bid Deadline, duly certified by Company Secretary and supported by documentary evidence.	
17.	Certified copy of the Register of Members / Demat Account Statement, Share Certificate, Annual Return filed with ROC etc. submitted as documentary evidence along with <b>Annexure</b> <b>12</b> .	
18.	Format for Disclosure by Bidding Company / each Member of the Consortium.	
19.	Format for Affidavit by the Bidding Company / each Member	

	Technical Bid Submission Requirements	Response (Yes / No)
	of the Consortium	
20.	Format for Authorization submitted in Non-Judicial stamp paper duly notarized.	
21.	Bidders Undertaking and details of Equity Investment	
22.	Proof of Payment of RFP Fees	
23.	Bid Bond/Bid Security Declaration (As applicable)	
24.	Board Resolution as per Annexure 11 (If required)	

[Note: The checklist is not exhaustive. Bidders are required to submit all the information/documents as per requirement of RFP]

#### For and on behalf of Bidder

M/s. ....

(Signature of authorized signatory)

# ANNEXURE 17 – LIST OF BANKS

All Scheduled Commercial Banks as per Second Schedule of RBI Act-1934 and any amendments thereof.



# ANNEXURE 18 - GRID MAP OF THE PROJECT

# ANNEXURE 19 - FORMAT FOR CLARIFICATIONS / AMENDMENTS ON THE RFP / RFP PROJECT DOCUMENTS

S. No.	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment

Signature .....

Name.....

For

#### Bidder's Rubber Stamp and Full Address.

(Note: This format shall be used for submission of requests for clarifications/ amendments on the draft RFP Project Documents as per the provisions of Clause 2.3.1)

# **ANNEXURE 20 - LIST FOR RFP PROJECT DOCUMENTS**

# **ENCLOSURE 1: TRANSMISSION SERVICE AGREEMENT (Provided separately)**

# **ENCLOSURE 2:** SHARE PURCHASE AGREEMENT (Provided Separately)

# ANNEXURE 21 - FORMAT FOR FINANCIAL BID

#### [To be uploaded online]

#### Quoted Transmission Charges .....

#### Notes

- 1. The Bidders are required to ensure compliance with the provisions of Clause 2.5.3 of this RFP.
- 2. Quotes to be in Rupees Millions and shall be up to two (2) decimal points.
- 3. The contents of this format shall be clearly typed.
- 4. The Financial Bid shall be digitally signed by the authorized signatory in whose name power of attorney as per Clause 2.5.2 is issued.
- 5. Ensure only one value for annual Transmission Charges is quoted. The same charge shall be payable every year to TSP for the term of TSA.

#### **ANNEXURE 22 – FORMAT FOR AFFIDAVIT**

# [On non-judicial stamp paper. Foreign companies submitting bids are required to follow the applicable law in their country]

#### AFFIDAVIT

We [including any of our Affiliate and Consortium Member & any of its Affiliate], hereby declare that as on Bid Deadline:

- a. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate, their directors or key personnel have not been barred or included in the blacklist by any government agency or authority in India, the government of the jurisdiction of the Bidder or Members where they are incorporated or the jurisdiction of their principal place of business, any international financial institution such as the World Bank Group, Asian Development Bank, African Development Bank, Inter-American Development Bank, Asian Infrastructure Investment Bank etc. or the United Nations or any of its agencies; or
- b. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate or their directors have not been convicted of any offence in India or abroad.

We further declare that following investigations are pending / no investigation is pending [strike off whichever is not applicable] against us [including any of our Consortium Member or Affiliate or Parent or Ultimate Parent or Affiliate] or CEO or any of our directors/ manager/key managerial personnel of the Applicant /Consortium Member or their Affiliates.

We further undertake to inform the BPC of any such matter as mentioned above on its occurrence after the date of this affidavit till the Effective Date.

We undertake that, in case, any information provided in relation to this affidavit is found incorrect at any time hereafter, our BID / Letter of Intent / contract (if entered) would stand rejected / recalled / terminated, as the case may be.

Signature and Name of the authorized signatory of the Company Bidding Company / Lead Member of the Bidding Consortium

(Signature of Notary Public)

Place:	•••	 		•	•			•	•	•							•	•		•			•			
Date:		 			•	•			•		•	•	•			,	•	•	•	•	•	•		•		

Note: In case any investigation is pending against the Applicant, including any Consortium Member or Affiliate, or CEO or any of the directors/ manager/key managerial personnel of the

Col

Applicant /Consortium /Member or their Affiliates, full details of such investigation including the name of the investigating agency, the charge/offence for which the investigation has been launched, name and designation of persons against whom the investigation has been launched and other relevant information should be disclosed under this affidavit.

# **ANNEXURE A**

# Technical Details with respect to electronic bidding

#### **Registration Methodology**

In order to submit online bids in the e-bidding process for selection of Transmission Service Provider, interested Bidders are required to register themselves with the e-procurement website of MSTC Limited namely <u>www.mstcecommerce.com/eprochome/tsp/index.jsp</u>. To register with the website, the Bidder is required to fill up the online form available under the link Register as Vendor in the above website and fill up the same and click on Submit.

During this process, the bidder shall create his user id and password and keep note of the same. The bidder shall ensure that the secrecy of his user id and password is maintained at all time and he/she shall alone be responsible for any misuse of the user id and password.

The bidder may check the details entered by it before final submission. On successful submission of the online registration Form, the bidder shall receive a confirmation mail in the registered email address advising the bidder to submit the following documents.

- i. Self attested Income Tax PAN Card. In case of a registered Company or Firm, the Firm's PAN card and in case of a proprietorship firm, proprietor's personal PAN card is required. In case of partnership firm, PAN of the firm and that of the authorized partner are to be submitted.
- ii. Copy of the confirmation email Letter received from MSTC after successful completion of on-line registration..
- iii. A non refundable registration fee of Rs 10,000/- plus applicable GST to be paid online.

Please provide details of payment made like UTR No, remitting bank name, date of payment and amount in the covering letter.

The bidder shall have to submit all the above documents to MSTC Limited for verification and activation of their login ids. The bidders should send scanned copies of the above documents to the designated email id only which is given below.

#### tsp@mstcindia.co.in

It may be noted that bidders need not visit any of the offices of MSTC Limited for submission of the documents.

Contact persons of MSTC Limited: Mr. Setu Dutt Sharma, 7878055855

Once the complete set of documents and requisite registration fee are received from a bidder, MSTC shall activate the bidder's login after verification / scrutiny of the documents. MSTC Limited reserves the right to call for additional documents from the bidder if needed and the bidder shall be obliged to submit the same.

On completion of the above stated registration process, a bidder shall be able to login to MSTC's website.

Gel

# **ANNEXURE B**

# Draft Pre-Award Integrity Pact

#### GENERAL

This pre-bid contract Agreement (herein after called the Integrity Pact) is made on of the month of ..... 20....., between, on one hand, ..... day name of BPC] ..... [Insert through Shri called the "Bid Process Coordinator/ BPC", which expression shall mean and include, unless the context otherwise requires, his successors in the office and assigns) of the First Part and M/s ..... represented by Shri ..... [Insert Name & Designation of Authorized Signatory of the Bidder/ Lead Member of Consortium] (hereinafter called the "Bidder" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BPC is conducting the bidding process for selection of bidder as Transmission Service Provider (TSP) for "**Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C**" who will be responsible to set up the transmission project on build, own, operate and transfer (BOOT) basis and to provide Transmission Service.

WHEREAS the Bidder is a Private Company/Public Company/Government Undertaking/ Partnership, constituted in accordance with the relevant law in the matter and the BPC is a Public Sector Undertaking (PSU) performing its function on behalf of the Ministry of Power, Government of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings during the complete bidding process with a view to:-

Enabling the BPC to select the bidder as TSP in conformity with the defined procedures by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling Bidder to abstain from bribing or indulging in any corrupt practice in order to emerge as selected bidder by providing assurance to them that their competitors will also abstain from bribing and other practices and the BPC will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

# **Commitments of BPC**

- 1.1 The BPC undertakes that no official of the BPC, connected directly or indirectly with the bidding process, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the bidding process in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 12 The BPC will, during the bidding stage, treat all bidders alike, and will provide to all bidders the same information and will not provide any such information to any particular bidder which could afford an advantage to that particular bidder in comparison to the other bidders.
- 13 All the officials of the BPC will report the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 2 In case of any such preceding misconduct on the part of such official(s) is reported by the Bidder to the BPC with the full and verifiable facts and the same is *prima facie* found to be correct by the BPC, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BPC and such a person shall be debarred from further dealings related to the bidding process. In such a case while an enquiry is being conducted by the BPC the proceedings under the bidding process would not be stalled.

# **Commitments of Bidder**

- 3. The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre award stage in order to emerge as Selected Bidder or in furtherance to secure it and in particular commits itself to the following:-
- 3.1 The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BPC, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the bidding process in exchange for any advantage in the bidding, evaluation, contracting and implementation of the bidding process.
- 32 The Bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to

Gel

any official of the BPC or otherwise in bidding process or for bearing to do or having done any act in relation to bidding process or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the bidding process or any other contract with the Government.

- 33 The Bidder shall disclose the name and address of agents and representatives and Indian Bidder shall disclose their foreign principals or associates.
- 3.4 The Bidder shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid.
- 35 The Bidder further confirms and declares to the BPC that the Bidder has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BPC or any of its functionaries, whether officially or unofficially for selection of Bidder as TSP, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 3.6 The Bidder, either while presenting the bid or during pre-award negotiations or before signing the Share Purchase Agreement, shall disclose any payments he has made, is committed to or intends to make to officials of the BPC or their family members, agents, brokers or any other intermediaries in connection with the bidding process and the details of services agreed upon for such payments.
- 3.7 The Bidder will not collude with other parties interested in the bidding process to impair the transparency, fairness and progress of the bidding process.
- 3.8 The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The Bidder shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the BPC as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BPC.

Col

#### 4. Previous Transgression

- 4.1 The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidder's exclusion from the bidding process.
- 42 The Bidder agrees that if it makes incorrect statement on this subject, Bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

# 5. Bid Bond (Security Deposit)

- 52 The Earnest Money/Security Deposit shall be valid & retained by the BPC for such period as specified in the RFP Document.
- 53 No interest shall be payable by the BPC to the Bidder on Earnest Money/Security Deposit for the period of its currency.

# 6. Sanctions for Violations

- 6.1 Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the BPC to take all or anyone of the following actions, wherever required:-
  - (i) To immediately call off the pre-award negotiations without assigning any reason or giving any compensation to the Bidder. However, the proceedings with the other Bidder (s) would continue.
  - (ii) The Bid Bond (in pre-award stage) shall stand forfeited either fully or partially, as decided by the BPC and the BPC shall not be required to assign any reason therefore.
  - (iii) To immediately cancel the award, if already awarded, without giving any compensation to the Bidder.

Gel

- (iv) To cancel all or any other contracts with the Bidder. The Bidder shall be liable to pay compensation for any loss or damage to the BPC resulting from such cancellation/rescission.
- (v) To debar the Bidder from participation in any tender or RFP issued by any BPC for an indefinite period.
- (vi) To recover all sums paid in violation of this Pact by Bidder to any middleman or agent or broker with a view to securing the award.
- 62 The BPC will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (vi) of this Pact also on the Commission by the Bidder or anyone employed by it or acting on its behalf (whether with or without the knowledge of the Bidder), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 63 The decision of the BPC to the effect that a breach of the provisions of this Pact has been committed by the Bidder shall be final and conclusive on the Bidder. However, the Bidder can approach the Independent Monitor(s) appointed for the purposes of this Pact.

# 7. Independent Monitors

- 7.1 The BPC has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).
- 72 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 73 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 7.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BPC.
- 7.6 The Bidder accepts that the Monitors has the right to access without restriction to all Project documentation of the BPC including that provided by the Bidder. The Monitor shall be under contractual obligation to treat the information and documents of the Bidder /Subcontractors(s) with confidentially. [As all the bid documents are with BPC only]



- 7.7 The BPC will provide to the Monitors sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the monitor the option to participate in such meetings.
- 7.8 The Monitor will submit a written report to the designated Authority of the BPC/Secretary in the Department within 8 to 10 weeks from the date of reference or intimation to him by the BPC / Bidder and, should the occasion arise, submit proposals for correcting problematic situations.

# 8 Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BPC or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder and the Bidder shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

#### 9. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BPC.

# 10. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the any extent law in force relating to any civil or criminal proceedings.

# 11. Validity

- 11.1 The validity of this Integrity Pact shall be from date of its signing and upto 6 months from the date of transfer of project specific SPV i.e. signing of Share Purchase Agreement with BPC. In case Bidder is unsuccessful, this Integrity Pact shall expire after 15 days from the date of transfer of project specific SPV to successful bidder.
- 11.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

12. The Parties hereby sign this Integrity Pact at on \_\_\_\_\_

Bid Process Coordinator (BPC)	BIDDER
Name of the Officer Designation Name of the BPC with address	Name of Whole time Director/Authorized Signatory Name of the Bidder with address
Witness:	Witness:
2	2



# **ANNEXURE C**

# Technical Specifications of Transmission System

The design, routing and construction of transmission lines shall be in accordance with Chapter V, Part A of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.

- A.1.0 Selection of tower type shall be made as per CEA Regulations, however in case lattice type towers are used, the following shall also be applicable:
- A.2.0 Steel section of grade E 250 and/or grade E 350 as per IS 2062, only are permitted for use in towers, extensions, gantry structures and stub setting templates. For towers in snowbound areas, steel sections shall conform to Grade-C of IS-2062.
- A.3.0 Towers shall be designed as per IS-802:2015, however the drag coefficient of the tower shall be as follows: -

Solidity Ratio	Drag Coefficient
Up to 0.05	3.6
0.1	3.4
0.2	2.9
0.3	2.5
0.4	2.2
0.5 and above	2.0

- A.4.0 Transmission Service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.
- A.5.0 Transmission line shall be designed considering wind zones as specified in wind map given in National Building Code 2016, Vol.1. The developer shall also make his own assessment of local wind conditions and frequent occurrences of high intensity winds (HIW) due to thunderstorms, dust-storms, downburst etc. along the line route and wherever required, higher wind zone than that given in wind map shall be considered for tower design for ensuring reliability of line. Further, for transmission line sections passing within a distance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections.
- A.6.0 Selection of reliability level for design of tower shall be as per CEA Regulation (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time.
- A.7.0 A) For power line crossing of 400 kV or above voltage level, large angle and dead end towers (i.e. D/DD/QD) shall be used on either side of power line crossing.



- B) For power line crossing of 132 kV and 220 kV voltage level, angle towers (B/C/D/DB/DC/DD/ QB/QC/QD) shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- C) For power line crossing of 66 kV and below voltage level, suspension/tension towers shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- D) For crossing of railways, national highways and state highways, the rules/ regulations of appropriate authorities shall be followed.
- A.8.0 The relevant conductor configuration for 765 kV and shall be as follows: -

Transmission line	ACSR Conductor specified	Equivalent AAAC conductor based on 53.5% conductivity of Al Alloy	Equivalent minimum size of AL59 conductor based on 59% conductivity of AL Alloy*	Sub- conductor Spacing
765 kV D (Hexa Zebi transmission lines	Zebra : Stranding 54/3.18 mm-Al + 7/3.18 mm-Steel, 428 mm <sup>2</sup> , Aluminium area, 28.62 mm diameter	Stranding details: 61/3.19mm, 487.5 mm <sup>2</sup> Aluminium alloy area 28.71 mm diameter	Stranding details: 61/3.08mm, 454 mm <sup>2</sup> Aluminium alloy area 27.72 mm diameter	457 mm
	Maximum DC Resistance at 20°C (Ω/km): 0.06868 Minimum UTS: 130.32 kN	MaximumDCResistanceat20°C(Ω/km):0.06815MinimumUTS:135.6 kN	Maximum DC Resistance at 20°C (Ω/km): 0.0653 Minimum UTS: 108 kN	

(i) <u>South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</u> and <u>LILO of Navsari (New)</u> – Padghe (PG) 765 kV D/c line at Boisar-II

#### (iii) Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c line

Transmission	ACSR	EquivalentAAAC	Equivalent	Sub-
line	Conductor specified	conductor based on 53% conductivity of Al	minimum size of AL59 conductor based	conductor Spacing
		Alloy	on 59%	

			conductivity of AL Alloy*
400 kV D/C	Moose:	Stranding	Stranding
(Quad	Stranding	details:	details:
Moose)	54/3.53mm-A1 +	61/3.55mm	61/3.31mm
transmission	7/3.53 mm- Steel,	31.95mm	29.79 mn
lines	31.77 mm diameter	diameter;	diameter;
	528.5 $mm^2$ ,		457 mm
	Aluminium area,	604 mm <sup>2</sup>	525 mm <sup>2</sup>
		Aluminium alloy	Aluminium allo
		area	area
	Maximum DC		
	Resistance at	Maximum DC	Maximum DC
	20°C (Ω/km):	Resistance at	Resistance a
	0.05552	20°C (Ω/km):	20°C (Ω/km)
		0.05506	0.0566
	Minimum UTS:	Minimum UTS:	Minimum UTS:
	161.20 kN	159.80 kN	124.70 kN

#### Note:

- 1. \*To select any size above the minimum, the sizes mentioned in the Indian standard IS-398(part-6) shall be followed.
- 2. The transmission lines shall have to be designed for a maximum operatingconductor temperature of 85 deg C.

# (iv) LILO of Babhaleshwar-Padghe (M) 400 kV D/C at Boisar-II

- (a) Type of conductor: HTLS
- (b) Basic parameters:

Transmission	Minimum	Minimum	Maximum DC	Sub-conductor
Line	Ampacity of	Conductor	<b>Resistance</b> at	Spacing (mm)
	HTLS	diameter	20°C (Ω/km)	
	conductor	(mm)		
400 kV	1227 A*	28.62	0.05552	450
Transmission				
line with Twin				
HTLS				
conductor				

\* Considering minimum 1700 MVA per circuit capacity at nominal voltage level.

- A.9.0 The required phase to phase spacing and horizontal spacing for 765 kV and 400 kV line shall be governed by the tower design as well as minimum live metal clearances for 765 kV and 400 kV voltage level under different insulator swing angles. However, the phase to phase spacing for 765 kV line shall not be less than 15 m and for 400 kV line shall not be less than 8 m.
- A.10.0 All electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor as given below shall be considered:

#### I. Minimum live metal clearances for 765 kV line:

(i) <u>Under stationary conditions</u>

From tower body: For 765 kV D/C: 6.1 m

For 765 kV S/C: 5.6 m

(ii) <u>Under swing conditions</u>

Wind pressure Condition	Minimum electrical clearance
a) Swing angle (25°)	4.4 m
b) Swing angle (55°)	1.3 m

- (iii) Minimum ground clearance for 765 kV line: 18 m
- (iv) Minimum mid span separation between earth-wire and conductor for 765 kV: 9.0 m

#### II. Minimum live metal clearances for 400 kV line:

(i) <u>Under stationary conditions</u>

From tower body: 3.05 m

(ii) <u>Under swing conditions</u>

Wind pressure Condition		Minimum electrical clearance
a)	Swing angle (22°)	3.05 m
b)	Swing angle (44°)	1.86 m

- (iii) Minimum ground clearance for 400 kV line: 8.84 m
- (iv) Minimum mid span separation between earth-wire and conductor for 400 kV line: 9.0 m
- A.11.0 Shielding angle shall not exceed 10 deg for 765 kV D/C Line transmission line and 20 deg for 400 kV D/C Line transmission line.
- A.12.0 The Fault current for design of line shall be 50 kA for 1 sec for 765 kV and 63 kA for 1 sec for 400 kV.
- A.13.0 In case of 400 kV and above voltage class lines, at least one out of two earth wires shall be OPGW and second earth wire, if not OPGW, shall be either of galvanized standard steel (GSS) or Aluminum Alloy Conductor Steel Reinforced (AACSR) or any other suitable conductor type depending upon span length and other technical consideration.

Col

- A.14.0 Each tower shall be earthed such that tower footing impedance does not exceed 10 ohms. Pipe type or Counterpoise type earthing shall be provided in accordance with relevant IS. Additional earthing shall be provided on every 7 to 8 kms distance for direct earthing of both shield wires. If site condition demands, multiple earthing or use of earthing enhancement compound shall be used.
- A.15.0 Pile type foundation shall be used for towers located in river or creek bed or on bank of river having scourable strata or in areas where river flow or change in river course is anticipated, based on detailed soil investigation and previous years' maximum flood discharge of the river, maximum velocity of water, highest flood level, scour depth and anticipated change in course of river based on river morphology data of at least past 20 years to ensure availability and reliability of the transmission line.
- A.16.0 Transmission line route shall be finalized, in consultation with appropriate authorities so as to avoid the habitant zones of endangered species and other protected species. Bird diverters, wherever required, shall be provided on the line.
- A.17.0 Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable:
  - a) Terrain category-I, with terrain roughness factor (K2) of 1.08 shall be considered for tower design for exposed open terrain with few or no obstruction which also includes open sea coasts, open stretch of water, desert and flat treeless plains
  - b) Importance factor for cyclonic region (K4) of 1.3 shall be considered for tower design.
  - c) The number of consecutive spans between the section points/ angle point shall not exceed 10 spans or 3 km instead of conventional practice of 15 spans or 5 km, in order to reduce the failure of such towers in coastal areas due to cascading effect. The section shall be terminated with tension tower/ angle tower and angle of deviation should be based on the site requirement.
- A.18.0 Wherever, transmission lines are passing through cyclone prone areas (i.e. areas up to 60 km from coast)/ creek regions/ aggressive soil areas following shall also be applicable:
  - a) The fabricated tower parts and stubs shall have a minimum overall zinc coating of 900  $g/m^2$  of surface area except for plates and sections below 5 mm which shall have a minimum overall zinc coating of 610  $g/m^2$  of surface area. The average zinc coating for all sections and plates 5 mm and above shall be maintained as 127 microns and that for plates and sections below 5 mm shall be maintained as 87 microns.
  - b) Ready mix concrete of M30 Grade shall be used to avoid use of locally available saline water. However, design mix concrete of M30 Grade conforming to IS 456 with potable water can be used at locations where transportation of ready-mix concrete is not feasible. Minimum cement content in any case shall not be less than 330 kg/m<sup>3</sup>.
  - c) The surface of the reinforced steel shall be treated with epoxy-based coating to enhance corrosion performance of foundation. Use of epoxy coated reinforcement in foundation shall be as per IS 13620. In addition, two (2) coats of bituminous painting of minimum 1.6 kg/m<sup>2</sup> per coat shall be applied on all exposed faces of foundation

Col

(i.e. pedestal and base slab).

- d) Double coat 20 mm thick cement plaster shall be provided on all exposed concrete surface as well up to 300 mm below ground level to give protection to concrete surface from environmental and saline effect.
- e) Before coping of chimney top portion, three coats of anti-corrosive paint of minimum 30-35 microns dry film thickness each shall be applied on the stub in the 50 mm coping portion as well as up to 350 mm above CL portion.
- A.19.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field /agricultural field and undulated areas to avoid direct contact of water with steel part of tower. The top of the chimney of foundation should be at least above HFL (High Flood Level) or the historical water stagnation/ logging level (based on locally available data) or above High Tide Level or 500 mm above Natural Ground level (whichever is higher).
- A.20.0 Routing of transmission line through protected areas of India shall be avoided to the extent possible. In case, it is not possible to avoid protected areas, the towers of the transmission line upto 400 kV level which are installed in protected areas shall be designed for Multi-circuit (4 circuits) configuration of same voltage level considering reliability level of at least two (2). The top two circuits of these multi-circuit towers shall be used for stringing of the transmission line under present scope and the bottom two circuits shall be made available for stringing of any future transmission utilities passing through the same protected area. Further, the configuration and coordinates of such transmission towers shall be submitted to CEA, CTU and BPC by the TSP.
- A.21.0 The TSP shall abide by the Guidelines of CEA w.r.t. shifting of transmission lines for NHAI projects and other projects.
- A.22.0 Safety precautions in regards to gas/oil pipe lines in vicinity of Transmission lines shall be taken in coordination with gas/ petroleum authorities.

#### SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION

The proposed 765/400/220 kV Boisar-II S/S and extension of South Olpad S/S, Navsari (new) S/S and Velgaon (MH) S/S shall be all Gas Insulated Switchgear (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 and MoP guidelines, as applicable, shall also be followed.

#### **B.1.0** Salient features of Substation Equipment and Facilities

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

#### B.1.1 Insulation Coordination

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

Sl. No.	Description of parameters	765/400/220 kV Boisar-II (GIS)		
		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)	Lightning Impulse withstand voltage for (1.2/50 micro sec.) - for Equipment other than Transformer and Reactor - for Insulator String	2100 kVp 2100 kVp	1425 kVp 1550 kVp	1050 kVp 1050 kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	1425kVp	1050 kVp	-
iii)	One minute power frequency dry withstand voltage (rms)	960kV	650 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	2500 micro-	1000 micro-	1000 micro-
	for frequency between 0.5 MHz	volts at 508 kV	volts at 266	volts at 156 kV
	and 2 MHz	rms	kV rms	rms

Page 136 of 235

Gel

Sl. No.	Description of parameters	765/400/220 kV Boisar-II (GIS)		
		765 kV	400 kV	220 kV
		System	System	System
8.	Minimum creepage distance for	24800 mm	13020 mm	7595 mm
	insulator string/ longrod	(31mm/kV)	(31mm/kV)	(31mm/kV)
	insulators/ outdoor bushings			
9.	Minimum creepage distance for	24800 mm	13020 mm	7595 mm
	switchyard equipment	(31mm/kV)	(31mm/kV)	(31mm/kV)
10.	Max. fault current	50 kA	63 kA	50 kA
11.	Duration of fault	1 sec	1 Sec	1 Sec

SI. No.	Description of parameters	765 kV South Olpad (GIS) Extn	400 kV Navsari new (GIS) Extn	400 kV Velgaon (MH)(GIS) Extn
1.	System operating voltage	765 kV	400 kV	400 kV
2.	Maximum voltage of the system (rms)	800 kV	420 kV	420 kV
3.	Rated frequency	50 Hz	50 Hz	50 Hz
4.	No. of phases	3	3	3
5.	Rated Insulation levels			
i)	Lightning Impulse withstand voltage for (1.2/50 micro sec.) - for Equipment other than Transformer and Reactor	2100 kVp	1425 kVp	1425 kVp
	- for Insulator String	2100 kVp	1550 kVp	1550 kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	1425 kVp	1050 kVp	1050 kVp
iii)	One minute power frequency dry withstand voltage (rms)	960 kV	650 kV	650 kV
6.	Corona extinction voltage	508 kV	320 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 kV rms	1000 micro- volts at 266 kV rms
8.	Minimum creepage distance for insulator string/ longrod insulators/ outdoor bushings	24800 mm (31mm/kV)	13020 mm (31mm/kV)	13020 mm (31mm/kV)

Sl. No.	Description of parameters	765 kV South Olpad (GIS) Extn	400 kV Navsari new (GIS) Extn	400 kV Velgaon (MH)(GIS) Extn
9.	Minimum creepage distance for	24800 mm	13020 mm	13020 mm
	switchyard equipment	(31mm/kV)	(31mm/kV)	(31mm/kV)
10.	Max. fault current	50 kA	63 kA	63 kA
11.	Duration of fault	1 sec	1 Sec	1 Sec

#### B.1.2 Switching Scheme

The switching schemes, as mentioned below, shall be adopted at various voltage levels of substation/switchyard:

Substation	765 kV side	400 kV side	220 kV side
765/400/220 kV Boisar-II (GIS) Extn.	One and half	One and half	Double Main
	breaker	breaker	
765 kV South Olpad (GIS) Extn.	One and half	N/A	N/A
	breaker		
400 kV Navsari new (GIS) Extn.	N/A	One and half	N/A
		breaker	
400 kV Velgaon (MH) (GIS) Extn.	N/A	As per	N/A
		existing	

Notes: -

- i) For one and half breaker switching scheme, any double circuit line consisting of two numbers of feeders and originating from the same transmission or generating switchyard shall not be terminated in one diameter.
- ii) Two transformers of the same HV rating shall not be connected in the same diameter and similarly two bus reactors of same HV rating shall also not be connected in the same diameter.
- iii) A diameter in one and half breaker scheme is a set of 3 circuit breakers with associated isolators, earth switches, current transformers etc. for controlling 2 numbers of feeders.
- iv) In case of GIS substation where the bus scheme is One and Half breaker scheme, the diameters shall be complete with feeder/line side isolator and GIS duct of the future bay shall be brought outside the GIS hall/building with extension/interface module suitably.
- v) Connection arrangement of Switchable Line reactors shall be such that it can be used as Line reactor as well as Bus reactor with suitable NGR bypass arrangement. Further, Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and switchable line reactor banks (including future reactor banks) without its physical movement.
- vi) Space provision for 765 kV and 400 kV Present as well as Future lines shall be kept considering switchable Line reactor for the lines.

Page 138 of 235

Gel

vii) Provision for Bus sectionalizer:

One (1) set of bus sectionalizer for 400 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.

Space for One (1) set of future bus sectionalizer for 765 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.

Space for One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.

viii) 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 busbar.

#### ix) 400 kV Navsari new (GIS) Extn:

Termination of STATCOM at 400 kV Navsari new (GIS) shall be as per single line diagram provided with the RfP.

#### x) 765 kV South Olpad (GIS) Extn-Section I:

For termination of 765 kV Boisar-II (GIS) – South Olpad (GIS) D/c Line, new diameters shall be constructed under present scope and the bay configuration shall be Line-Tie-ICT Bay (for termination of 765 kV side of future 765/400 kV ICT). Space provision for 02 nos. 765 kV diameter shall be kept in the existing 765 kV GIS building to be constructed by the developer of "Transmission System for Evacuation of Power from potential renewable energy zone in Khavda RE park of Gujarat under Phase-IV (7 GW): Part B". This space may be utilized for installation of 02 nos. 765 kV diameter under present scope. Any augmentation/extension of GIS hall, if required, shall be executed by the TSP under present scope.

# xi) **Boisar-II**:

Provision of 765 kV Bus Sectionalization (Future) and space provision shall be with the following feeder distribution.

765 kV Bus Section-1	765 kV Bus Section-2 (Future)
a) 6 nos. of present 765 kV Line	a) 6 nos. of future 765 kV Line
b) 4 nos. of present 765/400 kV ICT	b) 2 nos. of future 765/400 kV ICT
c) 2 nos. of present 765 kV Bus Reactor	c) 2 nos. of future 765 kV Bus
d) 2 nos. of future 765 kV lines	Reactor

Provision of 400 kV Bus Sectionalization and space provision shall be with the following feeder distribution.

400 kV Bus Section-1	400 kV Bus Section-2
a) 4 nos. of present 400 kV Line	a) 2 nos. of present 400 kV Line
b) 2 nos. of present 765/400 kV ICT	b) 2 nos. of present 765/400 kV
c) 1 no. of present Bus Reactor	ICT
d) 1 no. of present Stacom	c) 2 nos. of present 400/220 kV
e) 4 nos. of 400 kV future lines	ICT
f) 1 no. of future 765/400 kV ICT	d) 1 no. of present Bus Reactor
g) 3 nos. of future 400/220 kV ICT	e) 1 no. of present STATCOM
h) 1 no. of future Bus Reactor	f) 4 nos. of future 400 kV Line
	g) 1 no. of future 765/400 kV ICT
	h) 3 nos. of future 400/220 kV ICT
	i) 1 no. of future Bus Reactor

Provision of 220 kV Bus Sectionalization (Future) and space provision shall be with the following feeder distribution.

220 kV Bus Section-1	220 kV Bus Section-2 (Future)
a) 2 nos. of present 400/220 kV ICT	a) 4 nos. of future 400/220 kV ICT
b) Associated present BC bay	b) 6 nos. of future 220 kV Line
c) 6 nos. of future 220 kV Line	c) Associated future BC bay
d) 2 nos. of future 400/220 kV ICT	

#### **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.

SI.	Description of bay	765/400/220 kV Boisar-II (GIS)		
No		765 kV	400 kV	220 kV
1.	Bus Bar	4000 A	4000 A	3000 A
2.	Line bay	3150 A	3150 A	1600 A
3.	Statcom bay	N/A	3150 A	N/A
4.	ICT bay	3150 A	3150 A	1600 A
5.	Reactor bay	3150 A	3150 A	N/A
6.	Bus Sectionalizer bay	4000 A	4000 A	3000 A
7.	Bus Coupler bay	N/A	N/A	3000 A
SI.	Description of bay	765 kV	400 kV	400 kV
No		South Olpad	Navsari new	Velgaon
		(GIS) Extn.	(GIS) Extn.	(GIS) Extn.
1.	Bus Bar	4000A	4000A	As per
				existing

SI. No	Description of bay	765/400/220 kV Boisar-II (GIS)		
2.	Line bay	3150A	N/A	3150A
3.	Statcom bay	N/A	3150A	N/A

#### **B.2.1 Power Transformers**

# B.2.1.1 $(765/\sqrt{3})/(400/\sqrt{3})/33$ kV Single Phase Autotransformer

500 MVA 765/ $\sqrt{3}$ /(400/ $\sqrt{3}$ )/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 website.

Spare transformer (1-phase) unit shall be placed and connected in such a way that in case of fault in any unit of any of the transformer banks (including for future transformer banks) can be replaced by spare unit without physically moving it.

#### **B.2.2** Shunt Reactors

#### **B.2.2.1** (765/ $\sqrt{3}$ ) kV Single Phase Shunt Reactor

110 MVAR, 765/ $\sqrt{3}$  kV, 1-Phase Reactor (including arrangement for 3-phase bank formation of 330MVAR) and 80MVAR, 765/ $\sqrt{3}$  kV, 1-Phase Reactor (including arrangement for 3-phase bank formation of 240 MVAR) 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 website.

Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and switchable line reactor banks (including for future reactor banks) without its physical movement.

Neutral Grounding Reactor and Surge Arrester for 765 kV Line Reactors (as applicable):

The neutral of the line reactors (wherever provided) shall be grounded through adequately rated Neutral Grounding Reactors (NGR) to facilitate single phase auto-reclosure, provided that the NGR shall be provided with suitable bypass arrangement so that the line reactor can be used as Bus reactor as and when required. The neutral of bus reactor shall be solidly grounded.

NGR shall be oil filled or dry type air core for outdoor application. NGR 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. Technical parameters of NGR shall be as specified in Annexure-A of above-mentioned document.

The surge arresters (rated voltage of arrester in co-ordination with ohmic value of NGR shall be decided by the TSP) and physically located between the neutral of shunt reactor (brought out at 145 kV class bushing) and neutral grounding reactor. The surge arresters shall be of Station Medium (SM) class duty gapless Metal oxide (ZnO) type conforming in general to

Col

IEC-60099-4. Arresters shall be hermetically sealed units, of self-supporting construction, suitable for mounting on structures.

Sl. No.	Line Name	NGR value
1.	240 MVAR switchable line reactors of South Olpad	400 ohm
	(GIS) - Boisar-II (GIS) 765 kV D/c line at South	
	Olpad (GIS) and Boisar-II (GIS) end	
2.	80 MVAR switchable line reactors of Boisar-II -	300 ohm
	Babhaleswar 400 kV D/c line at Boisar-II end	

The Ohmic value of NGR for Line Reactors shall be as follows:

#### B.2.2.2 420kV, 3-Phase, Shunt Reactor

125 MVAR, 420 kV, 3-Phase Reactor and 80 MVAR, 420 kV, 3-Phase Reactor 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 website.

#### B.2.3 765 kV and 400 kV GIS Substation equipment

GIS (Gas Insulated Switchgear) 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  $SF_6$  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 and 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 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.

Page 142 of 235

Gel

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 and 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 Disconnector Switches and both types of earth switches i.e. Maintenance and fast operating.

Local control cabinets (LCC) shall be provided as per requirement. The alarm and 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  $SF_6$  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 degassed.

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

- For One and 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.
- During a fault in a GIS compartment other than the Circuit Breaker compartment, maximum 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 (milli second) for 765 kV and 400 kV. The rated

break time shall not exceed 60 ms for 220 kV. Circuit breakers shall be provided with single phase and three phase auto reclosing. Each breaker shall have two set of trip circuits which would be connected to separate DC supplies for greater realibility. The Circuit breakers controlling 765 kV lines shall be provided with pre-insertion closing resistor of about 450 ohms with 9 ms insertion time or Controlled Switching Device (CSD). The Circuit breakers controlling 400 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. Controlled switching device shall be provided in the Circuit Breaker of the switchable line reactor bay and in 400 kV and above voltage class Main and Tie bay circuit breakers of line with non-switchable line reactors, Bus reactors and Transformers.

#### **B.2.3.2** Isolators (GIS)

The isolators shall comply to 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 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. 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 protection and two for metering) suitably distributed on both sides of CB (for 400 kV and above voltage class). 220 kV Current Transformers shall have five cores (four for protection and one for metering). The burden and knee point voltage shall be in accordance with the requirements of the system including possible feeds for telemetry. Accuracy class for protection core shall be PX and for the 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 20VA 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 Transformer (GIS)

The voltage transformers shall conform to IEC-61869. Voltage transformers shall be of electromagnetic type with  $SF_6$  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 the 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 the metering and protection system (not more than 50VA for metering core) for better sensitivity and accuracy.

#### **B.2.3.5** Surge Arresters (GIS) (if applicable)

624 kV Station High (SH) duty, 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 respectively shall be provided for 800 kV, 420 kV and 245 kV system respectively conforming to IEC 60099-4 in general. 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. A leakage current monitor with surge counter shall be provided with each surge arrester.

#### **B.2.3.6** SF<sub>6</sub> to Air Bushing

Outdoor bushings, for the connection of conventional external conductors to the SF<sub>6</sub> 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. SF<sub>6</sub> 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 and 400 kV AIS Substation equipment (as applicable)

# **B.2.4.1** Capacitive Voltage Transformers (AIS)

Capacitive Voltage transformers shall comply with IEC 61869 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. Accuracy class for protection cores shall be 3P and for metering core it shall be 0.2. The

Capacitive voltage transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT for 765 kV shall be 8800 pF. The Capacitance of CVT for 400 kV shall be of 4400/8800 pF depending on PLCC requirements. 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.2.4.2** Surge Arresters (AIS)

624 kV Station High (SH) duty, 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 respectively shall be provided for 800 kV, 420 kV and 245 kV system respectively conforming to IEC 60099-4 in general. Other characteristics of Surge arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided near line entrances, 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, autotransformers, 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 IEC61850 protocol with RTU/SAS/IEDs of different OEMs. All numerical relays shall have built in disturbance recording feature.

The protection circuits and relays of transformer and reactor shall be electrically and physically segregated into two groups each being independent and capable of providing uninterrupted protection even in the event of one of the protection groups failing, to obtain redundancy, and to take protection systems out for maintenance while the equipment remains in service.

#### a) Transmission Lines Protection

765 kV and 400 kV lines shall have Main-I numerical three zone distance protection scheme with carrier aided inter-tripping feature. 765 kV and 400 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 Fibre Optic communication link. Differential relay at remote end shall be provided by the TSP. Associated power and control cabling and integration with SAS at remote end shall be provided by respective bay owner.

Page 146 of 235

Col

In case of loop in loop out of transmission lines, the existing protection scheme shall be studied and suitable up-gradation (if required) shall be carried out.

Further, all 765 kV and 400 kV lines shall be provided with single and three phase autoreclosing 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 stages over voltage protection. 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 and 400 kV transmission lines, directional IDMT earth fault relay should be provided as standalone unit or in-built feature of Main-I and Main -II feature.

#### b) Auto Transformer Protection

#### These shall have the following protections:

- i) Numerical Differential protection
- ii) Numerical Restricted earth fault protection
- iii) Numerical Back-up Over-current and earth fault protection on 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) 765 kV and 400 kV Reactor Protection

Reactor shall be provided with the following protections:

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

Besides these, reactors shall also be provided with Buchholz relay, MOG with low oil level alarm, protection against oil and winding temperatures and pressure relief device, etc.

### d) Bus bar Protection

The high speed low impedance type bus bar differential protection, which is essential to minimize the damage and maintain system stability at the time of bus bar faults, shall be provided for 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 shall also be provided.

Bus Bar protection system for new substation shall be de-centralized (distributed) type.

In case, the bus section is provided, then each side of bus section shall have separate set of bus bar protection schemes.

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

### e) Local Breaker Back up Protection

This shall be provided for each 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 relay panel 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 400 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 Relay Control Room.

The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System.

RFP for Selection of Bidder as Transmission Service Provider

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

**For extension of 400 kV Navsari (New) GIS**, augmentation of existing SAS shall be done for bays under present scope. 765/400/220 KV South Gujarat (Navsari-New) GIS substation is being equipped with Substation Automation System (SAS) based on IEC-61850 based process bus by POWERGRID under separate scheme. The Substation is being executed with Process bus automation based on IEC 61850 using sampled values. Merging units (MU), Switchgear control unit (SGC), Digital interface for transformer (DIT) and Digital interface for reactor (DIR) are envisaged to interface with primary equipment. Station bus and process bus are proposed with PRP based redundant network. A tentative architecture showing automation philosophy is attached for reference as Appendix-1. Centralised type bus bar protection is envisaged which subscribes to Sampled Values from the Process Bus. The proposed Process bus shall be time synchronized with PTP profiles: IEEE C37.238-2017 and IEC/IEEE 61850-9-3 2016.

Following points shall be required for extension works under present scope:

1. Redundant SGC/MU shall be provided for each bay

2. Augmentation of following standard forms available in the HMI:

- GOOSE Alarms Dashboard
- Sampled Values Alarms dashboard
- Gas Monitoring Dashboard

In existing substations with Substation automation system (SAS), augmentation of existing SAS shall be done for bays under present scope.

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

Necessary gateway 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.

Gel

### b) Time synchronization equipment

Time synchronization equipment complete in all respect including antenna, cable and processing equipment required to receive time signal through GPS or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS and IEDs etc.

### **B.3.0** Substation Support facilities

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

### **B.3.1** AC and DC power supplies

For catering the requirements of three phase and single phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged:-

- For LT Supply at each new Substation, two (2) nos. of LT Transformers (minimum 800 kVA for substations with highest voltage rating as 765 kV) shall be provided which shall be fed from two independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.
- Metering arrangement with Special Energy Meters (SEMs) shall be provided by TSP at 33 kV tertiary of 765/400 kV Transformer for drawing auxiliary supply at new substation. Such SEMs shall be provided by CTU at the cost of the TSP. Accounting of such energy drawn by the TSP shall be done by RLDC/RPC as part of Regional Energy Accounting.

Additionally, Active Energy Meters may be provided at the same point in the 33kV tertiary of 765/400/33 kV Transformer by local SEB/DISCOM for energy accounting.

 2 sets of 220 V battery banks for control and protection and 2 sets of 48 V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a float-cum-boost charger.

At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment for present and future scope shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required. 48 V DC can be achieved from 220 V DC battery bank using adapter, if so desired by TSP, without compromising backup time.

iv) Suitable AC and DC distribution boards and associated LT Switchgear shall be provided at new substation.

Col

- v) For new substation, following switch boards shall be considered with duplicate supply with bus coupler/ sectionalizer and duplicate outgoing feeders except for Emergency lighting distribution board which shall have only one incoming feeder:
  - (a) 415 V Main Switch board -1 nos.
  - (b) AC distribution board -1 nos.
  - (c) Main lighting distribution board -1 no.
  - (d) Emergency lighting distribution board -1 no.
  - (e) 220 Volt DC distribution board -2 nos.
  - (f) 48 Volt DC distribution board -2 nos.

Sizing of LT Switchgear shall be suitable to cater the requirement for all present and future bays. AC and DC distribution boards shall have modules for all the feeders (including future as specified).

- vi) At new Substation, one no. of DG set (minimum 500 kVA for substations with highest voltage rating as 765 kV) shall be provided for emergency applications.
- vii) 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.

Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. The main header of firefighting system shall be suitable for extension to bays covered under the future scope; necessary piping interface in this regard shall be provided.

Optical Beam type heat detection for GIS hall fire protection system shall be provided for all the GIS halls.

At existing substations, the fire-fighting systems, as available, shall be augmented/ 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 & above Voltage Class) as amended up to date available on CEA website.

Gel

### **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.

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

For new substation, substation control room shall be provided to house substation work stations for station level control (SAS) along with its peripheral and recording equipment, AC and DC distribution boards, DC batteries and associated battery chargers, Fire Protection panels, Telecommunication panels and other panels as per requirements. Air conditioning shall be provided in the building as functional requirements. Main cable trenches from the control room shall have adequate space provision for laying of cables from control room for all the future bays also.

At existing substations, the adequacy of size of control room shall be ascertained and the same shall be augmented as per requirement.

### B.3.6 GIS hall

The Gas Insulated Switchgear (GIS) of each voltage level along with other associated equipment shall be housed inside **separate** 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 and 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 and 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:

Visual monitoring system for effective watch and ward of substation premises shall cover all the transformers and reactors, all other major AIS Equipment (such as CB, isolators, CT, CVT, SA etc. as applicable), GIS bays, panel room, all the gates of switchyard and all entry and exit points of control room building and accordingly the location of cameras shall be decided. In addition to the gates of the switchyard, the cameras shall also be located around the boundaries at suitable locations. The camera shall be high-definition color CCD camera with night vision feature. The VMS data partly/completely shall be recorded (minimum for 15 days) at least @25fps (or better) and stored on network video recorder. The system shall use video signals from various cameras installed at different locations, process them for viewing on workstations/monitors in the control room and simultaneously record all the cameras. The VMS data should go only to the intended personnel/facility and not to the remote server of the Camera (VMS supplier).

Mouse/keyboard controllers shall be used for pan, tilt, zoom and other functions of the desired camera. The Visual Monitoring System shall have provision of WAN connectivity for remote monitoring.

All camera recordings shall have Camera ID and location/area of recording as well as date/time stamp. The equipment should generally conform to Electromagnetic compatibility requirement for outdoor equipment in EHV substation.

At existing substations, the visual monitoring system if available shall be augmented as per existing or better specification as required.

### **B.4** General Facilities

- a) Line Gantry/Towers are envisaged for bays under present scope only. However, for adjacent future line bay, tower shall be designed for extension (considering Quad conductors for 765 kV and 400 kV future lines) wherever applicable.
- b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirement/provisions mentioned above. However, interface points shall be considered keeping in view the existing design/arrangement at the substation.
- c) TSP has to arrange for construction power and water on its own.
- d) All outdoor steel structures including anchor/foundation bolts shall be fully galvanized. The weight of the zinc coating shall be at least 610 g/m<sup>2</sup>. However, for coastal/creek regions it shall be at least 900 g/m<sup>2</sup>.
- e) In 765 kV and 400 kV switchyard, if spare bay of half diameter is identified as future, all the equipment for Tie and Future Bay shall be designed considering the current rating of line bay i.e. 3150 A.

Gel

- f) Boundary wall shall be brick masonry wall with RCC frame or Stone masonry wall or Precast RCC wall under present scope along the property line of complete substation area including future switchyard area to prevent encroachment and unauthorized access. Minimum height of the boundary wall shall be of 1.8 m from finished ground level (FGL).
- g) All electrical equipment shall be installed above the Highest Flood Level and where such equipment is not possible to be installed above the Highest Flood Level, it shall be ensured that there is no seepage or leakage or logging of water.

### **B.5 EXTENSION OF EXISTING SUBSTATION**

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

Sl. No.	Drawing Title	Drawing No./Details	Rev.
1.	765 kV South Olpad GIS Extn		110.
1.0	Single Line Diagram	Drawings are yet to be	
2.0	General Arrangement	finalized by developer.	
3.0	Earthmat Layout		
4.0	Visual Monitoring System		
5.0	Bus Bar Protection		
6.0	Substation Automation System		
	(SAS)		
2.	400 kV Navsari (new) GIS Extn		
1.0	Single Line Diagram	C/ENGG/STATCOM/Navsari	00
		Extn/400 kV/SLD/01	00
2.0	General Arrangement	C/ENGG/STATCOM/Navsari	00
		Extn/400 kV/SLD/01	00
3.0	Earthmat Layout		
4.0	Visual Monitoring System	Drawings are yet to be	
5.0	Bus Bar Protection	finalized by developer	
6.0	Substation Automation System	imanzed by developer.	
	(SAS)		
3.	400 kV Velgaon (MH) GIS Extn		
1.0	Single Line Diagram		
2.0	General Arrangement	BPC may insert after collecti	
3.0	Earthmat Layout	the same from owner.	
4.0	Visual Monitoring System		

Page 154 of 235

Gel

Sl. No.	Drawing Title		Drawing No./Details	Rev. No.
5.0	Bus Bar Protection			
6.0	Substation Automation (SAS)	System		

Bidder is also advised to visit the substation sites and acquaint themselves with the topography, infrastructure such as requirement of roads, cable trench, drainage, space availability in control rooms and LT panel room etc. and also the design philosophy

## SPECIFIC TECHNICAL REQUIREMENTS FOR STATCOM

The proposed STATCOMs at Boisar-II GIS - Bus Sections I and II and Navsari (new) GIS shall be generally conforming to the requirements of CEA (Technical Standards for Connectivity to Grid) Regulations, 2007 including amendments and CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed and complied with.

### C.1 Introduction:

This technical specification for a STATCOM Station consists of STATCOM, MSCs (Mechanically Switched Capacitors) and MSRs (Mechanically Switched Reactors) (to be installed at MV bus) including associated coupling Transformer (rated 400/xx kV) and other equipment connected to the 400 kV bus. MV voltage level (xx kV) of the coupling Transformer can be chosen by the TSP to optimize the offered solution which meets functional requirement of this Technical Specification.

The STATCOM station shall operate asymmetrically in the leading and lagging MVAR regions as applicable to reach the dynamic range specified. The purpose of the STATCOM station is to regulate the voltage of 400 kV Bus Point of Common Coupling (PCC). The Configuration and the nominal rating of the STATCOM station is specified in this document.

The main building block of the STATCOM should be single phase Voltage Source Converter (VSC) based convertor valve (multi-level) operating in a way to eliminate or minimize AC filter requirement to High pass filter only and connected to the xx kV bus through air core reactors.

### C.1.1 Definitions and Abbreviations

For the purpose of this specification, the following definitions / abbreviations are used:

**PCC**: Point of Common Coupling (herein also called as Point of Interconnection). The connection point between the STATCOM and ISTS at which performance requirements are defined.

**Reference Voltage (Vref)**: The Point on the voltage/current (V/I) characteristics where the static synchronous compensator (STATCOM) is at zero output (i.e. where no reactive power is absorbed from, or supplied to, the transmission system where the voltage is controlled)

MV: Medium Voltage.

**STATCOM Unit**: Static Synchronous Compensator based on Multi-Module technology and including air cored reactors as needed, Valve cooling, switchgear and its control and protection.

Gel

**STATCOM**: Static Synchronous Compensator consisting of STATCOM Unit(s) connected to a common coupling Transformer. A static synchronous generator operated as a shunt connected compensator, whose capacitive or inductive output current can be controlled independently of the AC system voltage.

**MSC**: Mechanically Switched Capacitor (Including Switchgear). A shunt-connected circuit containing a mechanical power-switching device in series with a capacitor bank and a current limiting reactor.

**MSR**: Mechanically Switched Reactor (Including Switchgear). A shunt-connected circuit containing a mechanical power-switching device in series with a reactor.

**Sub Module**: Basic single power module of a Multi Module STATCOM unit Valve. It is a Part of a STATCOM unit valve comprising controllable switches and diodes connected in full bridge arrangement, together with their immediate auxiliaries, and storage capacitor, if any, where each controllable switch consists of one or more switched valve device(s) connected in series.

**Valve**: Electrically and mechanically combined assembly comprising of forced commutated devices [for example insulated-gate bipolar transistor(IGBT)] assembled in levels, complete with all connections, auxiliary components, and mechanical structures, which can be connected in series with each phase of the reactor of a STATCOM unit.

**Valve Section**: Electrical assembly defined for test purposes, comprising one of several sub-modules.

**Valve Structure**: Physical structure holding valve(s), which is insulated to the full system voltage above earth potential.

**STATCOM Station**: STATCOM Station includes 400 kV Switchgear, Coupling Transformer, STATCOM, MSCs (as applicable), MSRs (as applicable) along with its switchgear and complete integrated control and protection whose outputs are coordinated. (Complete turnkey delivery at site).

**CT**: Current Transformer.

**VT**: Voltage Transformer.

SAS: Substation Automation System.

**Response Time**: the duration from a step change in control signal until the voltage changes by 90% of its final change, before any overshoot.

Settling Time: The duration from a step change in control signal input until the STATCOM output settles to within  $\pm 5\%$  of the required control output.

**Slope**: The ratio of the voltage change to the current change over a defined controlled range of the STATCOM, normally the full (inductive plus capacitive) range at nominal voltage, expressed as a percentage.

**VSC**: Voltage Source Convertor, A forced commutated device (for example, IGBT) based self-commutated convertor that is capable of generating AC voltage from DC capacitor.

**Voltage/Current (V/I) Characteristic**: The relationship between the current of the STATCOM and the voltage at the point of connection.

**Lagging Operation**: Inductive operation or reactive power absorption of the STATCOM similar to a shunt reactor.

**Leading Operation**: Capacitive operation or reactive power generation of the STATCOM similar to a shunt Capacitor.

**TSP:** Transmission Service Provider

### C.2 Relevant Standard:

STATCOM Station shall comply with the following standards (latest edition):

Sl. No.	Description	Standards
1	Voltage source converter (VSC) valves for	IEC- 62927
	STATCOM	IEEE- 1052
		IEC-60747
2	Control, protection and monitoring	IEC-61000
		IEC-60255
3	Valve Hall for housing the equipment as above	IEC-60071
	comprising of:	IEC-60270
	- wall bushings for connection between converter	IEC-60137
	phases and decoupling reactors,	
	- piping and tubing connections of the cooling	
	system to converter	
	- connection of the control cabinet with the	
	converter through optical fibers	
	- internal lighting, auxiliary power supply (AC	
	and DC) and power socket system	
	- internal HVAC system	
4	X kV, dry insulated, air core and air self-cooled	IEC- 60076
	decoupling reactors. Mechanically Switched	
	Reactors, half-reactors stacked on above the	
	other, Outdoor installation, Complete with	
	supporting structures	
5	Power Capacitors (MSC etc.)	IEC-60871-1
6	400 kV Power transformer (Coupling	IEC-60076
	Transformer)	IEC-60354
7	CT's and VT's	IEC- 61869
8	Dis-connectors and Earthing Switches	IEC- 62271
9	HV and MV Circuit Breakers	IEC- 62271

Sl. No.	Description	Standards
10	Surge Arresters	IEC- 60099
11	Auxiliary and grounding transformer	IEC- 60076
		IEEE C57.32
		IS- 5553 (Part 6)
12	Neutral Grounding Resistor, charging resistor	IEEE- C57.32
13	UPS, SMPS and Other Power supply units	IEC- 62040
		IEC- 61558
14	Cyber Security	IEC-62243

#### C.3 Scope of work for STATCOM

The scope of work with regard to the works associated with the STATCOM at Boisar-II GIS at both Bus Section I and II shall comprise  $\pm 1X200$  MVAR Modular Multi-level Voltage Source Converter (MMC-VSC) based STATCOM along with 2x125MVAR MSC (Mechanically Switched Capacitors) and 1x125MVAR MSR (Mechanically Switched Reactors) each in Bus Sections- I and II.

The scope of work with regard to the works associated with the STATCOM at Navsari (new) GIS shall comprise  $\pm 1X300$ MVAR Modular Multi-level Voltage Source Converter (MMC-VSC) based STATCOM along with 3x125 MVAR MSC (Mechanically Switched Capacitors) and 1x125MVAR MSR (Mechanically Switched Reactors).

The TSP shall be responsible for the complete installation of STATCOM station along with the substation works as specified in the complete scope of work.

The TSP shall also perform the system studies (steady state and dynamic) according to the requirement mentioned and documentation of the same shall be preserved by TSP and to be submitted to CEA/CTU/GRID-INDIA, as per their request.

TSP shall carry out a detailed study on prevailing system conditions before interconnection of the STATCOM to assess the performance of the STATCOM. Parameters tuning to avoid any adverse impact on the grid with integration of the STATCOM shall also be identified and implemented at this stage. TSP shall carry out tuning of Power Oscillation damping (POD) along with an interaction study with nearby HVDC/FACTS controllers.

The switchgear for connection of STATCOM units, MSCs and MSRs provided on the secondary side of the coupling transformer shall be of standard voltage rating as per relevant IEC. The switchgear, structure, control, protection and substation automation on the 400 kV side shall be as per applicable Technical Specification of the substation equipment.

Generally, the purpose of STATCOM is to improve system stability, provide damping, and smooth out the step voltage change associated with MSCs, MSRs and external

Col

compensating equipment (i.e. any existing capacitor and reactor banks) switching and provide steady state VARs as needed to support the 400 kV bus voltage.

In order to get optimum control of MVAR, the control of MSCs and MSRs, as well as reactor banks connected on the 400 kV HV side, may be integrated along with STATCOM control to provide steady state 400 kV bus voltage control in a smooth manner. MSRs and MSCs are to be switched to relieve the STATCOM from high level operation, reduce its continuous losses and maximize its dynamic control potential. There should be a provision for the independent operation of MSC/MSR after delinking it with STATCOM controls when STATCOM is out of service due to any reason. Switching of MSC/MSR shall be based on value of external bus voltage.

The operating functions of the STATCOM Station shall include:

- Steady state voltage control of 400 kV bus,
- Balance steady state voltage at 400 kV bus,
- Dynamic over-voltage control,
- Transient and Dynamic stability control
- Damping of Power Oscillations

It is assumed that the arresters will limit any transient and switching surge over voltages and may also, by design, limit dynamic over voltages.

The requirement of reactive power compensation (as defined above) guaranteed by the TSP shall not be less than the levels specified considering following.

- The total cumulative Capacitive (+) and Inductive (-) MVAR rated Capacity of STATCOM Station as defined above comprising of STATCOM, MSCs (as applicable), MSRs (as applicable) coupling transformer, coupling reactor or any filter (if applicable) shall be rated at 1 pu voltage, 1 pu frequency and 50 °C (Celsius) ambient temperature at 400 kV Bus (Referred to as "Point of Common Coupling" or PCC).
- Capacity of one or more branches of MSC, MSR in STATCOM Station can be included in the STATCOM with equivalent capacity. Accordingly, ratings of STATCOM Unit/Branch equipment may be designed.

Example of equivalent acceptable solutions for each STATCOM Station is given below:

# A) For ±200 MVAR STATCOM:

**Option 1**: ±200MVAR STATCOM, 2x125MVAR Mechanically switched Shunt Capacitor (MSC), 1x125MVAR Mechanically switched Shunt Reactor (MSR).

- **Option 2**: +325/-200MVAR STATCOM, 1x125MVAR Mechanically switched Shunt Capacitor (MSC), 1x125MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 3**: +450/-200MVAR STATCOM, 1x125 MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 4**: ±325MVAR STATCOM, 1x125MVAR Mechanically switched Shunt Capacitor (MSC).
- **Option 5**: +200/-325MVAR STATCOM, 2x125MVAR Mechanically switched Shunt Capacitor (MSC).
- **Option 6**: +450/-325MVAR STATCOM.

### B) For ±300 MVAR STATCOM:

- **Option 1**: ±300MVAR STATCOM, 3x125MVAR Mechanically switched Shunt Capacitor (MSC), 1x125MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 2**: +425/-300MVAR STATCOM, 2x125MVAR Mechanically switched Shunt Capacitor (MSC), 1x125MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 3**: +550/-300MVAR STATCOM, 1x125MVAR Mechanically switched Shunt Capacitor (MSC), 1x125MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 4**: +675/-300MVAR STATCOM, 1x125MVAR Mechanically switched Shunt Reactor (MSR).
- **Option 5**: +300/-425MVAR STATCOM, 3x125MVAR Mechanically switched Shunt Capacitor (MSC).
- **Option 5**: +425/-425MVAR STATCOM, 2x125MVAR Mechanically switched Shunt Capacitor (MSC).
- **Option 6**: +550/-425MVAR STATCOM, 1x125MVAR Mechanically switched Shunt Capacitor (MSC).

**Option 7**: +675/-425MVAR STATCOM.

- The rated capability of STATCOM, MSC (as applicable) and MSR (as applicable) shall be at 400 kV (Referred to as "Point of Common Coupling" or PCC) and in the steady state frequency range of 48.5 Hz-50.5 Hz.
- The STATCOM Station including STATCOM Units, MSCs and MSRs shall be designed to operate continuously under the worst possible combination of steady state voltage range of 360-440 kV and frequency range of 47.5 Hz – 52.5 Hz respectively and transient and temporary over voltages defined in Clause C.6.1-f).

Col

- The AC voltage unbalance at fundamental frequency shall be assumed equivalent to a negative phase sequence component of 1.5% for equipment rating purposes.
- The reactive power compensation levels shall be determined by manufacturing tolerances of the components and measurements carried out using metering accuracy instrumentation at the 400 kV feed points to the STATCOM Station.
- The reactive power capability shall also be determined by calculations based on test values of appropriate quantities at the discretion of the owner.
- In calculations of capability and availability, the owner shall assume the most unfavourable combinations of control, manufacturing and measurement tolerances.
- In case more than one STATCOM Station are installed in a particular substation, each STATCOM Station shall be connected to 400 kV bus individually with complete separate downstream system. Each individual STATCOM station shall have complete independent yet coordinated control system to avoid simultaneous tripping of both STATCOM Stations. The system shall be design in such a way that single common contingency (other than loss of 400 kV voltage, abnormal system events) will not cause tripping of both STATCOM Stations.
- Operation of STATCOM Station shall not excite any resonance condition in connected Power System.
- Control of STATCOM Station shall be designed to prevent hunting between MSRs, MSCs and STATCOM.

# C.3.1 STATCOM building

The STATCOM station shall have independent building including a separate control room different from the main control room building of the 765/400 kV Substation.

The STATCOM Building shall comprise of following facilities:

- 1. Control and Relay Panel room
- 2. ACDB and DCDB room
- 3. Battery room
- 4. Service Room cum workshop
- 5. Conference room
- 6. Valve hall
- 7. Cooling system room
- 8. Lobby
- 9. Corridor with minimum width of 1600 mm

- 10. Portico
- 11. Common Toilet
- 12. Provision of shaft for electrical, sanitary, water supply facilities
- 13. Other facilities as per functional requirement of building
- 14. AHU Room

### C.4 Ambient Condition

STATCOM Station should be designed to perform at 50 degrees C ambient temperature

### C.5 **Power System Characteristic**

The following AC power system characteristics apply at the point of connection i.e. point of common coupling in this case (PCC). STATCOM station operation is required within the parameter value and duration given in following table:

S. No	Power System Characteristic	Value	unit
1.	Nominal ac system voltage, line-to-line	400	kV
2.	Maximum continuous ac system voltage line-to-line	420	kV
3.	Minimum continuous ac system voltage, line to-line	380	kV
4.	Maximum short-term ac system voltage, line to-line	448	kV
5.	Maximum duration of item 4	10	S
6.	Minimum short-term ac system voltage, line to-line	120	kV
7.	Maximum duration of item 6	5	S
8.	Continuous negative-sequence voltag component (used for performance calculation)	1	%
9.	Continuous negative-sequence voltag component (used for rating calculation)	1.5	%
10.	Continuous zero-sequence voltag component	1	%
11.	Nominal ac system frequency	50	Hz
12.	Maximum continuous ac system frequency (for rated output)	50.5	Hz
13.	Minimum continuous ac system frequency (for rated output)	48.5	Hz
14.	Maximum short-term ac system frequency	52.5	Hz

Page 163 of 235

S. No	Power System Characteristic	Value	unit
15.	Minimum short-term ac system frequency	47.5	Hz
16.	Basic Insulation Level (BIL)	1550	kV peak
17.	Switching impulse level (SIL)	1050	kV peak
18.	Power Frequency Withstand voltage	630	kV
19.	1) Maximum three-phase fault current		
	a) for performance requirements	1 a) 63	kA
	b) for rating of STATCOM	1 b) 63	kA for 1s
	Navsari New		
	X/R (Positive/Negative Seq)*	18.23	
	X/R (Zero Seq)*	4.91	
	Clearing time - normal	0.10	s
	Clearing time – backup	0.75	S
	Boisar-II (Sec-I)		
	X/R (Positive/Negative Seq)*	20.61	
	X/R (Zero Seq)*	6.86	
	Clearing time - normal	0.10	s
	Clearing time – backup	0.75	s
	Boisar-II (Sec-II)		
	X/R (Positive/Negative Seq)*	18.98	
	X/R (Zero Seq)*	6.28	
	Clearing time - normal	0.10	
	Clearing time – backup	0.75	S
			S
20.	Maximum three-phase fault current	63	kA
21.	Minimum three-phase fault current #		
	Navsari (New)		
	-for performance requirements	40.5	kA
	-for safe operation	40.5	kA
	Boisar (Sec-I)		
	-for performance requirements	24.62	kA
	-for safe operation	24.62	kA
	Boisar (Sec-II)		
	-for performance requirements	34.15	kA

Page 164 of 235

Gel

S. No	Power System Characteristic	Value	unit
	-for safe operation	34.15	kA
22.	Maximum single-phase fault current	63	kA
23.	Minimum single-phase fault current#		
	Navsari (New)	30.06	kA
	Boisar (Sec-I)	24.62	kA
	Boisar (Sec-II)	28.56	kA
24.	Harmonic impedance sectors for each harmonic number up to the 49 <sup>th</sup> harmonic or system impedance data as R-X values with frequency steps not larger than 1 Hz (for performance and/or STATCOM system component rating)	Chapter 7.3 Publication 13	of CIGRE 39
25.	Background harmonic voltage (or current) spectrum (for STATCOM components rating) (Distortion up to 15 <sup>th</sup> Harmonic	5 <sup>th</sup> Harmonic 1.5% 7 <sup>th</sup> Harmonic 1.0% Other Harmonics 0.5% (each)	
26.	Power System Phase Rotation	CO	CW

RFP for Selection of Bidder as Transmission Service Provider

The STATCOMs shall remain connected to the grid and shall be able to operate at rated reactive power capability when voltage at the interconnection point, on any or all phases dips up to the level depicted by the thick lines in the following curve (for specified time):

### V<sub>T</sub> : Actual Voltage; V<sub>n</sub>: Nominal Voltage



### C.6 STATCOM Station Characteristics



Figure-1: Conceptual Indicative Schematic diagram of STATCOM Station



Figure-2: VI Curve of the VSC Portion

Page 166 of 235





Figure-3: VI Curve of the STATCOM Station

## C.6.1 STATCOM Station Ratings

The output of a STATCOM Station shall be adjusted continuously over the range illustrated in Figure-3.

The following items define the ratings of the STATCOM station equipment.

- a) The STATCOM Station should regulate the 400 kV bus voltage to a reference voltage of 400 kV (1.0 per unit, Point L Figure-3), continuously adjustable between 0.95 per unit and 1.05 per unit.
- b) The nominal capacitive and inductive reactive power output of the STATCOM should be as defined in the scope, at 1.0 pu ac bus voltage and nominal system frequency f, and 50°C ambient temperature (Point A and point B of figure-2).
- c) The slope of the STATCOM Station characteristic should be adjustable in steps of not greater than 0.5% between 1% and 8%, on a basis of cumulative MVA capacity of STATCOM Station (A+B in Figure-3).
- d) The STATCOM Station should continue to inject reactive power during temporary under voltage down to 54kV (0.135pu) (considering margin of 10% below 0.15p.u. which is the LVRT limit specified for RE generating stations) for the duration 0.3sec (Point C) and STATCOM behavior for voltages above 0.135 pu shall be as specified under section C.5 above, which also specifies operation at under voltage down to 120kV (0.3pu) for the duration 5sec; the STATCOM system may be tripped (or blocked) if the under voltage persists for time beyond limits specified under section C.5 above.
- e) The STATCOM should continue to absorb reactive power during temporary over voltages in a controlled manner as per the following.

Page 167 of 235

Gel

Temporary Overvoltage	Duration
up to 600 kV (1.5 pu)	10 seconds
up to 704 kV (1.76 pu)	100 milli sec
up to 800 kV (2.0 pu)	50 milli sec

STATCOM Station may be tripped if the respective temporary over voltages as mentioned above persists for more than its respective mentioned duration.

- f) The STATCOM Station should be capable of repeating temporary operation as defined in any one of item (d) and (e) as above for at least 3 charging cycles in 60 mins.
- g) The coupling transformer and all bus equipment, such as filter branches (if applicable), MSC and MSR branches etc. and the MV Bus should be rated to withstand the specified continuous and short-term operation, and to withstand or be protected against voltage and current stresses that exceed these conditions.
- h) All equipment in the STATCOM Station should be capable of sustaining, without damage, any fault limited by the maximum design short circuit level of the system and the Coupling transformer impedance.
- i) The TSP shall assume the negative sequence voltage of 1% at rated short circuit level and provide control to reduce this unbalance.
- j) The injected harmonic current distortion by STATCOM Station under the full operating range measured at 400 kV Bus (PCC) shall be in accordance with IEEE-2800 standard.
- k) The STATCOM controls should be designed to correct negative sequence voltage during steady state operation.
- 1) The switching module design should include an appropriate allowance for stray capacitance and component tolerances.
- m) The STATCOM should be designed to prevent, or alternatively to withstand, false firing events, i.e., the firing of any valve at an incorrect time in the cycle or when not ordered.

### C.6.2 Control Objectives

The control system shall control the STATCOM, MSCs, MSRs required under this specification, as well as all bus reactors on the 400 kV HV bus of the substation.

Operation logic for the breakers, disconnectors and earth-switches in the STATCOM Station shall also be incorporated in the control system. The control shall be programmable and shall have sufficient scope and flexibility (software programming margin of at least 20%) to permit re-programming according to future changes/addition in the power system. The operator interface must be integrated in a latest version of Windows environment.

### C.6.2.1 STATCOM Station Functions and Applications

## C.6.2.1.1 Voltage Control mode (Automatic and Manual)

Control of the positive sequence component of the fundamental frequency voltage in steady state and dynamic operation, with slope in the range as specified at clause 6.1 c) above.

## C.6.2.1.2 Fixed Reactive Power Mode

In this mode, the reactive power output of the STATCOM as well as switching of MSRs and MSCs, should be manually controlled, by direct operator action. This feature is normally utilized for testing purpose.

# C.6.2.1.3 Steady State Condition

The STATCOM Station (STATCOM along with MSCs and MSRs) shall provide necessary reactive power support to the 400 kV bus (PCC) to compensate for voltage variation under steady state.

# C.6.2.1.4 Dynamic Over-voltage Control Performance

The STATCOM shall be required to provide necessary reactive power support with fast and smooth variation so that over-voltages under dynamic conditions are controlled. STATCOM shall smooth out the step caused by the switching of MSCs and MSRs.

The operation of each STATCOM over its range of MVAR from full capacitive to full Inductive capacity and vice-versa shall be on the basis of smooth variation.

## C.6.2.1.5 Transient and Dynamic Stability Performances

The STATCOM Station shall provide necessary reactive power so that the transient and dynamic stability of the Owner's system is enhanced.

## C.6.2.1.6 Damping of Power Oscillations

The STATCOM shall provide necessary damping to power oscillations by modulating its output in its entire range based on the measured rate of change of power/frequency at the 400 kV bus. The damping controller would track local area oscillations as well as wide area oscillations and control would include several loops each focused on different frequencies.

## C.6.2.1.7 Facility for compensation of phase imbalance

Provide negative phase sequence voltage control to minimize the presence of negative sequence content of the 400 kV bus voltage.

# C.6.2.1.8 Start up and Initial Switching

The operation of STATCOM Station during start-up/initial switching on should not create significant energizing transients causing voltage drop, voltage distortion and swinging of transmission voltage angle at the PCC bus by more than  $\pm$ -5%. TSP shall have to ensure this analytically during the design phase and also in the field after the

Col

commissioning of the facility. TSP shall prepare the design documentation and the same shall be preserved by TSP and to be submitted to CEA/CTU/GRID-INDIA, as per their requirement.

## C.6.2.1.9 Gain Supervision and Control

To control the regulator gain in order to prevent oscillations and excessive overshoot in the STATCOM response, a gain supervision function shall be implemented. This shall be an essential function for the supervision of stability of closed-loop voltage control. The function of this controller is that when the supervision of the gain in the voltage regulator detects oscillations in the voltage controller output, the gain shall gradually be reduced until stability is reached. Normally it is a changed condition in the transmission system contribution to the closed loop gain that results in instability. The reduction in the voltage regulator gain shall only balance the external change. The control should be adaptive in order to maximize its effectiveness. Gain reductions should be indicated and the reduction of the gain shall be able to be reset to nominal value by means of commands from the operator interface or automatically. A relative gain factor shall also be able to be changed from a gain optimizer.

## C.6.2.1.10 Coordinated reactive power control of external devices

To optimize the use of dynamic VARs versus steady state VARs, control of externally connected shunt capacitor or reactor banks shall be implemented. Such banks will be connected locally to a HV bus or/and at MV bus. For simultaneous control with the supplementary VSC current controller, coordination for the two functions shall be provided. External devices like mechanically switched capacitors (MSC)/mechanically switched reactors (MSR) can be switched ON or OFF to position the steady state operating point of the VSC so as to extend its dynamic range. There should be a provision for independent operation of MSC/MSR after delinking it with STATCOM controls when STATCOM is out of service due to any reason. The threshold values for switching the MSC/MSR on/off shall be configurable in all modes of operation.

## C.6.2.1.11 Supplementary VSC current controller

To optimize the use of dynamic VARs versus steady state VARs, a control function that slowly reduces or offsets the STATCOM point of operation shall be implemented. By deliberately adjusting the voltage reference setting within a narrow window the STATCOM system output is pushed towards either a specific point or towards a window to preserve dynamic range. This slow operating function is meant to provide for slower controllers, such as externally connected shunt banks to operate and meet the slower long term voltage variations caused by daily or weekly load variations. Rapid changes in the system voltage that call for dynamic compensation will have priority over this type of controller.

# C.6.2.1.12 Gain optimization

To provide operation at optimal regulator gain, a fully automatic optimizing function shall be implemented. This function operates by inducing a small change in the STATCOM output. The gain is adjusted based on the network response signal.

# C.6.2.1.13 Control of Direct Current

During STATCOM operations, any flow of direct current to the transformer's MV side must be less than 25% of the transformer magnetizing current. DC current flow in the transformer should be minimized by an independent control function that minimizes DC current. For presence of up to 0.2% second harmonic in 400 kV system, the STATCOM control should minimize DC current flow in the transformer.

# C.6.2.2 Under Voltage Strategy

It is essential that the STATCOM Station operates in a robust manner when transmission system under voltages appears. For transmission system voltages down to 0.135 pu, the STATCOM units must operate unrestricted, producing its rated capacitive current. The STATCOM must be designed to operate at transmission system under voltage, even considering that severe voltage unbalances can appear. The STATCOM must not be restricted by short term negative sequence voltages up to 1.5%, appearing in conjunction with under voltages.

Transmission system under voltages below 0.135 pu will appear in conjunction with transmission system faults. The STATCOM must ride through during faults and post fault under voltages. The minimum trip delay for the STATCOM Station, upon complete loss of the transmission system voltage shall not be less than 5 seconds. If station AC auxiliary power distribution is affected, critical loads must be fed from DC station batteries, uninterrupted power supply (UPS) without tripping the STATCOM Station. Adequate capacity must be kept in DC station batteries, UPS to feed critical loads for the smooth operation of the STATCOM Station facility. There must be redundant station battery system with each station battery system capable of delivering 100% load.

At under voltage conditions for the transmission system voltage, special control strategies are activated which override the normal control modes presented above. Normally if the voltage is low, the output from the STATCOM will be capacitive. If the voltage in all three phases goes below a level, but not greater than 0.135 pu, a special under voltage strategy may be activated that controls the STATCOM output to 0 MVAr. As soon as the voltage goes higher than 0.135 pu, the under voltage strategy is deactivated and the normal control will be in operation (for the specified duration).

The STATCOM Station must not be tripped or shut down automatically due to under voltages appearing for specified duration as specified under section C.5 above. STATCOM Station must continue to operate when AC system Voltage on any or all phases dips down to 0.135 pu voltage as per the characteristic given at section C.5.

Page 171 of 235

### C.6.2.3 Over Voltage Strategy

- **C.6.2.3.1** The TSP shall carry out dynamic stability study upfront in order to assess the dynamic overvoltage requirements. These studies shall include conditions with maximum and minimum short circuit system MVA conditions, single phase and three phase faults as well as stuck breaker, outage of the nearby generator and also with the outage of parts of the STATCOM Station. It is important that the STATCOM Station rides through temporary over voltages and not trip when it is needed the most.
- C.6.2.3.2 The system should be able to withstand any 3 phase, 5 cycle (100 ms) and single phase 10 cycles (200 ms) fault with consequent loss of a 400 kV double circuit line and loss of a 500 MW generator. The fault duration mentioned above corresponds to time assumed for the persistence of fault. For other system parameters refer clause 5 above (Power System Characteristics). In addition to above requirement, system contingency cases as provided in Annexure-I need to be considered and satisfied.
- C.6.2.3.3 The 400 kV system and equipment to which the STATCOM Station is connected is designed to withstand switching surge overvoltage up to 2.5 pu and power frequency over voltages up to 1.5 pu with initial value of the temporary overvoltage up to 2.0 pu for 1-2 cycles. Based on arrestor coordination and under the worst case scenario the 400 kV system phase to ground peak over voltages may be expected as follows
  - i) 650 kVp for 03 peaks
  - ii) 575 kVp up to 5 cycles
  - iii) 530 kVp up to 1 second
  - iv) 475 kVp up to 10 seconds
  - a) The STATCOM Station shall be designed to withstand these sequential over voltages.
  - b) If the over voltages greater than 1.1 pu are exceeded in magnitude and duration due to any system contingencies, suitable control action shall be taken by STATCOM Station to bear this kind of contingency.
  - c) The TSP shall evolve the insulation co-ordination of the components of the STATCOM Station after studies have been conducted to determine the over- voltage profile with the STATCOM connected to the system.
  - d) The TSP shall ensure that STATCOM Station will not excite ferro-resonance and subsynchronous oscillation in the AC system. The study report in this regard shall be preserved and to be submitted to CEA/CTU/GRID-INDIA, if required.
  - e) It may also be noted that the tripping action for 400 kV lines is initiated if the overvoltage exceeds 1.12 pu for 10 seconds. The tripping of 400 kV lines is initiated if 1.5 pu voltage persists for more than 100 milli seconds. The over voltage strategy shall be coordinated with these settings such that the STATCOM Station rides through up to these levels.

## C.6.2.4 STATCOM Station Over load / Over Current

The overvoltage cycles mentioned in clause 6.2.3.3 above create a corresponding current overload in the STATCOM Station components; the STATCOM Station and its components shall be designed to withstand these.

In addition to the above the STATCOM Station and its components shall be designed to withstand overloading caused due to the following eventualities.

- i) Short circuits and ground faults in the 400 kV system especially those occurring near the STATCOM Station and medium voltage bus of the STATCOM Station.
- ii) Transient overvoltage due to switching operations and atmospheric effects.
- iii) Temporary over voltages.
- iv) Short circuits in the transformer secondary circuit such as:
  - Bushing terminal fault
  - Flashover across a reactor, Bus Bar and other connected components/switchgear etc.
- v) Protection system faults.

If the rated overvoltage is exceeded as a result of prolonged stressing or for other reasons, the protection specified elsewhere in the specification shall come into effect to prevent damage.

# C.6.2.5 Dynamic Performance Controls of STATCOM Station

The TSP must describe in detail, the dynamic reactive power controls for enhancing stability margin and also damp oscillations of any critical frequencies. The dead band for continuous damping control must be very small so that there are no discernible sustained oscillations.

# C.6.2.6 Protective Control Functions

TSP shall provide all necessary protections including Main and Back-up protections for all protective zones and equipment like transformers, STATCOM Units, MSCs (if applicable), MSRs (if applicable), MV Bus Bar etc. TSP shall provide any protective control functions to meet the performance requirement of STATCOM under the scope of the TSP.

# a) Overvoltage Protection

TSP shall provide adequate overvoltage protection as a result of any normal operation, mal-operation or system event.

# b) Over current Protection

TSP shall provide adequate over-current protection for the STATCOM Station as a result of any abnormal operation, mal-operation or system event.

# c) Gate level control Supervision

TSP shall provide adequate Sub module Gate level control supervision.

## C.6.2.7 STATCOM Station Response

STATCOM station response shall be such that the change in measured system voltage to small disturbance should reach 90% of the desired total change within 30 ms of initiating a 5% step change of voltage reference. The maximum overshoot should not exceed 120% of the total change and the settling time should not exceed 100 ms, after which the voltage should be within  $\pm 5\%$  of the final value. This response characteristic within these limits must be respected when the system's three-phase fault MVA is between the minimum and maximum value defined in clause-5. The response of the system voltage using the actual controller should be validated on a real time simulator during the factory acceptance test (FAT) at the manufacturer's premises. For the purpose of STATCOM Station, response time measurement and signal conversion of the voltage, the error should not exceed 0.3%. The voltage response acquisition circuit should have a response time of no longer than 10 ms. However, time longer than 10 ms can be allowed provided the requirement of STATCOM response time is met.



Figure-4 Response and Settling time

# C.6.3 Harmonic performance and AC harmonic filter design

It is likely that with multi-level VSC based technology, no filters or only a small highpass filter will be needed. The STATCOM shall be operable without AC filters. The STATCOM Station should be designed to eliminate the effects of any harmonic resonance between its MSRs, MSCs banks, filter branches, and the AC system. To limit the harmonic distortion imposed on the 400 kV transmission system, the additional contribution of harmonic distortion from the STATCOM Station to 400 kV system (PCC) should not exceed 1% for the total and 0.5% for any specific harmonic.

# C.6.3.1 Filter performance

The distortion levels as specified should be met for the following:

a) The continuous range of all system and environmental conditions.

Gel

- b) Variation in total filter capacitance due to manufacturing tolerance, ambient temperature, aging, and changes in capacitance up to alarm level.
- c) Variation in tolerance for STATCOM parameters, such as transformer winding unbalances, valve firing variations MSC and MSR unequal reactor and capacitor reactance between phases.
- d) System frequency in the range of 48.5 Hz to 50.5 Hz. Calculation should take into account all possible combinations of STATCOMs, MSCs and MSRs.

## C.6.3.2 Filter component rating

The harmonic filter components (and other STATCOM components) should be rated to carry continuously the harmonic currents caused by the background harmonic distortion of the system and the harmonic currents produced by the STATCOM itself. Unless otherwise specified, harmonic currents from the system and the STATCOM of the same order should be added arithmetically. All filter harmonic currents of different order should be added quadratically (root sum of squares).

The rated voltage of capacitors should be derived from the largest arithmetic sum of the power-frequency and individual harmonic voltages obtained from stress calculations in continuous operating conditions (Note: Maximum fundamental voltage and maximum harmonic contributions may not exist at the same time for STATCOM configurations including MSRs or MSCs).

For filter capacitor voltage rating, the loss of capacitor unit or elements should be considered up to the trip level.

The rated voltage of so-called "low voltage" capacitors (e.g. in double or triple tuned filters) should be chosen such as to also withstand imposed transient stresses from faults, energization, or other switching events.

## C.6.3.3 Harmonics at PCC

The STATCOM Station's contribution to the harmonic current distortion levels at the STATCOM Station connection point (PCC) to the transmission system shall not exceed the limits defined in IEEE-2800 Standards

## C.6.3.4 Harmonic calculation:

Chapter 7.3 of CIGRE Publication 139 together with information in PSSE network files given shall be used for the Network harmonic impedance.

## C.6.4 MV Switchyard

• Medium Voltage (MV) delta bus shall be grounded through a Grounding Transformer (i.e. zig-zag winding Transformer) along with a suitable resistor in the neutral.

- MV Switchyard of different STATCOM Station branches shall be fenced with a fence height of meterser. To minimize the probability of electrical fault suitable arrangement i.e. electrified fence shall be done to prevent the encroachment of unwanted animals or other to minimize the probability of electrical faults (Ph-E, Ph-Ph). Further bus bar arrangements shall be made in a way to minimize the probability of electrical faults.
- Secondary side of the Coupling Transformer shall be provided with suitable surge capacitors to mitigate transfer surges.
- For MV bus bar, an Aluminum conductor (Tube, Rectangular Hollow Section or C Section) may be used, however, a suitable bus bar end cover/cap shall be provided to avoid any animal/bird entering the hollow space.

## C.6.5 Broadband Interference

## C.6.5.1 Radio Interference

The TSP shall take necessary precautions in the form of shielding of valve hall and building or Containers to meet its own requirement together with any requirements that may be specified in Section-Project. Further, the following requirements shall also be met:

- a) With the STATCOM Station operating at any load upto rated value and within the design range of firing angle, the radio interference level from electromagnetic or electrostatic inductions generated by the STATCOM station shall not exceed 100 micro-volts/m, under fair weather conditions, at any point outside the station fence. The Radio Interference Level (RIL) criteria shall be achieved at all frequencies within the range of 150 kHz to 300 MHz and with the STATCOM operation at any level up to and including rated value, the design shall provide correcting measures, should the specified design not being realized in the final installation.
- b) Measurements of actual RI at STATCOM Station shall be made by the TSP, at points along the above defined contour and at other critical points.
- c) RIV (Radio Interference voltage) measured at a phase to ground voltage (266 kV rms) in accordance to NEMA-107 shall not be more than 500 micro-volts for 400 kV system. For other system voltages, IEC/NEMA in the order of preference shall be applicable.

## C.6.5.2 Interference with Power Line carrier and open wire carrier system

The TSP shall take the necessary precautions in the form of noise suppression techniques and filtering devices to prevent harmful interferences from STATCOM Station to the power line carrier communication (PLCC) system operating on connected AC transmission network.

The frequency spectra to be protected are:

Gel

System	Frequency spectrum
Power Line carrier	30 kHz to 500 kHz
Open wire carrier	5 kHz to 30 kHz

### C.6.6 Audible Noise

The TSP shall limit the audible noise in various areas of the STATCOM Station buildings and containers to the following values.

Valve hall (Inside)	90 dBA
Mechanical equipment areas indoor (measured at 2 meter distance)	75 dBA
Mechanical equipment outdoor (Measured at 15 m distance)	75 dBA
Control Room Building*	60 dBA
At the limits of the STATCOM STATION perimeter fence	80 dBA

\*This is the background noise from the ventilation system in adjacent rooms, control cubicles etc. Printers, recorders may be switched off during the measurement.

## C.6.7 Loss Requirements

- **C.6.7.1** The TSP must guarantee the total losses of STATCOM Station, be less than 1% of the reactive power output individually at its inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the cumulative highest reactive power output of STATCOM Station at PCC with the worse combination of manufacturing tolerances. For the purpose of total loss measurements, it should be assumed that the ambient temperature is 20 °C, the PCC voltage is 1 per unit, and the slope setting is 1%. The STATCOM system may not operate under these conditions, but they provide a common base.
- C.6.7.2 The total losses shall include all components, as well as different parts or subsystems of the complete STATCOM Station such as coupling transformer, All VSC systems and components, MSC and MSR, Control and protection systems, including ancillary devices such as HMI, fault recorders, and SCADA, Auxiliary Power supply systems, cooling systems, Building ancillary services such as lighting, air conditioning, heating, and ventilation. It may be noted that for the redundant VSC valve levels and dual/redundant control and protection systems, the losses of redundant VSC valve levels and dual control and protection systems shall be considered during loss measurement.
- **C.6.7.3** For the dual or redundant systems design of STATCOM Station, such as dual pumps or redundant fans, dual systems losses are to be excluded, if the dual system is not in service during the normal operation of the STATCOM Station. However, dual systems should be included if they are required to be in service under the defined operating conditions. The same methodology shall be applied for HVAC (heating ventilation and air conditioning systems).

- **C.6.7.4** The TSP is required to prepare documentation for the detailed calculation of total losses based on measurement during Factory Acceptance Tests of major equipment and systems mentioned above as per relevant IS/IEC/IEEE standards and the same shall be preserved and to be submitted to CEA/CTU/GRID-INDIA, as per their requirement. Further for equipment/systems, whose loss measurement cannot be done during Factory Acceptance Test, the same can be measured at the site, and a combination of calculation and measurement shall be used to derive the total losses as specified above. During Loss measurement, all fans, and pumps; valve room and control room air-conditioning system shall be switched on. However, redundant fans, pumps and air-conditioners shall be kept off during loss measurement.
- **C.6.7.5** During the factory tests the losses for the following equipment shall be measured/ assessed as detailed below:

### **Coupling transformer:**

Losses shall be measured at factory/lab at the maximum rating, at power frequency as per relevant IEC/IS under below mentioned conditions:

- i. No load loss (Iron loss) at rated voltage and fundamental frequency.
- ii. Load loss (copper loss) at rating corresponding to maximum continuous current and at 75 °C.
- iii. Transformer cooling equipment's loss (Auxiliary loss) at rated voltage and fundamental frequency.

## **Reactors:**

The losses shall be measured at the factory/lab at the maximum rating at power frequency as per relevant IEC/IS.

## VSC Valves:

Converter losses comprise the losses in power electronic switches [insulated gate bipolar transistor (IGBT) or equivalent], made up of conduction and switching losses, and the losses in DC capacitors, resistors, and inductors used within the converter system. Refer IEEE-1052 for calculating VSC losses.

## Capacitor:

The capacitor losses shall be measured at the manufacturer's works at power frequency as well as calculated to obtain the losses in the complete bank on the basis of factory measurement.

## <u>Auxiliary System:</u>

Aux. power losses shall be calculated from the kW and efficiency of all motors (name plate rating) of the cooling system, air conditioning, ventilation etc. The higher of the total losses for the entire auxiliary systems occurring at full capacitive capacity MVAR

Col

or full Inductive MVAR as the case may be shall be considered for arriving at the total losses.

### Harmonic Filters, if any:

The losses shall be calculated at the maximum STATCOM Station loading at 400 kV and 50 Hz.

The calculations shall be on the basis of the tested results of the components.

### C.6.8 Selection of Insulation Levels

### C.6.8.1 Arresters:

Protective levels of arresters connected to the 400 kV AC Bus Bars of the STATCOM Station shall be coordinated with the insulation and surge arrester Characteristics of the 400 kV AC systems to which the STATCOM Station is to be connected. The specification and characteristics of the surge arresters installed in 400 kV AC system is given in the Substation specifications. The front of wave (FWWL), lightning impulse (LIWL) and switching impulse withstand levels (SIWL) shall be determined by the following margins:

- a) A SIWL at least 1.15 times the switching impulse protection level.
- b) A LIWL which is an IEC standard level corresponding to the SIWL and shall be at least 1.25 times the lightning impulse protection level.
- c) A FWWL which is at least 1.25 times the front of wave protection level.

In addition to the above minimum basic requirement, the various insulation level of 400 kV equipment shall be as below. The STATCOM Station equipment, coupling transformers etc. shall be co-ordinated accordingly.

Description	SIWL	LIWL
All equipment including Transformer Bushing and	1050 kVp	1425 kVp
winding		

### C.6.8.2 Valves

The requirement of insulation levels of the valves shall be as per the design requirement.

### C.6.8.3 Air clearances

The air clearances shall be determined by the TSP based on the required withstand levels for all waveforms in order to limit the probability of flashover within the STATCOM Station to a target value of one flashover in 15 years.

## C.6.8.4 Switchyard

The air clearances for switchyard equipment shall be equal to or greater than the minimum values as specified in IEC-60071. Altitude correction factor (if any) shall also be considered as per IEC.

## C.6.8.5 Leakage distances

The Creepage/leakage distance across insulation shall be determined by the TSP and shall be adequate to ensure that under conditions of heavy pollution, the probability of a flashover of an insulator does not exceed one in 15 years. However, the leakage distance for all AC insulators for outdoor installation shall not be less than 25 mm/kV of the maximum operating phase to earth rms voltage at the insulator. The leakage distance of equipment connected to 400 kV systems shall not be less than 10500 mm.

Specific creepage distance for outdoor bushings, insulator strings and long rod insulators shall be a minimum 31 mm/kV.

# C.6.9 STATCOM Station availability and reliability

The following definitions apply:

# C.6.9.1 Outage terms:

a) Outage

The stage in which equipment is unavailable for normal operation due to an event directly related to the equipment which results in a reduction in STATCOM Station capacity.

b) Scheduled Outage

An outage that can be scheduled at least one week in advance

c) Forced outage

The stage in which the equipment is unavailable for normal operation but is not in the scheduled outage stage and which results in a reduction in STATCOM Station capacity i.e. an outage which is not scheduled outage.

# C.6.9.2 Capacity terms

Maximum Continuous Capacity (Pm)

The maximum STATCOM Station capacity (MVAR) for which continuous operation under normal conditions is possible.

# C.6.9.3 Outage duration terms

Actual outage duration (AOD) The time elapsed in hours between the start and end of an outage.

# C.6.9.4 Time Categories

- a) The number of hours in the reporting period in a full year, the period year is 8760 hours. If the equipment is commissioned, part way through a year, the period hours will be proportionately less than 8760 hours.
- b) Total Outage hour (TOH)

The sum of all outage duration within the reporting period. TOH = AOD

### C.6.9.5 Availability and Reliability Terms

### **Unavailability:**

Unavailability is the duration for which the STATCOM Station is not available with a specified rating due to forced outages per year. If part of the station is unavailable, then the unavailability duration shall be counted proportionally. However, if STATCOM is out then its duration shall count as a fully unavailable STATCOM Station. However, If the STATCOM unit is out then the STATCOM Station unavailability shall be counted proportionally to STATCOM capacity. STATCOM Station Control system outage shall count as full STATCOM Station unavailability.

'OF' is the outage frequency which will be the number of forced outages per year.

The period basis for availability and reliability calculations shall be 12 months. The TSP shall ensure that the design will meet the specified guaranteed and design target value of availability and reliability.

Outage times for repair, maintenance and replacement of components shall be based on the premise that all items in the list of recommended spare parts are on hand, and that all maintenance schedules of recommended maintenance are adhered to. Reliability calculations shall be made and shall be presented as the expected frequency of unscheduled loss of STATCOM Station capacity. For simultaneous occurrence of events, for either of which a loss of capacity would result, the longer repair time shall be counted.

The facilities shall be assumed to be utilized 100% of the time at 100% load, regardless of the actual reactive power generated/absorbed by the STATCOM Station. Hence the availability and reliability assessment will be based on the capability of STATCOM Station to generate/absorb the rated reactive power regardless of whether, it is in service or not.

## C.6.9.6 Availability Requirement

The calculated availability of the system considered on an annual basis shall be equal to or exceed the following target values.

Minimum availability requirement of each complete STATCOM Station

Guaranteed for STATCOM Station - 98%

The outages of STATCOM Station capacity caused by the failure of equipment outside the scope of the TSP shall not be considered for the calculation of availability and reliability guarantee. However, such outages shall be restricted to

- 1) Complete loss to 400 kV supply (at PCC)
- 2) Human Error.

Circumstances causing curtailment of STATCOM Station capacity that will be included in reliability and availability assessment and which can lead to forced outages shall include but not be limited to the following:

- a) Failure of equipment
- b) Mal-operation of control and protection system
- c) Failure to start
- d) Reduction in capacity.

### C.6.9.7 <u>Reliability Requirement</u>

a) Reliability

In the assessment of reliability, the following events shall also be considered to constitute a STATCOM Station outage:

- i) A STATCOM Station shut down.
- ii) A reduction of STATCOM Station capacity due to an outage of any component of STATCOM Station

The calculated reliability of the complete STATCOM Station shall be equal to or exceed the following design target values.

The average outage frequency per year for each STATCOM Station shall not exceed the following values:

	Design target for STATCOM Station	Max acceptable Guaranteed value for STATCOM Station
Total Number of	3 x Nos. of STATCOM	5 x Nos. of STATCOM
Forced Outages	Station	Station

C.6.9.8 GUARANTEED FAILURE RATE OF Sub-modules. (Including all components and electronic). The maximum annual guaranteed failure rate of sub module (including all components and electronic) shall not exceed 1.0% per STATCOM. The failure rate shall not include failures directly attributable to operation and maintenance errors

## C.6.9.9 GUARANTEED VALUE OF FAILURE RATE OF AC POWER CAPACITOR

The maximum guaranteed annual capacitor failure rate shall not exceed 0.15% except for first unit failure. The capacitor shall be considered as failed if its Capacitance value varies more than  $\pm 5\%$  of the (actually measured) name plate value. Leakage of oil from the capacitor and the deformation of the capacitor unit shall be considered as a failure even if the capacitance value is within the tolerance limits.

## C.7 Design Principles

The objective for the design of the STATCOM Station shall be to achieve a high level of availability and reliability as specified. Special attention shall be given to designing the STATCOM Station to avoid forced outages. The TSP shall conduct thorough design reviews to ensure the minimum risk of such outages. The TSP shall give careful attention to related factors affecting STATCOM Station performance such as subsystem and system testing, protective relays co-ordination and proper setting of relays.

Except where greater reliability requirements are specified in these specifications, the design basis for STATCOM Station shall be such that no single contingency downstream from the medium voltage bus shall cause a total outage of the STATCOM Station. The following general criteria shall be followed for the design of the control system:

- a) Use of components similar to those whose reliability has already been proved in use.
- b) Use of good design practices, surge protection, filtering, and interference buffers to assure Immunity to sensitive components and circuits against damage and interference by induced voltages and currents in the external cabling and cubicle wiring.
- c) Use of fail-safe and self-checking design features.
- d) Use of component and equipment redundancy, by means of either duplication or triplication with automatic transfer facilities wherever necessary to meet the requirement of these specifications.
- e) Design which in the event of component failures, provides for transfer to a less complex operating mode.
- f) Provision of alarm, fault diagnosis and indication

## C.8 STATCOM Station Main Components

### C.8.1 STATCOM Unit

The main electrical data of the STATCOM Units are the following:

0	Rated voltage	20 kV Minimum
0	Rated frequency	50 Hz
0	Redundancy (Sub Module)	2 Nos. or 5% whichever is
higher

• Valve Cooling

Deionized/Demineralized water

In general, the STATCOM units shall equally share the load however under contingency conditions it should be possible to run the units with unequal load. Charging of the DC capacitors of Sub module during the initial start-up shall be achieved by means of Resistors and bypass breaker arrangement. The charging resistor for DC capacitor of the STATCOM Sub module should be designed for three charges per hour followed by the appropriate cooling time. Power for the gate level control shall be derived internally from Sub module. The offered STATCOM Units with their Control system shall be suitably located inside the STATCOM Station Building.

# C.8.1.1 STATCOM Valve

The valve shall be designed to meet the performance requirements described in this specification and as described below.

In order to ensure a modern low loss and reliable solution, the STATCOM valve assembly shall use the multi-module (including redundant sub-modules) approach.

The valves shall be designed to ensure satisfactory operation according to the overall performance requirements and include all necessary auxiliary equipment required for smooth and reliable operation. The valves shall be indoor air-insulated and cooled by de-mineralized water. The valves shall be of modular design and have removable Sub-Module for ease of maintenance. The valves shall be mounted to allow easy access for visual inspection, routine maintenance and replacement, and facilities shall be provided to enable easy access.

# C.8.1.2 Semiconductor Switches

The electronic switches should be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The valve shall be designed with individual semiconductor switches applied in a conservative manner with regard to their basic design parameters. The semiconductor switch shall meet the requirements of IEC 60747 except where otherwise specified herein.

The semiconductor switches shall be designed to withstand all stresses expected under steady state, transient and temporary overvoltage conditions. Basic semiconductor devices shall be of the Press Pack type, or packaged to provide short circuit means in case of device failure such that the STATCOM can continue to operate without interruption. The adjacent sub-module should be protected against the possible explosion of the semiconductor switch.

Under the restriction of redundancy (minimum two or 5% whichever is higher) i.e. the failure of any semiconductor switch or sub module or monitoring device etc shall not

prevent continued system operation. In the event of any of the above failures, the STATCOM shall annunciate and identify the specific location of the failed device and continue operation until such time as repairs can be scheduled. During such time the next shutdown can be availed, the STATCOM must continue to operate without downgrading STATCOM capability.

The switching device's design should include an appropriate allowance for unequal voltage distribution across individual devices in the valve due to the stray capacitor and component tolerances.

The switching device's design should include an appropriate allowance for unequal voltage distribution across individual devices in the valve due to the stray capacitor and component tolerances.

Each switching device should be able to operate within component ratings, generally with at least two failed sub-module or levels. The number of possible failed sub-modules or levels as specified shall be consistent with the availability requirements of the STATCOM system.

### C.8.1.3 Sub module for Multi-Module Topology

The key element of the multi-module topology shall be the sub-module. By increasing the number of these sub-modules, it is possible to obtain high voltage with extremely low harmonic distortion and very low dv/dt using a low switching frequency that reduces power losses. Sub-module shall have the following characteristics:

VSC sub-modules should be protected against over voltages with appropriate strategies. A description of the failure mode of the switching device and the strategies used for failure should be provided.

In each fiber optic cable (having multiple fiber cores) used for control/communication purposes of sub-module at least two fiber cores shall remain available as spare for future use.

**C.8.1.4** The STATCOM sub-module has DC capacitors that require a charge to allow full functionality and performance. At the startup of the STATCOM Station, the capacitors are discharged. During the energization sequence of the STATCOM, Capacitors are charged from the main power grid via resistor operated in series to the main connection circuits. Once the desired charging voltages are reached, the charging resistor circuit is bypassed using a bypass switch/breaker.

The Type and Rating of the charging resistor and associated bypass switch shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station and shall conform to the relevant Standard.

# C.8.1.5 STATCOM Valve Cooling System

A closed-loop recirculating system shall be provided with full heat rejection capacity with redundancy for pumps, heat exchangers, and fans, appropriate to the STATCOM Station availability requirements. The cooling system should be able to maintain full capacity at maximum ambient temperature and maximum STATCOM reactive power output. The cooling system should be able to operate at the lowest ambient temperature and zero output specified. The Valve cooling system shall have black start capability and necessary UPS/UMD shall be provided separately for each STATCOM Unit.

The valve cooling system shall be designed to meet the performance requirements described in this specification and as described below.

- a) Each STATCOM Unit shall have its own de-ionized water valve cooling system with redundant pumps.
- b) For cooling the STATCOM valves, a deionized re-circulating (closed loop) water system shall be used.
- c) Water to air heat exchanger shall be used for cooling of this de-ionized water. Water to water heat exchanger shall not be employed.
- d) System shall be designed such that no shut down of STATCOM be resorted to for making up the deionized water in the system. The make-up water should comply with the recommended pH and purity.
- e) Cooling water shall have a constant flow rate irrespective of loading. The flow rate shall be decided on the basis of extreme operating conditions.
- f) The control system for the cooling system shall be redundant type including the provision of redundant control supply and main power supply. However, in place of the redundant control system for the cooling system, suitable alternate mode is also acceptable meeting the requirement of fulfilling cooling system operation even if failure of cooling control system.
- g) 2x100% pumps with one as standby shall be provided for the primary. Should a pump failure occur, the second pump should automatically switch in without shutting down the STATCOM. An alarm shall be displayed at the control panel for the failure of the first pump and standby pump in operation.
- h) Each cooling system shall be provided with an independent/dedicated UMD supply however common battery for both UMD power supply may be accepted. An UMD system will provide an extended capability of the STATCOM Station to deliver reactive power without any interruption, adding a buffer against the system faults or during events such as delayed voltage recovery or Transient over Voltage (TOV).
- i) The secondary cooling system shall be a redundant type such that it shall be possible to take out 10% (minimum one number) of the cooler module (fan unit) of secondary cooling system without affecting the rated performance of STATCOM).



- j) Normally no make-up water shall be required however in case of expansion vessel level going low; the same shall be replenished automatically by means the of make-up water tank and make up water pump to be supplied with the system.
- k) TSP shall provide a water treatment plant of sufficient capacity. The purification (treatment) system shall be designed to maintain conductivity below 1 micro Siemens. A resistivity cell in the outgoing water from the deionizer should detect the depletion of ionized material. Filters and deionizers shall be designed to allow replacement during operation. Normal replacement shall not be required more than once every year.
- 1) Filters and deionizer/deoxidizer material shall be designed to allow replacement within minutes without shutdown of the cooling unit. (Normal replacement should not be required more than once/year).
- m) Primary cooling system shall monitor its own operation and condition of cooling water.
- n) The protection system of the cooling cycle shall have minimum following alarms:
  - i) Depleted deionizing cell
  - ii) Low water resistivity
  - iii) High water temperature
  - iv) Primary pump stopped
  - v) Fan stopped
  - vi) Primary pump or fan interlock circuits faulty
  - vii) Primary cycle (Make-up water) tank level low
  - viii) Failure of control supply.
  - ix) UMD/UPS fault.
- Following shutdown alarms / TRIP shall be provided with cooling system protection. Excessive low water resistivity Excessive high water temperature, complete loss of auxiliary supply to primary pumps, low flow, Low Pressure etc.
- p) The dissipative components of the converter are cooled with deionized water.
- q) The power losses are transferred to the external ambient by means of a deionized water /air heat exchanger. All the piping and other components Complete instrumentation set have been mounted on board in order to check the status of the cooling system:
  - Conductivity gauge system.
  - Flow meter equipped with two set points (alarm and trip).
  - Pressure meter
  - Two thermometers for the inlet and two thermometers for the outlet (two set points for alarm and trip)
  - Thermostat
- r) The status of the cooling system is monitored by means of the control system.

s) Replacement of certain cooling equipment (e.g. pumps, fans, cooler unit etc.), if defective, should be possible while the cooling system still operates.

# C.8.1.6 Tests on STATCOM Unit Valve

All applicable tests i.e. Operational Type Tests, Dielectric Type Tests and Test for valve insensitivity to electromagnetic disturbance and Production tests shall be done as per the latest edition of IEC 62927.

### C.8.2 STATCOM Station Control equipment and operator interface

### C.8.2.1 Control Equipment

The control systems should achieve the functional objectives given in 6.2. The accuracy of voltage should be within  $\pm$  1% of the reference voltage. The accuracy of the gradient and linearity of the slope delivered by the STATCOM Station should be defined in relation to the current deviation from the theoretical slope defined in 3.1. The maximum deviation should be less than  $\pm$  5% of the nominal current.

The control system design shall be based on a single fail criterion i.e. failure of any one component in the system should not result into outage of the complete system. As a minimum, a dual (hot standby) digital programmable controller shall be supplied for each STATCOM unit/branch and STATCOM Station to control the STATCOM, MSRs and MSCs completely including the functions listed as mentioned below:

- a. The controller shall have diagnostic and self-checking features for both itself and for valves, gate firing and drive circuits, interface hardware, and software. This is required to reduce outage times and to facilitate fault finding.
- b. The Controller shall be reprogrammable. The Owner shall have at least the following possibility for changing the following reference and limit values via HMI:
- c. Closed loop Controllers:

The STATCOM Station controller shall have the means to modify the reference set points. This refers to the functionality that will allow all the control parameters to be adjustable within selectable limits and is inclusive of, but not limited to following:

- o Voltage controller
- o Q controller (reactive power controller).
- o Supplementary VSC current controller.
- o Other supplementary control functions.
- d. Sequence Controllers:

The sequence control and open-loop controllers shall include the control of all switchgears and associated control gear and external devices.

e. The Controller shall have at least 10% excess I/O capacity to allow future program upgrades to satisfy the changing requirements of the power systems or future extensions

Col

to the STATCOM Stations. As a minimum, a control of up to 4 future HV shunt devices (reactors or capacitors) shall be included in the offer.

- f. All control signals available for remote control must also be available locally so as to ensure that a local operator can operate the STATCOM Station if the communications link between STATCOM Station and remote control centers is lost.
- g. A changeover switch shall be provided for control of the selection of local or remote control.
- h. TSP shall provide the equipment necessary for the purpose of control, protection and interlocking of all equipment within the scope of supply.
- i. TSP shall be responsible for the design and coordination of control, protection and interlocking system and switching sequences within the STATCOM Station. All necessary interfacing required between AC switchyard equipment and STATCOM Station for the above purpose shall also be included in the scope of TSP.
- j. It is proposed to control STATCOM through a Supervisory Control and Monitoring System (SCADA). All the data shall be acquired through suitable means from the field and various components and control is executed through the redundant HMI. The local STATCOM Station Control system shall consist of a redundant STATCOM Station controller, redundant HMI workstation, Gateway, STATCOM Station Control System Engineering cum Disturbance Recorder (DR), PC which can also be used as standby HMI workstations in case of emergency with associated peripheral equipment such as color laser log Printers, Color laser jet fault record printer, GPS System, Inverter / UPS etc. all interconnected via redundant Ethernet based Station LAN Network. Each workstations and PCs at STATCOM Station shall have at least 19" LED display.
- k. In addition to the above, HMI workstation (identical to HMI Workstation provided in the STATCOM Station control room) should also be provided in the control room of the main 400 kV substation. This HMI workstation should be powered from an independent UPS system adequate enough to provide power to the HMI workstation for a minimum two hours in case of auxiliary power failure.
- 1. The control equipment shall satisfy the reliability and availability requirements specified in this specification
- m. All necessary measures shall be taken to ensure satisfactory operation in the presence of harmonic current and voltage, noise and radio interference signals. The equipment shall be designed to operate in the environmental conditions specified in the specification.
- n. There should be a provision for independent operation of MSC/MSR after delinking it with STATCOM controls when STATCOM is out of service due to any reason.
- o. The threshold values for switching the MSC/MSR on/off shall be configurable in all modes of operation.

# C.8.2.2 Operator Interface

- a) Each STATCOM Station shall have a SCADA consisting of an HMI which shall provide a Centralized (local) operator control of the STATCOM Station functions. All human interface operations necessary for the control and monitoring of the STATCOM shall be provided at this point.
- b) Any abnormal condition requiring operator action or intervention or maintenance on any of the STATCOM Station subsystems shall be annunciated at the STATCOM Station control room and the Substation control room.
- c) The local HMI shall include the following diagrams as different screens in the display system:
- i. Complete STATCOM Units and STATCOM Station single line diagram including EHV and MV buses
- ii. AC Auxiliary supply and distribution
- iii. DC Auxiliary supply and distribution
- iv. STATCOM Valve cooling systems
- v. Interlocking system.
- d) These diagrams shall indicate status, alarms, voltages, currents, etc. The HMI shall provide complete diagnostics on alarm and trip indications as required and discussed in this specification, including SER information.
- e) A facility shall be provided whereby the local HMI features and functions shall be accessible from remote. A remote user shall be able to view screens and change STATCOM Station parameter settings.
- f) As Boisar-II and Navsari(New)substations where STATCOM Station shall be installed, will be equipped with Sub-station Automation System (SAS) conforming to IEC 61850, it is required that STATCOM Station control and monitoring shall be integrated with SAS already provided at the main 400 kV Sub-station by the TSP. It is proposed to connect STATCOM Station's SCADA with SAS through a Gateway and the database, configuration etc of the main substation SAS shall be upgraded to incorporate STATCOM Station events, alarms, Controls (both switchgear and control functions of STATCOM Station like the setting of parameters etc.) so that STATCOM Station can be effectively monitored and controlled from main substation SAS and shall be monitored from Load Dispatch Center (WRLDC).

# C.8.3 STATCOM Station Protection System

# C.8.3.1 Protection system Design

a) To ensure that faults are cleared within stability critical clearing time, to minimize damage to the plant, and to avoid voltage collapse, loss of load, or load limitations,

TSP shall provide a high speed main protection scheme. An independent (having a separate measurement system) back-up protection scheme shall be provided in the event of the main protection scheme failing or taken out for maintenance.

- b) The STATCOM Station shall be completely self-protecting (unit protection). STATCOM Station shall be protected from damage for all conditions of overcurrent, overvoltage, excessive reactive power loading, unbalance due to loss of capacitor elements, phase-to-phase and phase-to-ground faults, three phase faults, loss of cooling, semiconductor valve or control malfunction, faults (STATCOM, MV system) in individual primary connected components of the STATCOM, HV system faults, etc. The STATCOM Station shall withstand the maximum fault current for a period of the maximum fault clearing time as specified, considering second contingency cases due to the previously mentioned conditions.
- c) All protection equipment and systems should be properly co-ordinated to prevent incorrect operations of the protection equipment or systems during normal STATCOM Station operation, including anticipated abnormal conditions on the transmission system, as specified. Fail-safe principles should be applied throughout.
- **C.8.3.2** The basic principle and order of precedence for the control and protection shall be, to take care of the following:
  - Correctly identify a fault, problem or error condition,
  - Only if necessary, isolate the minimum number of components, subsystems whenever possible,
  - Utilize degraded modes to the maximum extent possible either directly (no interruption of the STATCOM Station operation) or indirectly (by tripping the STATCOM Station momentarily in order to isolate the branch and reenergization of the STATCOM Station).
  - Trip STATCOM Station and Block.
    - a) Failure of the STATCOM Station Interface (SCADA interface) shall not result in a Protection trip of the STATCOM Station. A fail-safe philosophy shall be implemented to allow the STATCOM Station to operate safely and independently from the STATCOM Station Interface (SCADA interface).
    - b) Protection equipment shall be designed and applied to provide maximum discrimination between faulty and healthy circuits.
    - c) The Protection shall be sufficiently sensitive to cater to the full range from maximum to minimum fault level conditions. The Protection shall also be suitable for a system fault level equal to the maximum short circuit capacity of the substation. All current transformer designs shall be based on these fault levels.

Gel

- d) All required protective, control devices, etc including auxiliary instrument transformers and panels, relays, cabling, wiring, indication, and all other associated plant and material necessary for the effective operation of the protection systems shall be supplied and installed by TSP.
- e) The protective relays shall be microprocessor based. Relays shall have approved characteristics and be mounted in dust and moisture-proof cases. The protective relays shall be provided with visual indications for starting, tripping and failure of the protective function. The LEDs shall be reset without opening the covers. The protection relays shall also be equipped with HMI facilities suitable for manual parameter settings and viewing of the settings. Relays with provision for manual operation from outside the case, other than for resetting, are not acceptable. Relay settings shall be visible and readable without having to remove the relay cover. Relays shall be of approved construction and shall be arranged so that adjustments, testing and replacement can be effected with the minimum of time and labor. Auxiliary Relays of the hand reset type, if provided shall be capable of being reset without opening the case. Electrically reset tripping relays shall be provided as necessitated by the system of control, such as for those circuits subject to remote supervisory control.
- f) Relay contacts shall be suitable for making and breaking the maximum currents which, they may be required to control in normal service but where contacts of the protective relays are unable to deal directly with the tripping currents, approved Auxiliary tripping relays shall be provided. In such cases, the number of auxiliary tripping relays operating in tandem shall be kept to a minimum in order to achieve fast and reliable fault clearance times. Separate contacts shall be provided for alarm and tripping functions. Relay contacts shall make firmly without bounce and the whole of the relay mechanisms shall be as far as possible unaffected by vibration or external magnetic fields
- g) Steps shall be taken to protect the circuitry from externally impressed transient voltages which could reach the circuitry via connections to instrument transformers or the station battery. The routing of cables should be such as to limit interference to a minimum. Any auxiliary supplies necessary to power solid-state circuits shall be derived from the main station battery and not from batteries internal to the protection.

# h) Relay communication

The Relays shall also have a communication port provided on the front of the relay for configuration and parameter settings as well as downloading of data. A direct port suitable for remote communication shall also be provided at the back of the Relay. This port shall conform to IEC - 61850.

# i) Tripping schemes

• Tripping of MV circuit breakers shall be done by means of two-separated trip signals.



- Duplicate high security tripping circuits for MV Circuit Breaker shall comprise two independent high speed (less than 10 ms) high burden (greater than 150 W) tripping relays for each circuit, each with its own independent DC supply. The trip circuits for all circuit breakers need to be equipped with a "lockout" function and it shall be possible for this to be reset manually and remotely by the operator.
- j) The protection for the power system is based on a normal switching state and an occurrence of a single fault. This means that faults resulting from maintenance as well as the simultaneous occurrence of two or more faults are not taken into account.
- k) The input circuits of the digital protections shall be monitored by means of a plausibility check. If any incorrect information is found, the protection function shall be blocked by the protection system. All protection relays shall have facilities for monitoring trip circuits. Detection of an interruption in the case of a switched on circuit breaker shall be signaled.
- 1) **Test facilities** 
  - It shall be possible to test the protective device during operation without causing trips. Links shall be provided for the isolation of individual protection trip circuits and the common protection trip circuit to each circuit breaker trip coil.
  - Separate test facilities shall be provided for each current and voltage transformer secondary circuit so as to give access for testing of protection relays and associated circuits. The Test facility to be supplied shall have two selectable positions, a Service and a Test position. In the service Position, the test switch connects CTs and VTs signals to the Relays and trip commands to the circuit breaker trip coils. In the Test Position, the test switch applies a short-circuit to the Current Transformer (CT) secondary windings and open circuits the VT secondary cores and allow injection of secondary current and voltage into the relay. At the same time, the Trip commands to the Circuit Breaker Trip Coils are isolated. The test switch supplied shall be to the Approval of the Owner.
- m) The protection of the electrical system shall be designed and installed in such a way that the failed equipment is disconnected selectively and automatically. All equipment have to remain operative during transient phenomena, which may arise during switching or other disturbances to the system.

# n) Auxiliary DC Supplies

• The protection concept has to be designed in a way so that back-up protection is provided at all times. All protection relays shall be configured in a way that failure of one Auxiliary DC system will not affect the relay. If all DC supplies to the controllers are lost, the STATCOM Station breaker must be tripped via the protection panel.

Gel

# o) Electromagnetic Compatibility

- Electronic Relays and other electronic devices and the ancillary circuits connected to them, such as power supplies, current and voltage transformer secondaries, status or tripping or alarm circuits shall be designed to ensure that they are compatible for use in the hostile electrical environment found in an MV or HV substation.
- Adequate steps by means of suitable design, shall be taken to prevent Electromagnetic Interference (EMI), (generated by sources such as circuit breakers, disconnectors, lightning, radio or radar emissions, switching contactors in DC circuits etc) or Electrostatic Discharges (ESD) from affecting relay performance or causing damage to components.
- All relays offered shall therefore have been type-tested to meet the current requirements of IEC Standards with respect to High Frequency disturbance, Fast Transients, Electrostatic Discharge, Radio Frequency Interference testing etc.
- p) List of Protection functions for STATCOM Station

# **Coupling Transformer Protection:**

- i) Biased Differential protection (87T)
- ii) REF protection (64T)
- iii) Overcurrent protection (50, 51)
- iv) Ground Overcurrent (51N)
- v) Over flux protection (HV and MV)
- vi) Transformer mechanical trips

# **STATCOM MV Bus Protection:**

- i) Bus Differential protection (87)
- ii) Ground over current protection (51N), used with a neutral Grounding Transformer
- iii) Under / Over Voltage (59 Ph-Ph) protection
- iv) Over voltage (Open Delta) protection

# **STATCOM Branch Protection:**

- i) Differential protection (87)
- ii) Overload protection (49)
- iii) Overcurrent protection inside delta (50, 51)
- iv) Negative phase sequence protection (46)
- v) STATCOM branch overcurrent protection (50, 51, 50N, 51N)

# **MSR Branch Protection:**

i) Differential protection (87)

- ii) Ground over current protection (51N)
- iii) Reactor branch unbalance protection (Negative Phase Sequence)
- iv) Thermal Overload protection

# **MSC Branch Protection:**

- i) Ground over current protection (51N)
- ii) Capacitor Overvoltage (Using current signal) protection.
- iii) Capacitor unbalance protection (60C)
- iv) Over current protection (50, 51)
- The protection functions listed above are the minimum set of function to be provided, any additional protection required to fulfill the requirement of the protection system shall also be provided.
- Further protection functions of individual branch (STATCOM, MSC, MSR) shall trip the respective branch MV CB (Circuit Breaker).
- All CBs shall be provided with individual Breaker Failure protection relays. Breaker Failure relay shall have the logic based on the current signal or CB close open status.
- Any fault on MV bus will trip the 400 kV breaker. However, any branch fault shall be cleared by the respective MV branch Circuit Breaker.
- Protection System for the STATCOM valve portion of the STATCOM station shall be provided in the redundant controllers to isolate the STACOM valve during internal overload/overvoltage, ground fault etc.

#### C.8.4 STATCOM Station Fault Recording System

An integrated Transient Fault Recording (TFR) System shall be supplied, installed and commissioned. This shall include trigger level settings for analog signal, etc subject to review and comment. Disturbance and event recording facilities are required for local monitoring of the STATCOM following a disturbance on the power system or the STATCOM System. The following inputs are required:

- All analog signals (output signals) including 3-ph & sequence values of voltage, current
- All digital signals (control outputs, status indications, commands, alarms, and trip indications). Internal STATCOM Station control signals/variables to be selectable.
- The accuracy of the TFR for event inputs shall be at least 100  $\mu$ s (sampling rate of minimum 10 kHz).
- The TFR shall have provision for remote access and retrieval of recorded information onto a PC. For this purpose, a communication link to the substation LAN shall be implemented.
- The remote software application for data retrieval shall be included.
- TFR file shall be able to open in open software



# C.8.5 Mechanically Switched Reactor (MSR)

MSR is a fixed source of inductive reactive power connected in shunt to the MV bus of STATCOM Station and switched by means of a circuit breaker (with a control switching device) based on the command from the STATCOM Station control system. The rated capability of MSRs shall be at 400 kV (Referred to as "Point of Common Coupling" or PCC) and in the steady state frequency range of 48.5 Hz-50.5 Hz. However, The MSR Components shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The individual components of MSR shall be able to withstand the onerous conditions imposed by system overvoltage and harmonics. The MSR consists of 3-ph Air Core Reactor, 3-ph MV Circuit breaker (SF6/Vacuum type), associated current transformer, 3-ph Disconnector and associated safety grounding switch. The MSR area shall be fenced and a castle key interlock with safety grounding switch shall be provided for human safety.

Specifications for individual components like Air core reactors etc are provided in the subsequent clause.

# C.8.6 Mechanically switched capacitor (MSC)

MSC is a switched 3-phase capacitor bank connected in shunt to the MV bus of STATCOM station and switched automatically by means of a circuit breaker (with control switching device) based on the command from STATCOM Station control system. The rated capability of MSCs shall be at 400 kV (Referred to as "Point of Common Coupling" or PCC) and in the steady state frequency range of 48.5 Hz-50.5 Hz. However, TSP will ensure the corresponding values at PCC (400 kV) for possible operating condition measured at PCC. The MSC Components shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The individual components of MSC shall be able to withstand the onerous conditions imposed by system overvoltages and harmonics. The MSC consists of 3-ph AC power capacitor bank, a current limiting air core reactor as required, 3-ph MV Circuit breaker (SF6/Vacuum type), associated current transformer, 3-ph Disconnector and associated safety grounding switch. The MSC area shall be fenced and a castle key interlock with safety grounding switch shall be provided for human safety. Specifications for individual components like Capacitors, Air core reactors etc are provided in the subsequent clauses.

# C.8.7 Air Core Reactors

a) Reactors shall be air core, dry type, be suitable for outdoor installation and there shall be no tapping on the reactors. The insulation level shall be adequate and TSP has to ensure proper insulation coordination.

- b) The insulation of the reactor shall be class F and hot spot temperature rise shall not exceed 105 °C above ambient temperature. Winding temperature rise shall not exceed 80 °C above ambient temperature.
- c) The reactor shall be designed to withstand thermal dynamic shocks and mechanical shocks while in service and during erection.
- d) The reactor shall fully conform to the relevant IEC standard.
- e) The reactor shall be designed to withstand overloading due to over voltage as specified and shall also be subjected to excitation by harmonics; the reactor must be able to withstand such events without deterioration in normal life.
- f) The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.
- g) Tests on Reactors: The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.

# C.8.8 AC POWER CAPACITORS

### i) General

- a) The capacitor banks shall comprise capacitor units, discharge devices, protection equipment, series reactor as required, earthing switches, suitably connected in series and parallel, mounted at ground level with protected fencing all around. The number, arrangement and connection of capacitor banks shall be designed to suit the requirement of the compensator as a whole. If convenient, the capacitor banks may be used in conjunction with reactors. In this event, the rating of the capacitor shall be adequate to cope up with the harmonic loading. The frequency variations shall also be considered. To limit the peak inrush current for switching in the capacitors, current limiting reactors with parallel connected damping resistors, if required shall be connected in series with shunt capacitor banks.
- b) The capacitors shall be provided with internal-type fuses. Alternatively, the fuseless capacitor is also acceptable.
- c) Fuses shall not melt nor shall deteriorate when subjected to the inrush current during the life of the capacitor bank.
- d) With the capacitor charged to a peak voltage, the fuses associated with the healthy elements shall not melt when carrying the discharge current resulting from a breakdown of an element or from an external short circuit.
- e) Fuses shall be capable of disconnecting a faulty element over a range of voltage across the unit terminals from 0.9 Un to 2.0 Un. In addition, if all the elements in the same row of an internally fused capacitor were to fail as a result of a cascading action, the last fuse

element to melt shall be capable of successful disconnection with a voltage of not less than 1.5 times.

RFP for Selection of Bidder as Transmission Service Provider

- f) After fuse operation the fuse assembly shall be able to withstand continuously at least 1.5 times the rated unit voltage Un across the gap for 10 Seconds.
- g) Fuses shall preferably be of the current limiting type but fuse system shall in any event be designed to ensure that energy released into a faulty capacitor unit is less than the valve that will cause rupture or bursting of the container.
- h) The capacitor units shall be the outdoor type. The container of the capacitor shall be of stainless steel.
- i) Each capacitor unit shall be readily accessible and replaceable without disturbing any other unit. The supporting frames shall be designed to provide adequate ventilation to the units.
- j) The dielectric fluid used in the capacitor unit shall be environmentally safe and biodegradable, non-toxic. Polychlorinated biphenyle (PCB) type dielectric or any of its derivatives shall not be acceptable.

# ii) Construction and Design Requirement

- a) The capacitors shall conform to IEC-60871. The capacitors shall be provided with internally mounted discharge resisters with characteristics in accordance with IEC-60871.
- b) The current limiting reactors (as required) shall be dry type and connected in series with the capacitor bank. Suitable lifting lugs shall be provided.
- c) The capacitor enclosure shall have sufficient strength to withstand without damage or loss of life, mechanical load, both in operation and during erection. The loads shall include electromagnetic forces including those during faults external or internal to the capacitor bank, wind loading, forces due to expansion and contraction caused by ambient temperature and load variation, and seismic effects all as specified.
- d) The capacitor units shall be interchangeable in order to reduce the spare requirements and simplify maintenance procedures.
- e) The capacitor stack shall be vibration free. The stack shall have a fixed potential, that is connected to one electrical point in the bank. The stack shall be of galvanized structural steel.
- f) The capacitor racks shall be supplied complete with all capacitor units, insulators, and connections and shall be equipped with lifting lugs/eyes to facilitate assembly into the stacks. The racks shall be constructed of galvanized structural steel. No drilling of galvanized steel shall be allowed. Each rack shall be labeled with the weight of the fully equipped racks, the phase, and the bank of which it forms a part. The maximum and minimum capacitor unit capacitance which may be substituted into the racks as spares shall be suitably identified. Suitable warning labels shall be affixed.

Gel

- g) The capacitor shall be specially designed to be suitable for intermittent duty.
- h) The capacitors should comply with the overload capacity as per NEMA Standard.
- i) The capacitor elements shall be vacuum dried inside the case prior to impregnation with dielectric fluid. After impregnation, the capacitor unit shall be sealed immediately upon removal of the impregnated reservoir.
- The discharge resister shall discharge the unit from peak operating voltage to less than 75 Volts within 10 minutes.
- k) The capacitor case shall be made from type 409 stainless steel or equivalent stainless steel with all joints welded and tested for leaks.
- 1) All racks and bus insulators as well as the insulators used to insulate each stack of capacitor from ground level shall be pincap or post type. The minimum voltage rating shall be 15 kV and low frequency wet withstand voltage of all insulators used to insulate within or between the capacitor rack of a stack shall not be less than three times the actual voltage stress across the insulators. The insulator shall be outdoor type manufactured from wet porcelain. The insulators shall be bolted to the top members of the frame to support electric-grade aluminum buses.
- m) The size and groupings of the individual capacitor units shall be such that a single blown fuse will not cause the voltage across the parallel group to rise by more than 10%.
- n) The redundancy to be provided, shall be as per the requirement specified regarding reliability and availability in the clause mentioned elsewhere.

#### iii) Capacitor Unit Failure Detection

The stages of capacitor units or element failure detection shall be provided as below:

- a) A three-step unbalanced current protection shall be provided in each capacitor bank to initially generate an alarm when the unbalance limit is reached and finally to trip the bank in case of the limit is exceeded.
- b) The first stage shall generate an alarm and the capacitor unit shall continue in service. It may be assumed that the bank shall be disconnected for maintenance within 2 weeks.
- c) The second stage shall generate a separate alarm and a delayed trip signal which will disconnect the bank after two hours.
- d) The third stage shall cause immediate disconnection of the Capacitor Bank.

#### iv) Tests on Capacitors

All the tests on capacitor units shall be in accordance with the latest issue of IEC 60871.

#### C.8.9 Coupling Transformer

The TSP shall provide single phase coupling transformers to operate as 3- phase bank with one unit as a common spare for stepping down the voltage from 400 kV system to

Col

a suitable medium voltage value as required. Common spare transformer unit shall be provided with necessary auxiliary arrangements for replacing any one of the faulty phase units without physically shifting the transformer. The Medium Voltage side of the coupling transformer to couple with the STATCOM shall not be less than 20 kV to ensure optimum power transformation.

The Coupling Transformer shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The transformer should be designed and rated to carry complete capacitive and inductive reactive loading as specified for STATCOM Station including that of mechanically switched capacitors and Reactors etc.), as well as harmonic currents associated with the most onerous operating conditions of STATCOM Station, without loss of life.

The coupling transformer shall be designed in accordance with the most up-to-date experience in STATCOM application and shall incorporate the latest improvements of design currently employed in the industry. The Comprehensive design review of the Coupling Transformer of STATCOM Station shall be carried out by the TSP.

### C.8.9.1 General Requirements

The coupling transformer shall be designed electrically and mechanically for operating conditions peculiar to STATCOM Station operation, which shall include, but not be limited to the following:

- a) Electrical insulation problems resulting from the transformer being subjected to voltages of distorted sinusoidal wave shape because of saturation, harmonics, trapped charges in capacitors etc.
- b) The cumulative effect of electro-dynamic forces produced during valve commutation or other short circuit conditions imposed by valve design limitation and valve group operation.
- c) Harmonic currents due to STATCOM operation, with reference to additional stray losses resulting from these harmonic currents.
- d) No generation of uncharacteristic harmonics by the transformers.
- e) Stresses due to normal control operation and other onerous operations such as blocking and de-blocking.
- f) Stress due to the fast response requirement of STATCOM for loading from 100% inductive to 100% capacitive and vice-versa.
- g) Overvoltage stresses for which STATCOM shall be designed as per specification would apply to the transformer also.
- h) All other stresses for which STATCOM Station shall be designed as per specification would apply to the transformer also.
- *i)* The transformer and all its accessories like Bushings, CTs etc shall be designed to withstand without damage, the thermal and mechanical effects of any external short

Gel

circuit to earth and of a short circuit across the terminals of any winding for a period of 3 seconds. The short circuit level of the 400 kV system to which the transformer shall be connected, will be as per the maximum short circuit level of the main substation. Short Circuit level of the Coupling Transformer shall be as per the Short Circuit level of the respective Substation. Short circuit level for HV bushing shall be 63 kA for 1 Sec.

- j) The transformer shall be capable of being loaded in accordance with IEC 60076 or the overload conditions as specified whichever is the worst. There shall be no limitation imposed by bushings during its terminal fault.
- k) The transformer shall be capable of withstanding the mechanical stresses caused by symmetrical or asymmetrical faults on any winding.
- I) The transformer should be designed to carry a certain level of direct current consistent with the STATCOM design. To ensure minimum harmonics generation, the saturation flux density of the transformer should be higher than the maximum flux density reached over the full steady state (continuous operating) range; this margin shall be at least 10%. This maximum flux density (over the full steady-state range) is obtained at the highest secondary voltage during any reactive power generation, highest reference voltage, minimum slope, and minimum continuous frequency. The flux density at the highest secondary voltage shall lie in the linear portion of the BH curve of the core. Any harmonic generated by the transformer should be considered for the design of the STATCOM.
- m) All protection class Current Transformers in the coupling transformer shall be of PX/PS type. Other details of these Current Transformers shall be as per protection/metering requirements and shall be decided during detailed engineering. However, the parameters of the Winding Temprature Indicator (WTI) of Current Transformer for each winding shall be as per the Coupling Transformer manufacturer.
- n) Transformers shall be capable of operating under natural cooled conditions up to the specified load. The forced cooling equipment shall come into operation by pre-set contacts of winding temperature indicator and the transformer shall operate as a forced cooling unit initially as Oil Natural Air Forced (ONAF) up to a specified load and then as Oil Forced Air Forced (OFAF). Cooling shall be so designed that during total failure of power supply to cooling fans and oil pumps, the transformer shall be able to operate at full load for at least ten (10) minutes without the calculated winding hot spot temperature exceeding 140 degree Celcius. Transformers fitted with two coolers, each capable of dissipating 50 percent of the heat due to losses at the continuous maximum rating, shall be capable of operating for 20 minutes in the event of failure of the oil circulating pump or blowers associated with one cooler without the calculated winding hot spot temperature exceeding 140 degree Celsius at continuous maximum rating.
- o) The transformer shall be free from any electrostatic charging tendency (ECT) under all operating conditions when all oil circulation systems are in operation. In general, the oil flow speed shall not exceed 1.0 m/sec within winding in the oil flow system of the

Gel

transformers. The manufacturer shall ensure that there is no electrostatic charging tendency in the design.

The reenfieuri and neters of the rights former shall be as below	The	Technical	Parameters	of the	Transformer	shall	be as below
--	-----	-----------	------------	--------	-------------	-------	-------------

Sl. No.	Description	Unit	Technical Parameters
1.1	Rated Capacity		
	HV	MVA	To meet the performance
	MV	MVA	requirement and ratings of
			STATCOM. The transformer shal
			be suitable for 100% reactive
			loading
1.2	Voltage ratio (Line to		400 / XX (*)
	Line)		
1.3	Single / Three Phase Design		Single phase
1.4	Applicable Standard		IEC 60076
1.5	Rated Frequency	Hz	50
1.6	Cooling and Percentage		ONAN/ONAF/(OFAF or
	Rating at different		ODAF): 60% / 80%/100%
	coolings		OR
			ONAN/ONAF1/ONAF2: 60%
			/80%/100%
			OR
			OFAF (with 5 x 25% unit cooler i
			required)
1.7	Impedance at 75 °C (in		
	percentage)		
	HV–MV		To suit the design requirements.
1.8	Tolerance on Impedance	%	As per IEC
	(HV-MV)		
1.9	Service		Outdoor
1.10	Duty		Continuous Reactive loading
1.11	Overload Capacity		IEC-60076-7
1.12	Temperature rise over 50		
	°C ambient Temp		
i)	Top oil measured by	<sup>0</sup> C	50
	thermometer		
ii)	Average winding	$^{0}C$	55
	measured by resistance		
	Method		
1.13	Windings		

Sl. No.	Description	Unit	Technical Parameters
i)	System Fault level		
	HV	kA	63
	MV	kA	To suit the design requirements.
ii)	Lightning Impulse		
	withstand Voltage		
	HV	kVp	1300
	MV	kVp	*
	Neutral	kVp	170
iii)	Switching Impulse		
	withstand Voltage		
	HV	kVp	1050
iv)	One Minute Power		
	Frequency withstand		
	Voltage		
	HV	kVrms	570
	MV	kVrms	*
	Neutral	kVrms	70
v)	Neutral Grounding		Solidly grounded
vi)	Insulation		
	HV		Graded
	MV		Uniform
vii)	Tan delta of winding	%	< 0.5
1.14	Vector Group (3 – ph)		YNd*
	(unless specified		
1.1.5	differently elsewhere)		
1.15	Tap Changer		Not Applicable
1.16	Bushing		
i)	Rated voltage		
	HV	kV	420
	MV	<u>kV</u>	*
••	Neutral	kV	36
ii)	Rated current (Min.)		
	HV	A	*
	MV	A	*
	Neutral	А	*
iii)	Lightning Impulse		
	withstand Voltage	1 7 7	1.425
	HV	kVp	1425
	MV	<u>kVp</u>	*
	Neutral	kVp	170
iv)	Switching Impulse		

Sl. No.	Description	Unit	Technical Parameters
	withstand Voltage		
	HV	kVp	1050
v)	One Minute Power		
	Frequency withstand		
	Voltage		
	HV	kVrms	695
	MV	kVrms	*
	Neutral	kVrms	77
vi)	Minimum total creepage		
	distances		
	HV	mm/kV	31
	MV	mm/kV	31
	Neutral	mm/kV	31
vii)	Tan delta of bushings		
	HV	%	Refer Note 2
	MV	%	Refer Note 2
viii)	Max Partial discharge		
	level at Um		
	HV	pC	10
	MV	pC	10
	Neutral		-
1.17	Max Partial discharge	pC	100
	level at 1.58 * Ur $/\sqrt{3}$		
1.18	Max Noise level at rated	dB	80
	voltage and at principal		
	tap at no load and all		
	cooling Active		
1.19	Maximum Permissible		
	Losses of		
	Transformers		
i)	Max. No Load Loss at	kW	To suit the design requirements.
	rated voltage and		
	Frequency		
ii)	Max. Load Loss at	kW	To suit the design requirements.
	maximum continuous		
	current and at $75^{\circ}$ C		
iii)	Max. Auxiliary Loss at	kW	To suit the design requirements.
	rated voltage and		
	Frequency		

Notes:

- 1. No external or internal Transformers / Reactors are to be used to achieve the specified *HV/MV* impedances.
- 2. The criteria for Transformer losses shall be "Copper Loss (Load Loss) > Iron Loss (No Load Loss) > Cooler Loss (Auxiliary Loss)".
- 3. (\*) marked parameters shall be decided based on STATCOM manufacturer's requirement.

#### C.8.10 STATCOM Station MV Switchgear

The MV Switchgear shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station.

#### C.8.10.1 MV Circuit Breaker

The MV Circuit Breaker shall comply with the relevant IEC standard and all other relevant Standards, and as specified in this specification. They shall satisfy the General Technical Requirements and shall be designed to operate in the environmental conditions specified in this specification.

The Circuit Breaker offered should be of SF6 type/Vacuum type only and of class C2, M2 as per IEC

- i) The circuit breaker shall be complete with terminal connectors, operating mechanism, control cabinets, piping, interpole cable, cable accessories like glands, terminal blocks, marking ferrules, lugs, pressure gauges, density monitors (with graduated scale), galvanised support structure for CB and control cabinets, their foundation bolts and all other circuit breaker accessories required for carrying out all the functions the CB is required to perform.
- ii) All necessary parts to provide a complete and operable circuit breaker installation such as main equipment, terminals, control parts, connectors and other devices whether specifically called for herein or not shall be provided.
- iii) The support structure of the circuit breaker shall be hot dip galvanized. Exposed hardware items shall be hot dip galvanized or Electro-galvanized.
- iv) MV Circuit Breaker shall be equipped with controlled switching with consequent optimization of switching behavior, when used in:
  - Switching of Capacitor Bank
  - Switching of shunt Reactor Bank
- v) Reactor Switching Duty test shall be conducted on MV Circuit Breaker in line with latest edition of IEC 62271-110.

- vi) Type Tested for Back-to-Back Capacitor Bank Switching as per latest edition of IEC 62271-100.
- vii) Routine tests as per IEC: 62271-100 shall be performed on all circuit breakers.
- viii) The medium voltage circuit breakers in any of the branches shall be designed to switch off metallic three phase short circuits only limited by the transformer impedance of the STATCOM System (Coupling transformer) with the initial short circuit current and DC component according to IEC 60909-0. Thereby the worst case time constant where the maximum short circuit peak and DC component occur shall be considered. The network shall be considered to deliver the maximum short circuit power of the substation.

# C.8.10.2 MV Isolator and Earth Switch

The isolators and earth switches shall comply with the IEC and all other relevant Standards, and as specified in this specification. They shall satisfy the General Technical Requirements and shall be designed to operate in the environmental conditions specified in this specification.

- i) The isolators and accessories shall conform in general to IEC-62271 series as per relevance (or IS:9921) except to the extent explicitly modified in specification.
- ii) Earth switches shall be provided on isolators wherever called for.
- iii) Switches shall be motor operated with local and remote operation features and local manual operation features. Remote operation of Earth Switch is not required.
- iv) Disconnections and earth switches shall electrically and mechanically be interlocked. Castle Key interlocking facilities shall be provided to mechanically interlock the earth switch and Isolator to the doors of valve rooms.

# C.8.10.3 Instrument Transformers for STATCOM Station

The instrument transformers shall comply with the relevant IEC Standards. They shall satisfy the general Technical Requirement specified in the specification and shall be designed to operate in the environmental conditions specified in this Specification. The instrument transformers provided for control, metering and protective relaying functions shall have voltage and current ratings, accuracy ratings and burden capabilities adequate to provide their designated functions within the overall accuracy requirement of the systems.

# Voltage Transformers

Voltage transformers shall comply with the relevant IEC standards IEC 61869 (Part-1, Part-3 and Part-5).

# Current Transformers

Current transformers shall comply with IEC 61869 (Part-1 and Part-2). Type tests and routine tests as per relevant IEC.

# C.8.10.4 Surge Arrester

TSP shall install the surge arresters necessary for the protection of the equipment associated with the STATCOM Station in accordance with the requirements as per the insulation coordination study. The surge arresters shall give consistent protection to their associated equipment against overvoltage produced by lightning or switching surges, internal or external station faults, and other system disturbances.

The surge arresters shall be rated such that they are able to discharge a specified maximum energy due to the application of lightning, switching surges, temporary over voltages and faults as determined by insulation coordination studies, without coming into the temperature region where thermal runaway could result upon subsequent application of maximum transient and steady state voltage conditions.

The arrester housing shall be porcelain/composite type. The end fittings shall be made of non-magnetic and corrosion proof material.

Internal components shall be designed to eliminate internal corona and also to ensure minimal capacitive coupling with any conducting layer of pollutant on the outside of the porcelain housing. Particular attention shall be given to the high discharge currents which some of the arresters may experience in service due to discharge of stored energy of the AC filter and reactive compensating equipment, tripping of STATCOM etc.

# C.8.11 STATCOM Station Auxiliary Power Supply

The auxiliary supply of STATCOM Station shall conform with the system requirements relating to reliability, availability, and redundancy, performing continuously to help ensure that the complete STATCOM Station operates as per the requirements. STATCOM station Auxiliary supply including all necessary switchgear (viz. AC/DC, lighting boards etc.) shall be completely separate from the main 765/400/220 kV substation auxiliary supply, all loads of STATCOM station shall be fed from this supply. The auxiliary supply provides power to the controllers, cooling system, station supplies, and various other essential and non-essential loads. With the exception of the cooling system, all other essential loads are also connected to the DC system of the STATCOM Station which is also to be provided separately from the DC system of the main 765/400/220 kV substation.

The auxiliary supply system shall be able to provide a stable supply for the STATCOM Station during system faults such as single-phase faults, phase-to-phase faults, and three-phase faults and LVRT (Low Voltage Ride Through) to allow continuous operation of the STATCOM Station during these transient events.

The auxiliary supply system of each STATCOM Station shall consist of two main incomers and one emergency incomer from DG set. The two main incomers shall be

required to be paired to act redundantly to help ensure a certain degree of reliability and availability. One of the main incomers shall be supplied from 33 kV tertiary winding of 765/400/33 kV or 400/220/33 kV ICT at the main substation.

The other main incomer can be supplied from any one of the following three options:

- Supplied from Tertiary/Yoke winding of STATCOM coupling Transformer.
- Supplied from MV Bus Bar of STATCOM Station.
- Supplied from Power PT on HV side of coupling Transformer.

Wherever the Voltage variation on the incomer is very high, a solid state AVR (Automatic Voltage Regulator) shall be provided to control the auxiliary supply voltage.

All MV incomers shall be provided with suitable CB, disconnector, instrument Transformer etc along with necessary protection system.

# C.8.12 Fire Protection System for STATCOM Station:

Necessary fire protection for STATCOM units, Coupling Transformer, MSC, MCR and Harmonic filter (if any) shall be required. The main features of these protections are as under.

# Fire Detection and Alarm System:

Suitable fire detection system using smoke detectors and/or heat detectors shall be provided in STATCOM Station for all room and areas. These smoke fire detection systems shall be connected to a separate Fire annunciation system clearly identifying the zone.

# **Hydrant System:**

The hydrant system shall be extended from fire fighting system of the substation in the yard. Suitable number of hydrants shall be provided for protection of STATCOM Station equipment in the yard namely Coupling Transformer, MSCs, MSRs and Harmonic Filter (if required) etc as applicable for the station. Further suitable number of hydrants shall also be provided for STATCOM Station building

# **HVW System:**

HVW (High Velocity Water) Spray system shall be provided for coupling transformer. The tapping for HVW system shall be done from nearby transformer/Reactor or any other suitable point of the main substation fire-fighting line-

Fire protection system shall be provided in accordance with the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023.

# C.8.13 Air-conditioning and ventilation system for STATCOM station

The STATCOM Station shall be provided with Air conditioning system as per requirement.

#### 1) AC System (Except Valve Hall):

Air condition system shall be provided for the following rooms in the STATCOM Building:

- a. Control and Relay room
- b. Battery room
- c. Conference Room
- d. Store cum workshop
- e. Cooling system room
- f. Lobby

Capacity and quantity of the AC units shall be decided based on heat load calculation and redundancy requirement.

### 2) Air-Conditioning System for Valve hall:

Air-Conditioning shall be provided for each Valve room for maintaining the following inside conditions round the year:

DBT - 35 °C (Maximum) Relative Humidity (RH) - 60% (Maximum)

The system shall be designed for an outside ambient temperature of 50 °C. Based on the above system design and parameters for valve room the AC system shall comprise "AHU and Air-cooled DX Condensing units" with one Main and one Standby unit for each room. The system shall be designed for 24 Hours, 365 Days of the year operation to maintain the inside temperatures of the Valve Hall for proper operation of the critical equipment. The air-cooled condensing unit shall be designed for continuous duty.

# C.9 Engineering studies

The TSP shall carry out studies as brought out in this section with a model of the STATCOM in PSSE and PSCAD and documentation of the same shall be preserved and to be submitted to CEA/CTU, as per their requirement. The objective of these studies is to verify the steady state requirement of reactive power under normal and contingent operating conditions for peak and light loads conditions in the network.

The studies shall have to be carried out for

- Peak Load
- Light Load
- Contingency Conditions

The load flow and dynamic file available with CTU shall be provided to the TSP in PSSE version 34 format. If data is not available typical data shall be assumed by TSP.

The studies should demonstrate that the STATCOM system meets all system and equipment specified performance criteria as per the specification. Engineering studies should include, but not be limited to, the studies described in subsequent subsections.

# C.9.1 System dynamic performance studies

Dynamic performance studies should verify that the STATCOM system controls the system's dynamic performance during system disturbances. Dynamic performance studies include the following:

- a. Studies verifying that the STATCOM provides adequate dynamic control to meet the system and STATCOM system performance criteria for the system conditions.
- b. Study of response time and of the STATCOM system's behavior and contribution to the system's recovery from faults.
- c. Studies to verify the operation of any supplementary controls designed to damp power oscillations following system disturbances.
- d. Studies to evaluate the interaction of the STATCOM controls with the other nearby control systems, including high-voltage direct current (HVDC) controls, generator controls, and controls of other flexible AC transmission systems (FACTS) devices
  In addition to the above, relevant studies shall include the cases stated as mentioned in Annexure-I

# C.9.2 Harmonic performance

The studies should evaluate resultant maximum harmonic levels at the STATCOM system point of common coupling (PCC), and determine maximum stresses on all STATCOM system components. The study report should include the following:

- a. Evaluation of specified system and operating conditions (refer to Clause 5) under all possible STATCOM operating conditions.
- b. Evaluation within maximum ranges of STATCOM system component tolerances (worst performance values may not occur at detuning extremes).
- c. Evaluation with maximum system voltage unbalance (refers to item 8 and item 9 in Table 3 of Clause 5).
- d. Evaluation of the worst case resonance condition between STATCOM system and overall system.
- e. Evaluation of possible resonant over voltages.
- f. Transformer saturation induced harmonics for component rating calculation only.
- g. Evaluation of impact considering single phase auto reclose deadtime.

# C.9.3 Electromagnetic transients, control performance, and overvoltage studies

Transient overvoltage studies should be performed with the actual control modeled to verify that the STATCOM system equipment is adequately protected against over

voltages and over currents (including excessive valve recovery voltages) from power system transients resulting from switching, fault clearing events, and credible STATCOM system maloperations. Evaluation shall include the following:

- a. Study of start-up, including transformer energization, shutdown, switching coordination, and other local area network switching events
- b. Study of STATCOM system protection and protection coordination
- c. Faults on the high-voltage (HV) and MV bus (single line-to-ground, phase-to-phase, and three-phase)
- d. Faults across the VSC, capacitors, and other equipment if used.
- e. Control interaction

### C.9.4 Insulation coordination study

Overall insulation coordination should be verified by considering the results of 8.4 (dynamic over voltages, and fault and switching transients), including the impacts of lightning surges on the STATCOM equipment. This study should determine and verify insulation levels, clearances, and arrester placement and ratings.

#### C.9.5 Other Studies

- a) Grounding Study
- b) Protection coordination
- c) PLC/radio interference
- d) Magnetic field strength
- e) Other studies as applicable

#### C.9.6 Software simulation models

The TSP shall provide the latest following PSCAD and PSSE simulation model(s) and parameters to CEA/CTU/GRID-INDIA along with detailed documentation for the purpose of future simulation to adequately represent and model the proposed STATCOM system in the respective software:

- **a. Stability model.** TSP should provide a detailed STATCOM system dynamics model for use in (PSCAD and PSSE) power flow and stability simulation software. The model detail should be appropriate and complete for positive-sequence power system simulation and analysis that is typically performed with power flow and transient stability programs. All appropriate control features for such analysis will be modeled, and necessary documentation on the theory and use of model should be provided. Further, a generic model, benchmarked to detailed STATCOM stability model, shall also be furnished for distribution.
- **b. Transients model**. TSP should provide a detailed STATCOM transients model for use in PSCAD. The model detail should be appropriate and complete for the transient

Col

response calculation of the STATCOM system. All appropriate control features for such analysis will be modeled, and necessary documentation on the theory and use of model should be provided. Further, a generic model, benchmarked to detailed STATCOM transient model, shall also be furnished for distribution.

PSS/E files may be used for developing RTDS files/ models. For simulation of STATCOM in PSS/E file (load flow and dynamic) and PSCAD/EMTP-RV (Transient) model for STATCOM is required for study. TSP will share STATCOM models with CEA, CTU and Grid-India along with detailed documentation for above study purposes and simulations. For PSS/E, both Generic and User-defined models shall be shared by the TSP with the CEA, CTU and Grid-India. Generic model response shall be benchmarked with user-defined model to the extent possible by the TSP. Generic models can be shared by the CEA, CTU and Grid-India with the concerned stakeholders e.g. STUs etc. For User Defined model, confidentiality shall be maintained by the CEA, CTU and Grid-India. For PSCAD/EMTP-RV, User Defined model shall be provided by the TSP for which confidentiality shall be maintained by the CEA, CTU and Grid-India.

c. Harmonic Model. TSP should provide a harmonic model of STATCOM in PSCAD software. The model detail should be appropriate and complete for the harmonic distortion evaluation of the STATCOM system. All appropriate control features for such analysis will be modeled, and necessary documentation on the theory and use of model should be provided. The harmonic model shall be benchmarked against actual performance (or as per tests)

# C.9.7 Factory tests of controls

The integrated nature of the performance of the STATCOM in an electrical grid requires the following tests:

- **a.** The TSP should perform factory simulator system tests for integrated control and protection system to ensure the proper operation of the same. The control system should be connected to a digital simulator with adequate representation of the electrical network for various conditions. The STATCOM system controller needs to be representative of control functions, including basic controllers but inclusive of supplementary controls, firing controls, and protective functions integrated into the controllers.
- **b.** The simulator should provide an accurate network representation including network harmonic behavior, as well as synchronous condensers, power stations, generators (with AVRs), and pump storage schemes, existing HVDC, SVCs and STATCOMs, future SVCs and STATCOMs, FSC (fixed series capacitors), and shunt reactors/capacitors/filters.

STATCOM system control function type tests on a simulator should include the following:

- Verification of each control function.

- Verification of control linearity.
- Verification of control redundancy.
- Verification of the monitoring system.
- Verification of the protection system with reference to integrated protective functions included in the Controllers and firing controllers.
- Verification of overall system performance for minor and major system disturbances.
- Verification of processor loading of all digital controllers.
- Verification of STATCOM system parallel operation with other controls in the system and control Stability.
- Verification of control equipment performance for auxiliary power supply voltage (AC and DC) and frequency variations (AC).
- Routine production tests of all control functions, and separately of all protection functions.

# C.10.0 VISUAL MONITORING SYSTEM FOR WATCH AND WARD OF STATCOM STATION

Visual monitoring system (VMS) for effective watch and ward of STACOM station premises covering the areas of entire switchyard, STATCOM building, Coupling Transformer, Cooling Towers and main gate, shall be provided. The TSP shall design, supply, erect, test and commission the complete system including cameras, Digital video recorder system, mounting arrangement for cameras, cables, LAN Switches, UPS and any other items/accessories required to complete the system.

Features of VMS system shall be as those specified for main substation. The number of cameras and their locations shall be decided in such a way that any location covered in the area can be scanned. The cameras shall be located in such a way to monitor at least:

- a) Coupling Transformer, Mechanically Switched Reactors (if any) and Mechanically Switched Capacitors (if any), AC filter banks (if any).
- b) STATCOM Valve hall, Cooling System, Electrical and Mechanical Auxiliary area.
- c) Entrance to STATCOM Station.
- d) All other Major Equipment (such as CB, CT, VT, SA etc.)

The cameras can be mounted on structures, buildings or any other suitable mounting arrangement.

# C.11.0 Spares, Special Tools and Tackles

Considering the STATCOM as high technology proprietary equipment TSP shall ensure necessary spares are procured to maintain the necessary reliability and availability of

Col

STATCOM station. Further all necessary special tools and tackles required for erection, testing, commissioning, and maintenance of equipment shall also be taken.

Annexure-I

Page 214 of 235

# Contingency Cases for Boisar-II (Bus Section- I and II) STATCOM Contingency Cases for Navsari (new) STATCOM

# A) N-1 Contingency

# Contingency at 765 kV level

- 1. Three Phase Fault close to 765 kV bus of Boisar-II S/s followed by tripping of one circuit of Boisar-II South Olpad 765 kV D/c line (fault persisted for 100 ms)
- Single Phase to Ground Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Boisar-II South Olpad 765 kV D/c line
- 3. Three Phase Fault close to 765 kV bus of Boisar-II S/s followed by tripping of one circuit of Boisar-II Pune-III 765 kV D/c line (fault persisted for 100 ms)
- 4. Single Phase to Ground Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Boisar-II Pune-III 765 kV D/c line
- 5. Three Phase Fault close to 765 kV bus of Boisar-II S/s followed by tripping of one circuit of Boisar-II Navsari (New) 765 kV D/c line (fault persisted for 100 ms)
- 6. Single Phase to Ground Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Boisar-II Navsari (New) 765 kV D/c line
- 7. Three Phase Fault close to 765 kV bus of Boisar-II S/s followed by tripping of one circuit of Boisar-II Padghe (PG) 765 kV D/c line (fault persisted for 100 ms)
- Single Phase to Ground Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Boisar-II Padghe (PG) 765 kV D/c line
- Three Phase Fault close to 765 kV bus of Navsari (New) S/s followed by tripping of one circuit of Navsari (New) – Ahmedabad 765 kV D/c line (fault persisted for 100 ms)
- Single Phase to Ground Fault close to 765 kV bus of Navsari (New) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Navsari (New) Ahmedabad 765 kV D/c line
- 11. Three Phase Fault close to 765 kV bus of Navsari (New) followed by tripping of one circuit of Navsari (New) Boisar-II 765 kV D/c line (fault persisted for 100 ms)

Col

- 12. Single Phase to Ground Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Navsari (New) Boisar-II 765 kV D/c line
- 13. Three Phase Fault close to 765 kV bus of Navsari (New) followed by tripping of one circuit of Navsari (New) Vataman 765 kV D/c line (fault persisted for 100 ms)
- 14. Single Phase to Ground Fault close to 765 kV bus of Navsari (New) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Navsari (New) Vataman 765 kV D/c line
- 15. Three Phase Fault close to 765 kV bus of Vataman S/s followed by tripping of one circuit of Lakadia Vataman 765 kV D/c line (fault persisted for 100 ms)
- 16. Single Phase to Ground Fault close to 765 kV bus of Vataman S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Lakadia Vataman 765 kV D/c line
- 17. Three Phase Fault close to 765 kV bus of Vataman S/s followed by tripping of one circuit of Halvad– Vataman 765 kV D/c line (fault persisted for 100 ms)
- 18. Single Phase to Ground Fault close to 765 kV bus of Vataman S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Halvad– Vataman 765 kV D/c line
- 19. Three Phase Fault close to 765 kV bus of Pune (III) S/s followed by tripping of one circuit of Narendra (New)– Pune (III) 765 kV D/c line (fault persisted for 100 ms)
- 20. Single Phase to Ground Fault close to 765 kV bus of Pune (III) S/s followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping one circuit of Narendra (New)– Pune (III) 765 kV D/c line

# Contingency at 400 kV level

# **Boisar-II (Bus Section 1)**

- 21. Three Phase Fault close to 400 kV bus of Boisar-II S/s (Section-1) followed by tripping of one circuit of Boisar-II S/s (Section-1) Babhaleswar 400 kV D/c line (fault persisted for 100 ms)
- 22. Single Phase to Ground Fault close to 400 kV bus of Boisar-II S/s (Section-1) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping of one circuit of Boisar-II S/s (Section-1) Babhaleswar 400 kV D/c line

Gel

- 23. Three Phase Fault close to 400 kV bus of Boisar-II S/s (Section-1) followed by tripping of one circuit of Boisar-II S/s (Section-1) Padghe (M) 400 kV D/c line (fault persisted for 100 ms)
- 24. Single Phase to Ground Fault close to 400 kV bus of Boisar-II S/s (Section-1) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping of one circuit of Boisar-II S/s (Section-1) Padghe (M) 400 kV D/c line

# **Boisar-II (Bus Section 2)**

- 25. Three Phase Fault close to 400 kV bus of Boisar-II S/s (Section-2) followed by tripping of one circuit of Boisar-II S/s (Section-2) Velgaon (MH) 400 kV D/c line (fault persisted for 100 ms)
- 26. Single Phase to Ground Fault close to 400 kV bus of Boisar-II S/s (Section-2) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping of one circuit of Boisar-II S/s (Section-2) Velgaon (MH) 400 kV D/c line

# Navsari (New)

- 27. Three Phase Fault close to 400 kV bus of Navsari (New) followed by tripping of one circuit of Navsari (New) –Kala 400 kV D/c line (fault persisted for 100 ms)
- 28. Single Phase to Ground Fault close to 400 kV bus of Navsari (New) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping of one circuit of Navsari (New) Kala 400 kV D/c line
- 29. Three Phase Fault close to 400 kV bus of Navsari (New) followed by tripping of one circuit of Navsari (New) –Magarwada 400 kV D/c line (fault persisted for 100 ms)
- 30. Single Phase to Ground Fault close to 400 kV bus of Navsari (New) followed by single pole opening (100 ms) of the faulted phase and unsuccessful re-closure (dead time 1 second) followed by 3-pole opening (100 ms) of the faulted line i.e. tripping of one circuit of Navsari (New) Magarwada 400 kV D/c line

# B) N-1-1 Contingency

- Case 1 and 2 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Boisar-II – South Olpad 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 3 and 4 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Boisar-II – Pune-III 765 kV D/c line) and successful re-closure (dead time 1 second)

Gel

- Case 5 and 6 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Boisar-II – Navsari (New) 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 7 and 8 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Boisar-II S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Boisar-II – Padghe (PG) 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 9 and 10 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Navsari (New) S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Navsari (New) – Ahmedabad 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 11 and 12 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Navsari (New) S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Navsari (New) Boisar-II 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 13 and 14 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Navsari (New) S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Navsari (New) Vataman 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 15 and 16 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Vataman S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Lakadia Vataman 765 kV D/c line) and successful re-closure (dead time 1 second)
- 9. Case 17 and 18 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Vataman S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Halvad Vataman 765 kV D/c line) and successful re-closure (dead time 1 second)
- Case 19 and 20 (consider as separate cases) + Single Phase Fault close to 765 kV bus of Pune-III S/s followed by single pole opening (100 ms) of the faulted phase (2<sup>nd</sup> ckt of Narendra (New)– Pune (III) 765 kV D/c line) and successful re-closure (dead time 1 second)

# 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, and CEA (Cyber Security in Power Sector) Guidelines, 2021, all above documents as amended from time to time.

The complete ISTS communication system commissioned by TSP under the RFP shall be the asset of ISTS and shall be available for usage of ISTS requirements as suggested by CTU from time to time.

The protections for transmission line and the line compensating equipment shall have a hundred percent backup communication channels i.e. two channels for tele-protection in addition to one channel for speech plus data for each direction.

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

# D.1.0 Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors.

- (I) TSP shall supply, install and commission one or more FODP (216 F or higher) alongwith panel and approach Cable (24F 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 and commission One or more STM-16 (FOTE) equipment alongwith panel/s supporting minimum Nine (9) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Communication Equipment shall be provided with necessary interfaces to meet the voice and data communication requirement among Boisar-II, South Olpad (GIS), Navsari (New), Padghe (PG), Velgaon (MH), Padghe (M) and Babhaleswar (M) S/s. The suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FODP and FOTE equipment with panels shall be provided in Control Room of Boisar-II GIS. FOTE and FODP Eq can be accommodated in same panel to optimize space.
- (IV) The new communication equipment under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of

Gel
the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.

- (V) TSP shall supply, install and commission Firewall in redundant mode (1+1) in line with the specification attached at **Annexure F.1**.
- (VI) The maintenance of all the communication equipment and software thereof including FOTE, FODP, approach cable, PMU, DCPS along with Battery Bank and Firewall shall be the responsibility of TSP.

#### D.2.0 South Olpad (GIS) – Boisar-II (GIS) 765 kV D/C line.

On South Olpad (GIS) – Boisar-II (GIS) 765 kV D/C line, TSP shall supply, install and commission One (1) no. OPGW cable containing 24 Fibres (24F) on one E/W peak and conventional earth wire on other E/W peak.

The TSP shall install this OPGW from gantry of South Olpad (GIS) up to the gantry of Boisar-II (GIS) S/s with all associated hardware including Vibration Dampers, mid-way and gantry Joint Boxes (called **OPGW Hardware** hereafter) and finally terminate in Joint Boxes at end Substations. The repeater will be required. To meet link budget requirement of Boisar-II (GIS) – South Olpad (GIS) link (including service loops and sag etc.) 1 set of FOTE at repeater station to be provided by TSP.

TSP shall finalize the location of repeater station depending upon the actual site conditions. Further TSP shall comply to the requirements mentioned as per **Appendix-F.1** 

Maintenance of OPGW Cable, OPGW Hardware and repeater equipment and items associated with repeater shelter shall be responsibility of TSP.

## D.3.0 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/C line.

- (I) TSP shall supply, install and commission required Approach Cable (24F) with all associated hardware fittings from gantry tower to Relay Panel room.
- (II) MSP (Multiplex Section Protection 1+1) direction for Boisar-II S/s in upcoming FOTE at South Olpad (GIS) S/s has been considered in the scope of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B" TSP shall supply, install and commission necessary interfaces to meet the voice and data communication requirement between Boisar-II (GIS), South Olpad (GIS) S/s.

(III) The maintenance of approach cable, optical interfaces shall be the responsibility of TSP.

### D.4.0 LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II.

On LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II S/s, TSP shall supply, install and commission OPGW and earthwire as per Tower Configurations:

- For Multi Circuit Tower Configuration: Two (2) no. OPGW cable containing 24
   Fibres (24F) to be installed and commissioned by the TSP on both the Earthwire peaks
- (ii) For Double Circuit Tower configuration (for both Loop In and Loop Out portion): One (1) no. OPGW cable containing 24 Fibres (24 F) on one earthwire peak and conventional earthwire on other E/W peak for both Loop In and Loop Out Lines.

The TSP shall install OPGW cables from gantry of Boisar-II (GIS) S/s up to the LILO tower with all associated hardware including Vibration Dampers, mid-way and gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Boisar-II (GIS) S/s. After LILO, if fiber length for links Navsari (New) to Boisar-II and Boisar-II to Padghe (PG) is above 225 kms then repeater shall be envisaged, otherwise line can be managed as a repeater less link.

TSP shall finalize the location of repeater station depending upon the actual site conditions. Further TSP shall comply to the requirements mentioned as per **Appendix-F.1** 

Maintenance of OPGW Cable, OPGW Hardware and repeater equipment and items associated with repeater shelter shall be responsibility of TSP.

# D.5.0 Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line.

On Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line, TSP shall supply, install and commission One (1) no. OPGW cable containing 24 Fibres (24F) on one E/W peak and conventional earth wire on other E/W peak.

The TSP shall install this OPGW from gantry of Boisar-II (GIS) up to the gantry of Velgaon (MH) S/s with all associated hardware including Vibration Dampers, mid-way and gantry Joint Boxes (called **OPGW Hardware** hereafter) and finally terminate in Joint Boxes at end Substations. The repeater is not required to meet link budget requirement of Boisar-II (Sec-II) – Velgaon (MH) link.

Maintenance of OPGW Cable and OPGW Hardware shall be responsibility of TSP.

# D.6.0 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/ c (Quad ACSR/AAAC/AL59 moose equivalent) line.

- (I) TSP shall supply, install and commission 1 no. FODP (72F or higher) alongwith panel and required Approach Cable (24F) with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room.
- (II) TSP shall supply, install and commission One STM-16 (FOTE) equipment alongwith panel/s supporting minimum three (3) directions with MSP (Multiplex Section Protection – 1+1) with necessary interfaces to meet the voice and data communication requirement between Velgaon (MH) S/s, Boisar-II (GIS) S/s. 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 Velgaon (MH) S/s 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 and FODP can be accommodated in same panel to optimize space.
- (V) The new communication equipment under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.
- (VI) The maintenance of all the communication equipment and software thereof including FOTE, PMU, FODP, approach cable, DCPS alongwith Battery Bank shall be the responsibility of TSP.

Gel

# D.7.0 LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage.

On LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage, TSP shall supply, install and commission OPGW and earthwire as per Tower Configurations:

- For Multi Circuit Tower Configuration: Two (2) no. OPGW cable containing 24
   Fibres (24F) to be installed and commissioned by the TSP on both the Earthwire peaks
- (ii) For Double Circuit Tower configuration (for both Loop In and Loop Out portion): One (1) no. OPGW cable containing 24 Fibres (24 F) on one earthwire peak and conventional earthwire on other E/W peak for both Loop In and Loop Out Lines.

The TSP shall install OPGW cables from gantry of Boisar-II (GIS) S/s up to the LILO tower with all associated hardware including Vibration Dampers, mid-way and gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Boisar-II (GIS) S/s. The LILO Line can be managed as a repeater less links for Babhaleswar – Boisar-II and Boisar-II – Padghe (M), hence repeater equipment is not envisaged.

Maintenance of OPGW Cable and OPGW Hardware shall be the responsibility of TSP.

## **D.8.0** Specific Requirement for Phasor Measurement Units (PMUs)

TSP shall supply, install and commission required no. of Phasor Measurement Units (PMUs) PMUs at all the locations including Statcom bays under the scope of TSP under this RFP as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 (alongwith all amendments if any), and all the applicable Regulations, Standards, Guidelines issued time to time. These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room of respective substations/ generating stations with Fibre Optic cable. These 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.

Appendix-F.1

#### **Repeater Requirements**

If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware and midway Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room. TSP shall co-ordinate for Space and DC power supply sharing for repeater equipment. TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.

OR

• If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware and mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed.

TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems.

OR

• If the repeater location is finalized on land near the transmission tower. TSP shall make the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings to establish connectivity up to the location of repeater shelter.

TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems

Maintenance of OPGW Cable and **OPGW Hardware**, repeater equipment and items associated with repeater shelter shall be responsibility of TSP.



Proposed Communication for Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C

Figure F.1

# Annexure-F.1

511

## Next Generation Firewall (NGFW)

TSP shall provide 2 NGFW one in Main and another in Standby mode having electrical ethernet interfaces/ports and placed between FOTE and SAS gateway/s at the substation. All ethernet based applications shall be terminated in the firewall ports directly (e.g. PMU, AMR, VOIP, SAS/SCADA etc.). Each port of firewall shall work as a separate zone. Firewall shall be hardware based with features of Block/Allow/drop and IPSec VPN (network encryption).

The number of ports/interfaces in each firewall (i.e. Main and Standby) shall be minimum 16 nos. TSP shall provide either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps.

The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future.

Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.

The specifications for the firewalls are given at **Annexure-F.2** and schematic diagram showing firewall placement given at **Figure F.2**.

### Annexure F.2

512

## Specifications of Next Generation Firewall (NGFW)

- NGFW shall have following features including but not limited to: Encryption through IPSec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) and Distributed Denial of Service (DDoS) prevention, Port Block/ Allow, rules/ policies for block/allow, IP (Internet Protocol) and Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention.
- 2. The proposed firewall shall be able to handle (alert, block or allow) unknown /unidentified applications e.g. unknown TCP and UDP packets. It shall have the provision to define application control list based on application group and/or list.
- 3. Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching
- 4. Firewall shall have Management Console port to configure remotely.
- 5. Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3.
- 6. Firewall shall be rack mounted in existing standard equipment cabinets.
- Firewall shall have support of SCADA applications (IEC-60870-5-104), ICCP, PMU (IEEE C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols.
- 8. Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux and Mac.
- 9. The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions.
- 10. Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall have suitable memory architecture and solution to store and be enable to export all logs/events for a period of last 90 days at any given time.
- 11. Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and access right management. It shall also have Role Based User management feature.
- 12. Firewall shall have the capability to configure sufficient number of VLANs.
- 13. Firewall shall have the capability to support sufficient number of sessions.
- 14. Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of all the IP Sec VPN. IPSec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPSec VPN throughput shall support at least 300 Mbps

- system. It shall also have SNMPv3 encrypted authentication and access security
- 16. Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.
- 17. Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality
- 18. Shall support simultaneous operation with both IPv4 and IPv6 traffic
- 19. Firewall shall be compatible with SNTP/NTP or any other standards for clock synchronization
- 20. Firewall shall have the features of port as well as MAC based security
- 21. Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.
- 22. Firewall time shall be kept synchronised to official Indian Timekeeping agency, time.nplindia.org.
- 23. Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.



# **D.9.0 PLCC and PABX:**

Power line carrier communication (PLCC) equipment complete for speech, teleprotection commands and data channels shall be provided on each transmission line.. The PLCC equipment shall in brief include the following: -

- Coupling device, Coupling filters, line traps, carrier terminals, protection couplers, HF cables, PABX (if applicable) and maintenance and testing instruments.
- At new substation, a telephone exchange (PABX) of 24 lines shall be provided at as means of effective communication among various buildings of the substation, remote end substations and with control centers (RLDC/SLDC) etc.
- Coupling devices shall be suitable for phase to phase coupling for 400 kV Transmission lines. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of personnel and low voltage part against power frequency voltages and transient over voltage shall also be provided.
- The line traps shall be broad band tuned suitable for blocking the complete range of carrier frequencies. Line Trap shall have necessary protective devices such as lightning arresters for the protection of tuning device. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.
- The carrier terminals shall be of single side-band (SSB) amplitude modulation (AM)

Gel

type and shall have 4 kHz band width. PLCC Carrier terminals and Protection couplers shall be considered for both ends of the line.

PLCC equipment for all the transmission lines covered under the scheme shall be provided by TSP as per following configuration. PLCC to be provided for following lines under present scope:

Sl. No	Line name	PLCC configuration			
1	South Olpad (GIS) – Boisar-II	1 set Analog PLCC + 1 set Digital			
	(GIS) 765 kV D/c line	Protection Coupler for each circuit at both			
		ends.			
2.	Boisar-II (Sec-II) – Velgaon	1 set Analog PLCC + 1 set Digital			
	(MH) 400 kV D/c	Protection Coupler for each circuit at both			
		ends.			

Further, CVT and Wave trap for all 765 kV and 400 kV line bays under present scope shall be provided by TSP.

TSP shall provide/ undertake necessary addition/ modification/ shifting/ recommissioning etc. of PLCC equipment due to LILO of transmission lines (wherever applicable).

Sl. No	Line name	PLCC configuration
1.(a)	Navsari (New) – Boisar-II	1 set Analog PLCC + 1 set Digital Protection
	765 kV D/C line [formed	Coupler at each end after LILO. Existing
	after LILO]	PLCC panels may also be utilized.
1.(b)	Padghe (PG) – Boisar-II	1 set Analog PLCC + 1 set Digital Protection
	765 kV D/C line [formed   Coupler at eac	Coupler at each end after LILO. Existing
	after LILO]	PLCC panels may also be utilized.
2.(a)	Babhaleswar - Boisar-II	1 set Analog PLCC + 1 set Digital Protection
	400 kV D/C line [formed	Coupler at each end after LILO. Existing
	after LILO]	PLCC panels may also be utilized.
2.(b)	Padghe (M) - Boisar-II	1 set Analog PLCC + 1 set Digital Protection
	400 kV D/C line [formed	Coupler at each end after LILO. Existing
	after LILO]	PLCC panels may also be utilized.

- All other associated equipment like cabling, coupling device and HF cable shall also be provided by the TSP.
- 2 sets of 48 V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required.

Gel

# Annexure-E

## **Frequently Asked Queries:**

#### 1.0 <u>Transmission Line:</u>

- 1.1 Please clarify that whether shutdowns for crossing of existing transmission lines of POWERGRID/STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP on chargeable basis or free of cost.
- **Reply:** Shutdowns for crossing of existing transmission lines of POWERGRID/ STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP by the concerned owner of the lines as per their own terms and conditions. As far as shutdown of ISTS lines are concerned the same can be availed by approaching respective Regional Power Committee.
- 1.2 We understand that the suggested swing angle criteria are applicable for Suspension Insulator in Suspension Tower. Further, you are requested to provide similar swing angle and clearance criteria for Pilot Insulator with Jumper and Jumper.
- **Reply:** It is clarified that the swing angle criteria (as mentioned in RFP) for transmission lines is applicable for Suspension Insulator in Suspension Tower. Further, as per Clause 3.0 of Specific Technical Requirements for transmission lines, Transmission service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.
- 1.3 We request you to kindly allow that use of diamond configuration at Power line crossings and the existing owner of the lines may be directed to allow the same for the successful bidders.
- **Reply:** Power line crossing including Diamond configuration is responsibility of the TSP. TSP shall formally submit the profile of the crossing section to the owner of the existing line suggesting proposed crossing alternatives. The crossing will have to be carried out as per approval of owner of the existing line.
- 1.4 It is requested you to kindly provide present status of Forest Clearances if any transmission line corridor area falling in wildlife forest / reserve forest/ mangroves.
- **Reply:** Based on the preliminary route survey, the process of initiation of forest clearance for the forest stretches, if any, enroute the proposed line alignment will be initiated by way of writing letters to the concerned authority (ies). However, it may be noted that it will be the responsibility of TSP for obtaining forest clearance for the forest stretches as provided in the survey report and also for any forest area encountered during detailed survey.



#### 2.0 <u>Substation</u>

2.1 We understand that space for storage of O&M spare shall be provided by existing owner within the station boundary without any cost. Kindly confirm.

Reply: Space for storage of O&M spares shall be arranged by TSP on its own.

- 2.2 We presume that the O&M for the end Termination bays will be in the scope of the TSP and TSP shall not be liable for any payment towards O&M to the existing owner of the substation. Kindly confirm.
- **Reply:** Operation and maintenance of the bays is solely responsibility of the TSP. TSP shall follow CEA's "Operation and Maintenance (O&M) guidelines and Standard Format for Memorandum of Understating between New TSP and Existing TSP" issued by CEA vide its letter No. I/28514/2023 dated 22.06.2023. Copy of the guideline is available on CEA website at following link:

https://cea.nic.in/wp-content/uploads/pse\_\_\_td/2023/06/om\_guidelines.pdf

- 2.3 With reference to subject scheme of existing sub-station, we assumed following scope of work:
  - (a) We assumed internal road is available and need not to consider in the present scope of work.
  - (b) Drainage is available and need not to consider in the present scope of work.
  - (c) Cable trench extension in adjacent to Main cable trench only under present scope of work.
  - (d) Levelled area being provided by developer for bay extension.
- **Reply:** Regarding requirement of internal road, drainage, cable trench, leveling of the bay extension area, bidder is advised to visit site and acquaint themselves with the provisions/facilities available at substation.
- 2.4 Kindly provide the soil investigation report of soil parameters of existing substation.
- **Reply:** Bidder is advised to visit the substation site and ascertain the requisite parameters.
- 2.5 Kindly confirm, energy accounting of aux. power consumption. Whether it will be on chargeable basis or part of transmission loss.
- **Reply:** It will be on chargeable basis.
- 2.6 We understand that VMS requirement is for unmanned stations only. For Manned stations VMS is not compulsory.
- Reply: VMS shall be provided in line with requirements of RfP document.



- 2.7 It is understood that Construction water and power shall be provided free of cost to TSP by respective substation owner for construction of new bays.
- **Reply:** Arrangement of construction power and water is in the scope of TSP.
- 2.8 It is understood that existing fire hydrant system shall be extended by the TSP for bay extension.
- **Reply:** Existing fire hydrant system shall be extended from existing system (if required)
- 2.9 Please clarify that Status of land acquisition for Substations. Whether the lands have been acquired by BPC and will be transferred to TSP.
- Reply: The acquisition of land for substation is in the scope of TSP.
- 2.10 We understood that no any dedicated metering CT 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 is matching with metering requirement. Requisite Special Energy Meters shall be provided and installed by CTU at the cost of TSP in C and P panel subject to space availability, else, in separate metering panel (to be provided by TSP at its cost).
- 2.11 It is understood that TSP to follow the RFP for Technical Requirement. Only interface drawings like CRP and SCADA shall be coordinated with existing S/S owner.
- **Reply:** All necessary coordination shall be done with exiting s/s owner w.r.t interface along with augmentation required as per RfP.
- 2.12 We understand that there are only two communication channels, Chanel-1 for protection-1+ Speech via. PLCC, Chanel-2 for Protection-2 + data via. FOTE. Hence, we do not envisage any separate channel for speech + data as the same can be achieved with FOTE system. Therefore, we understand that TSP is allowed to implement best possible solutions accordingly. Kindly confirm
- **Reply:** PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.
- 2.13 We understand that one set of analog circuit protection coupler shall be for PLCC and another set for Digital protection coupler for FOTE. Kindly confirm.

Gel

**Reply:** PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

### 3.0 Communication

- 3.1 What are the 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, PMU etc. are required for grid operation through RLDC/SLDC, speech communication, tele-protection and telemetering.
- 3.2 Is space for installation of communication panels are provided to TSP in existing Substations incase new bays are in the scope of TSP?
- **Reply**: The space replated issues are deliberated in the RFP itself. TSP to carry out survey of the existing substation for physical space requirement. In case space is not available in the existing substation then TSP shall accommodate the same in the respective bay SPR (Switchyard Panel Room)/Bay Kiosk/ Relay panel room in case of GIS s/s. Further, TSP to connect and integrate the proposed FOTE with the existing FOTE in the Relay Panel Room. In Case 132 kV Substation TSP shall accommodate the said panels either by

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

- 3.3 How is the OPGW laying done in case of LILO lines?
- **Reply**: In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then 2x24F OPGW shall be required to install by TSP on both earthwire peak on 400 kV and 765 kV lines where two E/W peaks are available. On 220 kV and 133 kV lines where only one E/W peak is available TSP to install one no. 48F OPGW.

Incase LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then 1x24F OPGW shall be required to install by TSP on one earthwire peak, on both Line In and Line Out portions of 400 kV and 765 kV lines. On 220 and 133 kV lines where only one

Gel

E/W peak is available TSP to install one no. 24F OPGW in place of conventional earthwire.

- 3.4 How is the OPGW laying done in case Multi circuit Towers?
- **Reply**: In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. 24F OPGW to be installed on both E/W peaks for common M/C portion of 765 kV and 400 kV lines.

Incase 220/132 kV lines using multi circuit portion where single E/W peak is available one no. 48F may be installed for common multi circuit portion.

**REC Power Development and Consultancy Limited** 

Amendment – I dated 30.01.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-State Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

	SI.	Clause No.	Existing Provis	sions		New / Revised	Provisions	
	No.							
	1.	2.7.1 of	The Bidders s	hould submit the Bids online through the electronic	-	The Bidders s	hould submit the Bids online through the electronic	
		RFP	bidding platform	h before the Bid Deadline i.e., on or before 1200 hours		bidding platforn	n before the Bid Deadline i.e., on or before 1200 hours	
			(IST) on 30.01.	2024. In addition to the online submission, the Bidder	(	(IST) on <u>13.02</u>	.2024. In addition to the online submission, the Bidder	
0			with lowest Fina	al Offer will be required to submit original hard copies of	۱   ۱	with lowest Fina	al Offer will be required to submit original hard copies of	
~ ~			Annexure 3, An	nexure 4 (if applicable), Annexure 6 (if applicable) and	1	Annexure 3, Ar	nnexure 4 (if applicable), Annexure 6 (if applicable) and	
Z			Annexure 14 be	fore issuance of LoI.	/	Annexure 14 before issuance of Lol.		
	2.	2.7.2 of	Important timeli	nes are mentioned below:		Important timeli	nes are mentioned below:	
		RFP	_		-	_		
			Date	Event		Date	Event	
			<u>15.01.2024</u>	Issue of final RFP Project Documents		<u>30.01.2024</u>	Issue of final RFP Project Documents	
			<u>30.01.2024</u>	electronic bidding portal)		<u>13.02.2024</u>	electronic bidding portal)	
			<u>30.01.2024</u>	Opening of Technical Bid		<u>13.02.2024</u>	Opening of Technical Bid	
			<u>07.02.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal		<u>21.02.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal	
			<u>08.02.2024</u>	Opening of Financial Bid - Initial Offer		<u>22.02.2024</u>	Opening of Financial Bid - Initial Offer	
			<u>09.02.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		<u>23.02.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	
				Submission of original hard copies of Annexure 3,			Submission of original hard copies of Annexure 3,	
			<u>12.02.2024</u>	Annexure 4, Annexure 6, as applicable and Annexure		<u>28.02.2024</u>	Annexure 4, Annexure 6, as applicable and Annexure	
				14 by the bidder with lowest Final Offer			14 by the bidder with lowest Final Offer	
			<u>19.02.2024</u>	Selection of Successful Bidder and issue of LOI		<u>04.03.2024</u>	Selection of Successful Bidder and issue of LOI	
			<u>29.02.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV A Power Transmission Limited		<u>14.03.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV A Power Transmission Limited	
	1							

3.	2.13.1 of RFP	 Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>30.01.2024</u>	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>13.02.2024</u>
			·
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>08.02.2024</u> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>22.02.2024</u> in the office of CEA.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1	RFP & TSA	General	We request you to clarify whether there are any deviations/addition in the RFP/TSA documents from the Standard Bidding documents (SBD) and if any, whether approval for the same has been taken or not.			The RFP/ TSA Documents are as per the Standard Bidding Documents (SBDs) and subsequent amendments issued by the Ministry of Power, Gol.
2	RFP	General	the same, if any. We request you to let us know the status of TSA signing.		SPV Acquisition is linked to TSA Signing and it is very important to get the clearance before RFP Submission as this will impact the initiation of projects	As per revised TBCB Guidelines and SBD issued by MoP, Gol, TSP on the date of acquisition of SPV from the BPC will enter into a Transmission Service Agreement (TSA) with the Nodal Agency.
3	RFP	Clause 1.6.2.1 (2): To obtain approval for laying of overhead transmission lines under Section 68 of Electricity	It is requested you to kindly provide present status of process initiated by BPC with regard to section 68 approval.			The approval u/s 68 of Electricity Act will be shared with the successful bidder.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariffreser Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerForm Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		Act, from the Government at least twenty (20) days prior to Bid Deadline.				
4	RFP	Clause 1.6.2.1 (4): To initiate process of seeking forest clearance, if required.	It is requested you to kindly provide present status of Forest Clearances if any transmission line corridor area falling in wildlife forest / reserve forest/ mangroves.			BPC will complete its responsibilities as listed in the RFP documents. Please also refer Clause 1.6 & 2.5.7 of the RFP document.
5	RFP	Clause 1.6.2.2: The details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project shall be handed over to the TSP on an as-is-where-is basis, so that it may take further actions to obtain Consents, Clearances and Permits	Please provide copy of all such document available with you from the State Government and/or Ministry of Power and/or kindly facilitate for State Support Agreement.			The support will be provided on case-to- case basis, within applicable laws and regulatory framework.
6	RFP	Clause 1.10 The Ministry of Power and the appropriate state government(s) shall	We request you to share all such documents or correspondence happened with MOP and			The support will be provided on case-to- case basis, within applicable laws and

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power For Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		provide their support to the TSP, on best endeavor basis, in enabling the TSP to develop the Project.	State Government, this will help the TSP is taking further approvals for the project.			regulatory framework.
7	RFP	Clause 1.12 Once the Successful Bidder is selected, the details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project, shall be handed over to the Successful Bidder on as is where basis, so that it may take further actions to obtain all necessary Consents, Clearances and Permits and the TSP shall not be entitled for any extensions in the Scheduled COD of the Project except as provided for in the TSA.	BPC is requested to provide the list of details & documents to be handed over to the Successful Bidder.			At this stage list of details and documents cannot be provided. Such details will be shared only with the successful bidder. However, it is clarified that BPC will complete its responsibilities as listed in the RFP documents.
8	RFP	Clause 2.15.2 Within ten (10) days of the issue of the Letter of Intent, the Selected Bidder	BPC will appreciate that the completion of said			This is as per theSBDandamendments thereof,issuedby

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariffresset Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFore Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

S N	I. Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		<ul> <li>shall: <ul> <li>a) provide the Contract Performance</li> <li>Guarantee in favour of the Nodal Agency as per the provisions of Clause 2.12</li> </ul> </li> <li>b) execute the Share Purchase Agreement and the Transmission Service Agreement</li> <li>c) acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of [Insert the name of the SPV]from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of [Insert the name of the SPV], along with all its related assets and liabilities;</li> </ul>	activities by the Selected Bidder within ten (10) days after issuance of Lol is very stringent. Also, execution of SPV / signing of share purchase agreement is not within the control of TSP as it is dependent on certain regulatory approvals as well. We therefore request to consider at least 30 days' time for completion of these activities as well as provide a carve out for consequences if the delay is not on account of TSP.			Ministry of Power and hence, no change is envisaged.
	9   <b>RFP</b>	Clause 2.15.2 Stamp duties payable on	We request you to provide Applicable Stamp Duty Charges and			Kindly refer Clause 2.5.7 of the RFP

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power For Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the Clarification or	RECPDCL Response
		purchase of one hundred percent (100%) of the equity shareholding of [Insert the name of the SPV], along with all its related assets and liabilities, shall also be borne by the Selected Bidder.	Amount of Stamp Paperforthefortheforthefortheforthefortheagreements:ii.SharePurchaseAgreementiii.Power of Attorneyiv.ShareTransferFormIt will be helpful if you canspecify the name of 1stparty and 2nd party forpurchaseofstamp	amendment	Amendment	Document. Name of the 1st party and 2nd party would be as per respective document / agreement.
10	RFP	Clause 2.15.4 Within five (5) working days of the issue of the acquisition of the SPV by the Successful Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section –		Clause 2.15.4 may be reworded as below - Within ten (10) working days of the issue of the acquisition of the SPV by the Successful Bidder, the	The condition to apply for grant of transmission license and make application for adoption of transmission charges within 5 days is onerous. Request to please change the relevant provisions as per the suggested text in RFP and TSA	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord" Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		63 of The Electricity Act 2003.		TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003.		
11	RFP	Clause 2.15.5 If the Selected Bidder / TSP fails or refuses to comply with any of its obligations under Clauses 2.15.2, 2.15.3 and 2.15.4, and provided that the other parties are willing to execute the Share Purchase Agreement and REC Power Development and Consultancy Limited is	It is requested to kindly clarify as to what will be the consequences if the Selected Bidders fails to comply with any of Its obligations under 2.15.2, 2.15.3 and 2.15.3 due to reasons beyond the control of or not attributable to Selected Bidder / TSP.			Provisions of RFP Document are amply clear in this regard and shall prevail.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power For Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		willing to sell the entire equity shareholding of [Insert the name of the SPV], along with all its related assets and liabilities, to the Selected Bidder, such failure or refusal on the part of the Selected Bidder shall constitute sufficient grounds for cancellation of the Letter of Intent. In such cases, the BPC / its authorized representative(s) shall be entitled to invoke the Bid Bond of the Selected Bidder.	As the consequences for failure to comply the obligations under 2.15.2, 2.15.3 and 2.15.3 is the cancellation of Letter of Intent (LOI). We request you to reconsider the same as it would be unfair if LOI of selected bidder is cancelled due to reasons beyond its control.			
12	RFP	Clause 2.4.3 The amendment to the RFP shall be notified to all the Bidders through the electronic bidding platform and shall be binding on them.	We understand that the BPC will also continue to share amendments / corrigendum through emails as per the current practice.			Yes
13	RFP	Clause 3.6.1 However, if no bid is received during the e- reverse bidding stage then	We request you to clarify, if two or more bidders quote the same initial offer which turns out to be			As per provisions of RFP, bidders have to quote transmission charges upto 2 decimal points.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerForm Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		the Bidder with lowest quoted initial transmission charges ("Initial Offer") during e-bidding stage shall be declared as the Successful Bidder,	prevailinglowestlevelizedtariffandnofurtherdiscountis offeredbyanybidderduringe-reverseauction.auction.auctionauctionInsuchcasewhatwillbethemodalityBPCwillfollowforfollowforawardofproject.BPC to confirmauctionauctionauction			Therefore, it is practically not possible to have same Initial Offer from two or more bidders. However, if such situation arises, appropriate decision will be taken by the competent authority.
14	RFP	General	We request you to kindly accept the Board resolutions passed by Management Committees formed by the Board of Directors of Bidding Company and TEE / affiliate respectively and duly authorized by the Board of Directors for participation in various tenders issued by Govt. authorities in response to the RFP submission.		The board meeting of Bidding Company / TEE may not be scheduled till RFP submission. Thus, we request you to kindly consider the board resolution passed by the management committee formed by the board of directors' w.r.t. Authorization from Bidding Company and TEE.	Provisions of RFP Document are amply clear in this regard.
15	RFP	ANNEXURE 22 – FORMAT FOR AFFIDAVIT	We understand that the declaration and details			The declaration and details with respect to Clause 2.1.9 of

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power For Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
16	TSA	Article 3.3.1	with respect to conviction and investigation is to be provided for Affiliate / Parent company of the Bidding company only if such an Affiliate / Parent company is being used for meeting financial / technical qualification requirements.		Additional CPG shall	RFP is to be provided by the bidding company including Affiliate / Parent company of the Bidding company being used for meeting financial / technical qualification requirements as per Annexure 22 of the RFP document.
		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	provided here, it is requested to amend the provision regarding refund of additional CPG on fulfillment of Conditions Subsequent.		be recovered for the non-fulfillment of Conditions Subsequent. However, this additional CPG is then forming part of CPG and is being retained by Nodal Agency. Considering the fact that additional CPG is consequential guarantee for performance related to condition	SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		Contract Performance			subsequent, it is	
		Guarantee of Rs. Rs. 9.35			requested to review	
		Crore (Rupees Nine Crore			the provision and	
		Thirty Five Lakh Only)			amend the provision	
		within two (2) Business			to refund the	
		Days of expiry of every			additional CPG on	
		such Month. Such			fulfillment of	
		additional Contract			Conditions	
		Performance Guarantee			Subsequent.	
		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				

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Bases Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		additional Contract Performance Guarantee, in accordance with the provisions of this Agreement.				
17	TSA	<b>Clause 1.6.1.5</b> The TSP shall seek approval under Section 164 of Electricity Act, from CEA after acquisition of [Insert the name of the SPV], The approval shall be granted by CEA generally within 30 days but in no case later than 45 days from the date of receipt of application (complete in all aspects).	It is requested you to kindly clarify whether process of obtaining authorization U/s 164 of Electricity Act, 2003 would be initiated by BPC.	It is suggested that BPC may initiate the process for obtaining approval U/s 164 based on the survey undertaken by BPC.	It may be appreciated that obtaining approval U/s 164 takes considerable time. In the interest of timely completion of project, it is suggested that BPC may initiate the process U/s 164.	BPC will complete its responsibilities as listed in the RFP documents. Please also refer Clause 1.6 & 2.5.7 of the RFP document.
18	TSA	Article 4.4 Extension of Time	TSP is required to obtain certain clearances/ approval such as authorization u/s 164, Forest clearance, Grant of Transmission License and approval for adoption of tariff etc. In case if there is any delay in		Clearances/ approval such as authorization u/s 164, Forest clearance, Grant of Transmission License and approval for adoption of tariff are not within the control of TSP once it has	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			these approvals beyond		been applied after	
			stipulated time, such		fulfilling all the	
			delay shall be considered		necessary	
			for extension of SCOD of		compliance, any	
			the project and any		consequential delay	
			consequential increase in		is required to be	
			cost shall be allowed		allowed.	
			through appropriate			
			adjustment in the tariff.			
19	TSA	Article 5.1.2	TSP cannot be burdened		There may be	This is as per the
			with impact of		number of reasons	SBD and
		The TSP acknowledges	unsuitability of the site or		for unsuitability of the	amendments thereof,
		and agrees that it shall not	transmission line route		site or transmission	issued by the Ministry
		be relieved from any of its	due to reasons beyond		line route which are	of Power and hence,
		obligations under this	control. I herefore,		beyond control of the	no change is
		Agreement or be entitled to	suitable revision may be		ISP.	envisaged.
		any extension of time or	carried out in clause		For such instances	
		any compensation	5.1.2.		For such instances,	
		whatsoever by reason of			suitable extension of	
		the unsuitability of the Site			time and appropriate	
		or Transmission Line			adjustment in tariff	
	TOA	route(s).	la su stisu st		shall be provided.	This is a new the
20	ISA		Inspection of		Construction	This is as per the
		Site regulations and	Construction drawings		drawings and tew	SBD and
		Site regulations and	and other documents		specific documents	amendments thereof,
			related to construction		may be proprietary/	of Dowor and hence
		The TSP shall abide by the	alouso no 5 6		confidential and Is	
		THE FOF SHAILADIGE DY LITE	clause no. 5.6.		against commercial	no change is

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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			interest of the TSP.	envisaged.
		construction.				
21	TSA	Article. 6.4.1 Liquidated Damages for Delay in achieving COD of Project by TSP.	If the TSP fails to achieve COD for any Element of the Project or for the Project by SCOD, then the TSP is required to pay liquidated damages. It is noted that, Clause 6.4.1 of the TSA does not exclude delays caused due to a Force Majeure or Nodal Agency's default. This may well be a drafting oversight and			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			may be clarified. The TSP should also not be liable to pay liquidated damages in the event the delay is not attributable to the TSP. Accordingly, it may be clarified that no damages will be payable in the event the delay is on account of Force Majeure or Nodal			
22	TSA	Article 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	Agency's default.	Underlined text may be added under Article 11.3 : A 'Force Majeure' means any event or circumstance or combination of events and circumstance	TSA	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFrom Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		events or circumstances		those stated		
		are not within the		below that		
		reasonable control, directly		wholly or		
		or indirectly, of the		partly		
		Affected Party and could		prevents or		
		not have been avoided if		unavoidably		
		the Affected Party had		delays an		
		taken reasonable care or		Affected Party		
		complied with Prudent		or <b>makes</b>		
		Utility Practices:		performance		
				of obligation		
				commerciall		
				y unviable		
				for the		
				Affected		
				Party in the		
				performance		
				of its		
				obligations/		
				roles under		
				this		
				Agreement,		
				but only if and		
				to the extent		
				that such		
				events or		
				circumstance		
				s are not		

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				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 Litility		
				Practices.		
23	TSA & RED	Provisions in TSA		1 1201003.	The blacklisting of	This is as nor the
20					TSP for a period of 5	SBD and
		(Provision related to non			vears for default.	amendments thereof.
		fulfilment of condition			failure to complete	issued by the Ministry
		subsequent)			conditions	of Power and hence,
					subsequent &	no change is
		3.3.6			annulment of award,	envisaged.
					and for indefinite	
		foilure of the TSD to fulfil			period for error in	
		its obligations if it			submission	
		considers that there are			onerous and harsh	
		sufficient grounds for so			on TSP.	

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of PowerFord Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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. ( <i>Termination procedure for</i> <i>TSP event of default</i> ) <b>13.2</b> 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. <u>Provisions in RFP</u> ( <i>Non fulfilment of</i> <i>Obligations by TSP post</i> <i>issuance of LoI and post</i> <i>acquisition of SPV</i> ) <b>2.15.8</b>		amendment	AmendmentTSP'seventofdefault covers a lot ofactivities, and if TSPfails to comply withevenoneevenoneactivity,TSPisatriskofgettingblacklisted.Further,TSAprovidesdiscretionaryright toNodalagencytodecidewhetherTSPwould beblacklisted.Incaseofdiscrepancyinsubmission,itisrequestedthatBPCshallseekclarificationfrombidderanduponfailuretoprovideclarificationandcompleteinvestigationonly,shouldconstruesuchactivityasfraudulent	
		The annulment of the award, under Clause			Hence it is requested	

Clarifications dated 30.01.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System For Evacuation Of Power Provider Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase-IV (7GW): Part C"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		2.15.5 or 2.15.6 of this RFP, shall be sufficient grounds for blacklisting the bidder, whose award has been annulled, for a period of five years or more, as decided by the National Committee on Transmission, provided that the blacklisting shall be done only after giving the bidder an opportunity for showing cause. ( <i>Discrepancy in online and</i> <i>physical submission of</i> <i>selected bidder</i> )			to include blacklisting only in extreme cases and provide definite guidelines on Nodal Agency's right to blacklist bidders. Also in RFP, blacklisting for annulment of project award would be done by government, while in other cases it would done by Nodal Agency. It is requested that blacklisting rights shall only reside with government.	
		In case, there is a discrepancy between the online submission and physical documents, the bid would be out rightly rejected and the bidder shall be construed to have engaged in the fraudulent practice as defined in Clause 2.19.3 with consequences as				
SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
-----------	-------------------------	--	------------------------	--	---	---
		mentioned in Clause 2.19.2. Further, in such a case, the provisions of Clause 2.5.6 (j) shall apply.				
24	TSA	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-fulfillment of role by the Nodal Agency.		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 <u>TERMINATIO</u> <u>N</u> notice on the Nodal Agency, with a copy to CEA and the Lenders'	The contract clauses as per TSA favors the Nodal Agency. All the termination rights are provided to Nodal Agency and the agreement does not provide the other party (TSP) right to terminate in case of default of Nodal Agency. In absence of termination right, TSP is at risk commercially, if Nodal agency fails to fulfill its assigned responsibilities, for example failure of Nodal Agency to pay the quoted transmission	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the Clarification or	RECPDCL Response
				Representativ	charges	
				e (a "TSP's		
				Preliminary	Also. the	
				<b>Termination</b>	methodology for	
				Notice").	computation of	
					compensation to	
					TSP, in case of	
					mutual agreement to	
					terminate, should be	
					defined upfront.	
25		3.3.4 In case of inability of		3.3.4 In case	In case of delay in	This is as per the
		the ISP to fulfil the		of inability of	SCOD due to FM	SBD and
		Article 21.2 due to any		the ISP to	event, the provision	amendments thereof,
		Earce Majoure Event the			right to Nodal Agapay	of Rower and honce
		time period for fulfilment of		specified in	to terminate TSA	no change is
		the condition subsequent		Article 313	after occurrence of	envisaged
		as mentioned in Article		due to any	FM event There	chrisagea.
		3.1.3, may be extended for		Force	should be gestation	
		a period of such Force		Maieure	period of at least 6	
		Majeure Event.		Event, the	months after start of	
		Alternatively, if deemed		time period	FM event. Post	
		necessary, this Agreement		for fulfilment	completion of 6	
		may be terminated by the		of the	months, both parties	
		Nodal Agency by giving a		condition	may decide to	
	TOA	Termination Notice to the		subsequent	terminate the contract	
	ISA	TSP, in writing, of at least		as mentioned	on mutual	
		seven (7) days, with a		in Article	agreement. In case of	
		copy to CEA and the		3.1.3, may be	⊢M, there should not	
		Lenders' Representative in		extended for	be any unilateral right	
		order to enable the		a period of	to terminate. Also,	
		Lenders to exercise right of		such Force	the methodology for	

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		substitution in accordance		Majeure	computation of	
		with Article 15.3 of this		Event.	compensation to	
		Agreement and the		l <u>n case the</u>	TSP, in case of	
		Contract Performance		Force	mutual agreement to	
		Guarantee shall be		<u>Majeure</u>	terminate, should be	
		returned as per the		Event	defined upfront.	
		provisions of Article 6.5.1.		<u>continues</u>		
		4.4.0 In the event that an		even after a		
		4.4.2 In the event that an		period of one		
		cannot be commissioned		eighty (180)		
		by its Scheduled COD on		dave if		
		account of any Force		deemed		
		Majeure Event as per		necessary.		
		Article11, the Scheduled		the Noda		
		COD shall be extended, by		Agency <u>or</u>		
		a 'day to day' basis for a		TSP, upon		
		period of such Force		<u>mutual</u>		
		Majeure Event.		<u>agreement</u>		
		Alternatively, if deemed		may		
		necessary, the Nodal		terminate the		
		Agency may terminate		Agreement		
		the Agreement as per the		as per the		
		provisions of Article 13.4		provisions of		
		by giving a remination		Article 13.4 by		
		writing of at least seven		giving a		
		(7) days with a conv to		Notice to the		
		CEA and the Lenders'		other narty		
		Representative in order to		in writing of		
		enable the Lenders to		at least seven		
		exercise right of		(7) days, with		

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
No	Document	provision substitution in accordance with Article 15.3 of 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.		text for the amendment a copy to CEA and the Lenders' Representativ e 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. 4.4.2 In the event that an Element or the Project	Clarification or Amendment	Response
				cannot be commissione d by its Scheduled		

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for Clarification Amendment	the or	RECPDCL Response
				COD on			
				anv Force			
				Majeure			
				Event as per			
				Article11, the			
				Scheduled			
				COD shall be			
				a 'day to day'			
				basis for a			
				period of such			
				Force			
				Majeure			
				Event.			
				Force			
				Majeure			
				Event			
				<u>continues</u>			
				<u>even after a</u>			
				period of one			
				eighty (180)			
				days if			
				deemed			
				<u>necessary,</u>			
				the Nodal			
				Agency <u>or</u>			
				mutual			
				agreement			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				may terminate the Agreement as per the provisions of Article 13.4 by giving a Termination Notice to the other party, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representativ e in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.		
26	TSA	Clause 5.8 "Remedial Measures: The TSP shall take all necessary actions for remedying the shortfall in			This is very stringent clause and provides for agreement termination at the subjective discretion	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence,

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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			of Nodal Agency. Request to modify the clause as: If the shortfalls as intimated to the TSP are not remedied to the satisfaction of the CEA and/ or the Nodal Agency, it may refer the same to the Appropriate Commission for appropriate action.	no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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."				
27	TSA	13.7 Termination Payment 13.7.1 If Agreement is terminated on account of Force Majeure Events, no 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.			Guidelines on valuation of project assets conducted should be provided to ensure there is no ambiguity. Further if TSA is terminated during operating period of project, guidelines on valuation of assets in such event to be provided.	Valuation of project assets shall be done as per the prevailing industry practices. Further, please refer Clause 18.2 e) of TSA.
28	TSA	13.5 Termination or amendment due to non- requirement of any Element or Project during construction			Guidelines on amendment of TSA in case of non- requirement of any element during	Valuation of project assets shall be done as per the prevailing industry practices.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		<ul> <li>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.</li> <li>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.</li> <li>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</li> </ul>			construction should be clearly specified, especially the treatment of Quoted Transmission Charges and capital cost of element no longer required. For example, if 50% construction of an element is completed and that element is not required, how would the TSP be compensated for the capital cost of the element.	Further, please refer Clause 18.2 e) of TSA

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.				
29	TSA	12. Change in Law	Inclusion of change in acquisition price in Change in Law		As SPV acquisition price is part of capital cost of project, any change in Acquisition price after bidding would directly affect the bidder commercially and it is totally beyond the control of TSP. Hence, it is requested to kindly allow change in acquisition price under CIL event.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
30	TSA	D)The TSP has agreed to make an application for a Transmission License to the Commission for setting up the Project on <b>build</b> , own operate and		D)The TSP has agreed to make an application for a Transmission	As per revised TSA, asset to be transferred to Nodal agency post 35 years (BOOT). The assets created would be	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is
		transfer basis.		License to the	Financial assets	envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				Appropriate Commission for setting up the Project on build, own, operate and maintain basis.	instead of Fixed assets. Under IndAS accounting rules, depreciation of financial assets is not allowed. Further, TSP would be at risk of authorities levying 18% GST upfront on construction revenue recognized on COD.Higher taxation would impact the project	
					economics eventually leading to higher tariff for the Consumers. Under BOOT model, <b>asset condition may</b> <b>degrade</b> towards end of concession period due to lack of incentive for developer to maintain the asset by incurring some capex. Hence it is requested to continue with the BOOM model.	

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
31	TSA	5.5.6 For any delay in commissioning any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, <b>beyond</b> <b>a period of 45 days</b> shall lead to a sequestration of 10% of the Contract Performance Guarantee. 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.		5.5.6 For any delay in commissionin g any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, beyond a period of 6 months (as per clause 13.1.b) unless extended by Nodal Agency due to FM/CIL as per provisions of this agreement, shall lead to a sequestration of 10% of the Contract Performance Guarantee.	Clause 13.1.b of TSA allows upto 6 months' delay in commissioning of element after SCOD. 10% sequestration clause does not cover any delay due FM or CIL event. If in case all the elements of projects are declared as "critical elements", TSP is liable for 10% CPG sequestration. It is requested to kindly extend period beyond which CPG sequestration shall occur to 6 months. Further, TSP should not be made liable for LD payments on account of delay in project / element commissioning more than as identified under clauses 6.4.1 and 6.4.2	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
32	15A	MTC- Monthly		0.02 x Annual	under TBCB has	SBD and

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
	Document	provision         transmission charges; Tmn         = transmission charges for         month "m" in contract year         "n"         For incentive         a. If 98%< AA < 98.5%;		text for the amendment Transmission Charges x (Actual Annual Availability – Target Availability) Target Availability: AC -98% & HVDC -95% Incentive = 0.02 x Annual Transmission Charges x (Actual Annual Availability – Target Availability)	ClarificationorAmendmentseen a reduction of30%-50%ascompared to RTMprojects.theincentiveformaintainingavailabilityavailabilit	amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
		For Penalty d. If 95 % < AA < 98 % MTC = Tmn* (AA / 98 %); e. If AA < 95 % MTC = Tmn* (AA/98 %) -		Target Availability: AC -98% & HVDC -95%	there is no incentive for maintaining actual availability between 98% and 98.5%. Hence it is requested to continue with existing provisions for penalty and incentive	
		0.02* (Tmn* (AA/98%))			calculation.	

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
33	TSA	3.3.4 Provided, that due to the provisions of 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.		3.3.4 Provided, that due to the provisions of 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. The TSP will be allowed to recover the interest cost during construction correspondi ng for the period of FM/CIL event by	In event of FM/CIL event, provisions under revised TSA do not provide for any adjustment in transmission charges for a period of 180 days. TSP is allowed to recover interest cost during construction for period exceeding 180 days. As large portion (70%) of project cost is funded through debt, repayment of which does not start till COD, any delay in SCOD leads to higher interest built up. This severely affects the project economics of developer. Hence it is requested to allow for recovery of interest cost during construction for entire period of FM/CIL event.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

S N	l. o	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
					adjustment in the Transmissio n Charges in accordance with Schedule 9.		
	34	TSA	<ul> <li>18. 1 The Nodal Agency shall appoint an agency/ company as Independent Engineer (IE)</li> <li>Responsibilities of IE include progress monitoring, ensuring quality, determine costs of works/services, determine valuation of project assets, assist parties in dispute resolution.</li> </ul>			It is requested to not appoint an external agency (Independent Engineer-IE) and the Nodal Agency to execute the functions such as progress monitoring, quality assurance, determination of works/services, valuation of projects assets. Any delay in appointment of IE would delay the project execution. Further addition of an external agency would also be an additional expense which would eventually result in tariff increase.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
35		<ul><li>3.1 Satisfaction of Conditions Subsequent by the TSP</li><li>c. Execute this Agreement;</li></ul>			Since the execution of TSA will require coordination with the CTU, it is requested that the TSA be executed before project acquisition by the project SPV in the interest of saving time. This will also facilitate early completion of the project critical activities	As per revised TBCB Guidelines and SBDs issued by MOP, Gol, TSP on the date of acquisition of SPV from the BPC will enter into a Transmission Service Agreement (TSA) with the Nodal Agency.
36		<ul> <li>3.1.3 The TSP agrees and undertakes to duly perform and complete the following activities within six (6) months from the Effective Date</li> <li>To obtain the Transmission License for the Project from the Commission;</li> </ul>	While the TSP will apply to the respective commission for grant of license, time required for the issuance is beyond the control of TSP once the application is made. We request to modify the clause suitably to incorporate the above.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
37	SPA	Clause 3.5 The Selected Bidder hereby acknowledges and agrees that after the date	We understand that acquisition price towards acquisition of one hundred percent (100%) of the equity shareholding			Yes

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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 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 as the case may be	of the Company, communicated to bidder would include all liabilities pertaining to SPV prior to closing date. Please confirm			
38	RFP	"Final Offer" shall mean the Quoted Transmission Charges, required to be	Presently, details of L-1 bidder are not displayed on conclusion of e-RA if		For transparency of the competitive price discovery through e-	As per provisions of RFP, bidders have to quote transmission

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		submitted as part of the Financial Bid on the electronic bidding platform during the e-reverse bidding stage. In case, no Final Offer is received during the e-reverse bidding stage then the lowest "Initial Offer" shall be deemed to be the Final Offer;	there is no receipt of counterbids. In case, two bidders have quoted the same L1, they would be under false impression of having L1 tariff of their own and may not offer further competitive offer. In such scenario, e-RA shall end resulting in premature conclusion of e-RA process. It is requested to update the e-RA platform accordingly to reflect the status of L1 bidder under the above scenario.		RA	charges up to 2 decimal points. Therefore, it is practically not possible to have same Initial Offer from two or more bidders. However, if such situation arises, appropriate decision will be taken by the competent authority.
39	RFP document	Provisions of RFP	Query-1			Query-1, 2 and 5
	and TSA	Clause 1.5 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 State Government after	Treatment of tax application at the end of the life of assets. As per section 50C of Income tax act, in case sale consideration received or claimed to be received by seller on sale of land or building or both			The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTUIL or its successors or an agency as

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.	is less than value adopted by stamp valuation authority (SVA), such value adopted by SVA would become actual sale consideration received or accruing to the seller. Therefore, capital gain would be Valuation as per stamp valuation as per stamp valuation authority reduced by cost/indexed cost of acquisition. Treatment of Capital tax and applicable TDS to be clarified.			decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability. Any taxes, stamp duties and liabilities, as may be applicable, has to be borne by the TSP.
			Query-2 Modality of transfer of			Query-3 and 6
			In case only assets to be transferred then application of stamp duty & other taxes and its treatment to be clarified. Query-3			The transfer of all project assets along with substation land, right of way and clearances shall be completed at the end of 35 years from COD of the Project.
			Modalities for O&M, other expenditure etc. for the			All the expenditure till the transfer of all

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification o Amendment	RECPDCL Response
			transition period of 90 days may be confirmed. Availability calculation for the said period?			project assets along with substation land, right of way and clearances shall be borne by TSP.
		Provisions of TSA Definitions: "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,	Availability calculation for the said period?Query-4There could be delay in receipt of payment against receivables. Further, the TSP might have some pending claims against insurance company.How shall TSP receive these legitimate pending claim or charges after transfer of asset to CTU?Query-5Please confirm that any			Query-4 Definition of Project Assets is amply clear in this regard.
		embankments, pavements, electrical systems, communication systems, relief centres, administrative offices, Substations, software, tower and sub-stations	taxes or charges or cost to be borne by the TSP at the transfer time including sale at value lower than fair value shall be reimbursed to the TSP.			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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;" 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 State Government at zero	These costs are not known at this point of time and might be significant in amount. TSP cannot be exposed such charges. Query-6 Modalities for O&M, other expenditure etc. for the transition period of 90 days may be confirmed.	amendment	Amendment	
		cost and free from any encumbrance and liability. The transfer shall be completed within 90 days				

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		failing which CTU shall be entitled to take over the				
40	RFP	Clause 2.7.2	The important timelines are mentioned in the table including shortlisting and announcement of Qualified bidder, proposed date of		For clarity and to comply with SBD requirement	The qualification status is being informed to the bidders invariably. Further, all relevant dates are informed to
			issuance of LoI, transfer of SPV etc. It is observed in the past that in case, there is extension in bid submission date, the revised timelines are not being provided regarding issuance of LoI, transfer			the bidders, as per provisions of RFP.
			of SPV etc. Further, in case of delay in shortlisting of qualified bidders, it is requested to provide the updated dates of financial bid opening and date of conduction of e-RA etc., atleast 1 week prior to financial bid opening, to enable bidders to take appropriate action for			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			participation in e-RA. It is requested to kindly provide the updated table in case of extension in bid submission date/ delay in shortlisting of qualified bidders.			
41	RFP	2.15.3 After the date of acquisition of the equity shareholding of SPV [which is under incorporation], along with all its related assets and liabilities, by the Selected Bidder, i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be taken thereafter will be undertaken by the Nodal Agency,	Role of BPC has to be complete.	i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be taken thereafter will be undertaken by the Nodal Agency, save for those which are related to and consequent to the bidding process adopted by the BPC	The BPC shall not relinquish its role after the acquisition but shall have to undertake all activities including providing the certification from the Bid Evaluation Committee etc., and other requirements to enable the Bidder to obtain Transmission license and adoption of Transmission charges. Furthermore, any activity which has an origin traced to the BPC activity/process has to be owned by BPC and the TSP / LTTC is neither	The role of BPC is as per the SBD and hence no change envisaged. However, it may be noted that the BPC shall fulfil its responsibility of providing the certification from the Bid Evaluation Committee to enable the TSP to obtain Transmission license and adoption of Transmission charges. The details of the contractual obligations (if any) of BPC to be fulfilled by

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
					aware nor can be made responsible.	the TSP shall be provided to the bidders along with the tentative Acquisition price of SPV.
42	RFP	2.15.3 iv. contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP.	What are the obligations that the BPC has undertaken which needs to be fulfilled by the TSP?	2.15.3 iv. Contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP if only such contractual obligations have been made available to the bidders 15 days prior to the bid deadline.	Nature of contractual obligations cannot be left open as the same is to be fulfilled by the TSP.	The details of the contractual obligations (if any) of BPC to be fulfilled by the TSP shall be provided to the bidders along with the tentative Acquisition price of SPV.
43	RFP & TSA	Provision of RFP	Query-1	Within thirty (30) working		Query-1
		2.15.4 Within five (5) working days of the issue of the acquisition of the SPV by the Successful Bidder, the	We request you to consider at least 30 days' time for completion of these activities.	days of the issue of the acquisition of the SPV by the		This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence,
		TSP shall apply to the	Query-2	Successful		no change is

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003 Provision of TSA 3.1.1The 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	Definition of working day is not defined in the TSA. Therefore, it is requested to define working day to avoid ambiguity and litigation later on	Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003		envisaged. Query-2 For this purpose, working day shall mean a day on which the office of the Central Commission i.e. CERC is functioning.
44	RFP	2.15.6 If the TSP fails to obtain the Transmission License from the Commission, it will constitute sufficient grounds for-annulment of award of the Project	In case TSP fails to obtain the Transmission License the reasons for the same have to be examined.	2.15.6 If the TSP fails to obtain the Transmission License from the Appropriate Commission,	Provisions of 3.3 of TSA provides for consequences for non-fulfilment of conditions subsequent. The provisions of RFP as such have to be	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				the treatment shall be as per provisions 3.3 of the TSA.	reflective of TSA.	
45	RFP and TSA	The definition of Contract Year in RFP is as under: "Contract Year" shall mean the period beginning on the Scheduled COD, and ending on the immediately succeeding March 31 and thereafter each period of 12: And the definition of Contract Year in TSA is as under: "Contract Year", for the purpose of payment of Transmission Charges, shall mean the period beginning on the COD, and ending on the immediately"	As per RFP, the Contract Year shall start from the Scheduled CoD whereas as per TSA, the Contract Year shall start the CoD. As such, both the definitions are contradictory in nature. It is requested to clarify the correct definition of Contract Year.		To avoid ambiguity	The provisions of TSA are amply clear in this regard and shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
46	TSA	Clause no 2.3: Conditions prior to the expiry of the Transmission License 2.3.1 In order to continue the Project beyond the expiry of the Transmission License, the TSP shall be obligated to make an application to the Commission at least two (2) years before the date of expiry of the Transmission License, seeking the Commission's approval for the extension of the term of the Transmission License up to the Expiry Date. 2.3.2 The TSP shall timely comply with all the requirements that may be laid down by the Commission for extension of the term of the Transmission License beyond the initial term of twenty-five (25) years & upto the Expiry Date and	There should be a provision in the TSA to cover the revenue loss that may be incurred by the TSP, in the case of the Appropriate Commission not granting extension of the Transmission License beyond the period of 25 years.		The Transmission Charges to be quoted by the bidders would be based on the cash flow generated from the Project for 35 years and if, for any reason not attributable to the TSP (including any change in law), the Transmission License is not extended by the Appropriate Commission beyond 25 years the TSP will suffer significant losses. The RFP / TSA should be suitably modified to provide security of continuation of the transmission business for at least 35 years.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. Please also refer Article 4.1 (a) of the TSA.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		the TSP shall keep the Nodal Agency fully informed about the progress on its application for extension of the term of the Transmission License.				
47	TSA	<ul> <li>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),</li> <li>c) To submit to the Lead Long Term Transmission Customers and CTU &amp; 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</li> <li>h) To award the Engineering, Procurement and Construction contract ("EPC contract") for the design and construction</li> </ul>	As per clause 3.1.3 h, the EPC contracts to be awarded in 6 months. Whereas as per clause 3.1.3 c, TSP is required to submit Project Execution Plan after awards of Contracts within 120 days. TSP shall not be in a position to submit project plan within 120 days from effective date if the award of EPC contract is awarded after 120 days, but before 6 months period. As such, the timelines mentioned in above clauses are contradictory and the same may be reviewed.		For clarity	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		of the Project and shall have given to such Contractor an irrevocable notice to proceed;				
48	TSA	Clause 3.3.1: If any of the conditions specified in Article 3.1.3 is not duly fulfilled by the TSP even within three (3) Months in accordance with the provisions of this Agreement		Suggested text to be added at the end of this Article: " The additional Contract Performance Guarantee, if any provided by the TSP for delay in fulfilment of condition subsequent, shall be returned by the CTUIL on fulfilment of conditions subsequent by the TSP"	The additional CPG is for specific default(s) and once such default(s) cease to exist, this additional amount of CPG should be returned. Additional CPG cannot be held back by the CTUIL till COD of the Project.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
49	TSA	Clause no 3.3.4: In case of	The terms and conditions		In case the Force	This is as per the
		the conditions specified in	under this Article,		continues, the TSA	amendments thereof,

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.	including the termination payment and status of the SPV, need to be provided in the TSA.		will be terminated and the CPG will be returned. Other expenses that would have been incurred till the date of termination of the TSA including the Acquisition Price paid for Acquiring the SPV and other incurred costs shall also be explicitly stated. There should be an explicit provision for refund of the Acquisition Price, along with the other expenses incurred by the TSP / Selected Bidder till such date of termination.	issued by the Ministry of Power and hence, no change is envisaged.
50	ISA	9.3.4 Provided, that due to the provisions of this Article	from Force Majeure event for a period less than 6 months, interest cost		For project viability.	amendments thereof, issued by the Ministry

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		3.3.4, If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9 11.7 (e) Available Relief for a Force Majeure Event For avoidance of doubt, the TSP acknowledges that for extension of Scheduled COD a period up to one hundred eighty (180) days due to Force Majeure event, no compensation on the grounds such as interest cost,	during construction may be considered.			of Power and hence, no change is envisaged

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
51	TSA	<ul> <li>4.6 Interconnection Facilities:</li> <li>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 for coordinating to make available the Interconnection Facilities.</li> <li>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</li> </ul>	It is understood that if interconnection facilities at the interconnection point is not available, whereas TSP has completed rest of the scope of the project, the project shall be considered as deemed COD and TSP shall be entitled to all the benefits envisaged under the TSA.		For clarity.	The provisions of TSA are amply clear in this regard & shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		the Interconnection Facilities as specified in this Agreement.				
52	TSA	<ul> <li>6.1 Connection with the Inter-connection Facilities:</li> <li>6.1.1 The TSP shall give the RLDC(s), CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 &amp; 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Nodal Agency.</li> <li>6.2.1 An Element of the Project to Scheduled to the Nodal Agency.</li> </ul>	Reference is drawn to the Order of CERC 4/ADP/2016 dated 23.03.2016. Relevant extract of the Order is reproduced hereunder: "In the event the inter- connection facilities are not ready by SCOD or by revised SCOD (as may be revised by the petitioner and the LTTCs for the purpose of availing incentive as per MOP Policy) on account of non-readiness of the upstream or downstream transmission assets while the petitioner's transmission system is ready for commissioning, the COD of the transmission assets of the petitioner may be declared in accordance with the provisions of		Order of CERC 4/ADP/2016 dated 23.03.2016.	This shall be treated as per applicable CERC Regulations/ Orders/ TSA.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for Clarification Amendment	the or	RECPDCL Response
		have achieved COD	Article 6.2 of the TSA (to				
		twenty four (24) hours	be known as "deemed				
		following the connection of	COD") and the				
		the Element with the	LTTCs/developers of the				
		Interconnection Facilities	upstream and				
		pursuant to Article 6.1 or	downstream assets shall				
		seven (7) days after the	be liable to pay the				
		date on which it is declared	transmission charges				
		by the TSP to be ready for	the transmission essets				
		be charged for reasons not	are put into actual use "				
		attributable to the TSP	are put into actual use.				
		subject to Article 6.1.2	From above it is seen				
			that even in case of				
		Provided that an Element	SCOD when the systems				
		shall be declared to have	are declared deemed				
		achieved COD only after	COD as per Article 6.2 of				
		all the Element(s), if any,	TSA, till the transmission				
		which are pre-required to	assets are put into actual				
		have achieved COD as	use, the transmission				
		defined in Schedule 2 of	charges are liable to be				
		this Agreement, have been	paid by DICs/developers				
		declared to have achieved	of the upstream and				
		their respective COD.	downstream assets.				
			In such situations, it shall				
		6.2.2 Once any Element of	be construed that BPC				
		the Project has been	has obtained consent of				
		declared to have achieved	the DICs/ Upstream /				
		deemed COD as per	Downstream / Generators				
		Article 6.2.1 above, such	(as applicable) for				
		Element of the Project	payment of transmission				
		shall be deemed to have	cnarges.				

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.	Further, as per CERC order no. 104/MP/2018 dated 18th September 2018, downstream was directed to pay transmission charges to TSP.			
53	TSA	Clause 6.3.1 (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	Clause 6.3.1 (b) covers the loss on debt amount which includes, due to Indirect Non-Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, TSP is entitled for payment for debt service which is due under the Financing Agreements. However, any loss on the equity is not covered in the above clause. In order to compensate for the loss due to Indirect Non-Natural Force Majeure Event or Natural			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		the manner provided in (c) below.	Force Majeure Event affecting the Nodal Agency, compensation to both equity as well as debt to be covered as per clause 6.3.1 (a).			
54	TSA	10BILLINGANDPAYMENTOFTRANSMISSIONCHARGES10.3Rebate& LatePayment Surcharge	Any changes in CERC regulations, which have an implication on Billing cycle and/or cost implication to the TSP due to change in rebate and late payment surcharge, the same shall be allowed to be recovered under Change in law.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
55	TSA	Clause no. 10.1: Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of this agreement, from the date on which an Element(s) has achieved COD until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this		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	As per clause 6.2 of the TSA, the TSP is eligible for payment of Transmission charges from the date of deemed COD.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
-----------	-------------------------	---	--	--	--	--
		Agreement.		on which an Element(s) has achieved COD <u>or</u> <u>deemed to</u> <u>have</u> <u>achieved</u> <u>COD</u> until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement		
56	TSA	<ul> <li>11.4 Force Majeure Exclusions</li> <li>11.4.1</li> <li>(g) Any error or omission in the survey report provided by BPC during the bidding process.</li> </ul>	The survey report furnished by BPC has to be accurate and any error or omission has to be owned by the BPC. Professional fees including fees for survey report is also claimed by BPC.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged. Please also refer Clause 2.5.7 of RFP Document.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
57	TSA Clause 12.1.1	Clause 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	It is mentioned that in case any change in law event occurs on bid submission date or just prior to bid submission date, the bidders shall not have adequate time to understand the cost implication of such change in law event. Bidders cannot be exposed to such uncertainties and thereafter it is requested to consider any event after 7 days prior to bid deadline as Change in Law event. Furthermore, the bid submission is fixed at 12 noon. Whereas change in event could happen during the day even after 12 noon. Such clause can have serious implications on the viability of the project.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged. Please also refer Clause 2.5.7 of RFP Document
58	TSA	12.1.2 Notwithstanding anything contained in this	Any tax applied on the income or profits of the		Tax is an element beyond the control of	This is as per theSBDand

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		Agreement, Change in Law shall not cover any change: a. Taxes on corporate income; and; and b. Withholding tax on income or dividends distributed to the shareholders of the TSP.	TSP need to be covered under change in law.		the TSP. Change in tax or introduction of any tax is covered under change in law. Tax rate applicable on the income or profits of the TSP is beyond the control of the TSP and to assume the same for 35 years shall be a risk which is best assumed by the LTTCs accordingly this is to be reviewed.	amendments thereof, issued by the Ministry of Power and hence, no change is envisaged. Also, please refer to clause 2.5.7 of the RFP.
59	TSA	Clause 13.7 If Agreement is terminated on account of Force Majeure Events, nonrequirement of any Element or Project during Construction, Nodal Agency's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to	Kindly furnish the methodology of calculation of valuation of project asset.		For clarity	Valuation of project assets shall be done as per the prevailing industry practices. Further, please refer Clause 18.2 e) of TSA

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets				
60	TSA	Clause 10.1.2.1 10.1.2.1 1 Any amount payable under an Invoice shall be paid in immediately available and freely transferable clear funds, for value on or before the Due Date, to such account of the TSP or Long Term Transmission Customer as shall have been previously notified to Long Term Transmission Customer or the TSP, as the case may be 10.3 Rebate & Late Payment Surcharge: 10.3.1 Rebate: In case the Long Term Transmission Customer pays to the TSP through any mode of payment in respect of a Monthly Transmission Charge Invoice or	Timelines for payment of transmission charges is linked to "due date". However, the "due date" is not defined in the TSA. It is requested to provide the definition of "due date" to avoid confusion and litigation.		For clarity	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		Supplementary Bill, the following shall apply: a. For payment of Invoices through any mode of payment, a Rebate of 2% shall be allowed on the Monthly Transmission Charge Invoice or Supplementary Bill for payments made in full within two Business Day of the receipt of the Invoice; or b. For payment of Invoices subsequently, but within the Due Date, a Rebate of 1% shall be allowed on the payments made in full. and others				
61	RFP	Clause 2.1.2 "Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure of not less	As per QR, the capital expenditure under reference shall be as capitalised and reflected in the audited books of accounts of Technically Evaluated Entity.		For more clarity for submission of appropriate QR credentials	Provisions of RFP Document are amply clear in this regard and shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		than Rs Crore or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than Rs Crore or equivalent USD (calculated as per provisions in Clause 3.4.1 For this purpose, capital expenditure incurred on projects that have been commissioned/ completed at least seven (7) days prior to Bid Deadline shall be considered. The capital expenditure discussed above shall be as capitalized and reflected in the audited books of accounts of the Technically Evaluated Entity".	In above regard, please clarify the following: Whether entire capital expenditure of various Project(s), meeting the value-wise threshold requirements of QR, as capitalised in last five years in the audited books of accounts of Technically Evaluated Entity, shall be considered; OR Whether only the capital expenditure incurred in the last five years of such Project(s), capitalised in last five years in the audited books of accounts of Technically Evaluated Entity, shall be considered.			
62	RFP	Clause 2.11 Each Bidder shall submit the Bid accompanied by Bid Bond issued by any of	Verification of issued bid bond is done by the beneficiary bank of the BPC through SFMS platform from the issuing		Bidder needs information for issuance of Bid Bond	Requisite details have already been provided in the RFP document.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		the Banks listed in Annexure-17. The Bid Bond shall be valid for a period of thirty (30) days beyond the validity of the Bid.	bank of the bidder. In above regard, BPC is requested to provide following details. Bank account detail of beneficiary alongwith IFSC code and Branch address Unique Identifier of the beneficiary (if applicable) (The unique identifier needs to be incorporated by the issuing bank in Field 7037 of the IFIN 760 COV/IFIN COV while transmitting verification messages to the Beneficiary Bank through SFMS).			
63	RFP	Annexure 14 (Format of the Bid Bond) Addressee details are not mentioned in the beginning of the format Annexure 14 (Format of the Bid Bond) "In consideration of the"	Addressee details to whom Bid Bond is to be addressed are not mentioned in the Bid Bond Format. It is requested to mention the followings at starting of the format: Annexure 14 (Format of the Bid Bond) " To,			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			Designation of officer Name of BPC Address of BPC In consideration of the"			
64	RFP	Clause 1.6.2.2 – The details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project shall be handed over to the TSP on an as-is-where-is basis, so that it may take further actions to obtain <b>Consents, Clearances</b> <b>and Permits</b>	BPC to get the GST registration and GST TAN registration in the name of SPV in the State of Project execution where supply of Goods and Services shall take place.		For immediate commencement of execution of work by the SPV upon acquisition by the successful bidder.	BPC will complete its responsibilities as listed in the RFP documents. Please also refer Clause 1.6 & 2.5.7 of the RFP document.
65	SPA	Clause 1.2 (i) "Acquisition Price" shall mean INR (Rupees only) [Insert the value of the Acquisition Price, both in figures and	As per clause 1.2 (i) of the Share Purchase agreement, BPC is required to provide audited financial statement as on the closing date for adjustment, if any, in regard to aggregate consideration for acquisition of the SPV.		Audited financial statement is required for accounting in the books of successful bidder to ascertain acquisition price on closing date. An undertaking that the audited financial statements shall be provided within 15 days from the closing date may be	Provisions of SPA shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		in words respectively], which is the aggregate consideration payable by the Selected Bidder towards purchase of the Sale Shares at par along with assets and liabilities of the Company as on the Closing Date subject to adjustment as per the audited accounts of the Company as on the Closing Date:	It is requested to BPC to furnish audited financial statement within 15 days of the closing date.		furnished by BPC for making the payment of acquisition price by successful bidder.	
66	Clause No. 2.5, Section – II of RFP Documents	2.5 The Bidding Process The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by <b>30 minutes</b> from the last received bid time, if the bid is received during the last <b>30 minutes</b> of the scheduled or extended bid time. Subsequently, it will be extended again by <b>30</b> minutes from the latest received bid time.		2.5 The Bidding Process The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by <b>15 minutes</b>	As per revised Standard Bidding Documents, the bidders are required to quote single annual Transmission Charge from the date of SCOD of the project till expiry date in initial bid and in the e-RA. During e-RA, the initial time period for e-RA is 2 hours with extension of 30 minutes from last bid.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				received bid time, if the bid is received during the last <b>15minutes</b> of the scheduled or extended bid time. Subsequently, it will be extended again by <b>15</b> minutes from the latest received bid time. In case e- Reverse Bidding is not completed by 20:00 Hrs (IST), then the e- Reverse Bidding shall be paused and will resume on the next working day	submitted that the bidder is required to quote single number as annual transmission charges. Further, there is option for automatic reduction in e-RA portal. Therefore, the extension of 30 minutes from last bid submission may be reduced to 15 minutes. Further, in case the bidding extends beyond office hours, the e-RA may be paused and resumed on the next working day as being followed by major eps providers including Mjunction etc.	

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for Clarification Amendment	the or	RECPDCL Response
No	Document	provision		text for the amendment at 10:00 Hrs (IST). The prevailing L1 bidder at the time of pause on the previous day shall continue to be the L1 bidder at resumption of e-Reverse Auction. On resuming, the e- Reverse Bidding shall conducted for 60 minutes, which will be extended by 15 minutes from the last received bid time, if the bid is	Clarification Amendment	or	Response
				during the last 15minutes			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
				Subsequentl y, it will be extended again by 15 minutes from the latest received bid time. The above shall continue till the e- Reverse Bidding gets concluded.		
67	RFP for Selection of Bidder as Transmission Service Provider	RFP, section-1, Clause 1.5, Para 3 "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	<ul> <li>i. Please note that there is no clarity about the liability of the TSP post Transfer of asset. We request BPC to define the process of Transfer.</li> <li>ii. As the project is BOOT basis, we request BPC to provide Transfer Agreement for bidder's review and assessment.</li> </ul>		Bidder needs the information for proper estimation.	1. The project assets along with substation land, right of way and clearances shall be transferred to nodal agency or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability and no

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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".	<ul> <li>iii. As the project is BOOT basis, what will be the Liability of TSP in case of any Default post Transfer to CTU.</li> <li>iv. As per the RFP, the transfer shall be completed within 90 days after 35 years from COD of project failing which CTU shall be entitled to take over the project assets Suo moto. We request BPC to confirm whether the Project is required to be given on as is where is basis or if CTU can ask for certain refurbishments to be done?</li> <li>It is requested to BPC to confirm will there be an obligation of the TSP to obtain re obtain the clearance at the time of Transfer, in case of NHAI, Road, Highways etc.</li> </ul>			<ul> <li>elaborate process is required to be laid down. Further, other issues, if any, shall be dealt as per prevailing laws &amp; regulations.</li> <li>2. Transfer Agreement, if required, may be mutually agreed between the parties at that point of time.</li> <li>3. In case there is any liability due to an event that has occurred post transfer to CTU, the same shall be dealt with as per prevailing laws &amp; regulations</li> <li>4. The project assets will be transferred in working condition subject to observations of Nodal agency in the examination to be carried out three (3)</li> </ul>

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
						years prior to the expiry of the project to assess the need of upgradation of the system or renovation and modernization of the existing system. 5. Please refer to the definition of "Project Assets" in this regard
						which is amply clear and shall prevail.
68	RFP for Selection of Bidder as Transmission Service Provider	RFP, Section-1 Clause no. 1.6.1.5 – Grant of Section 164 Approval - The TSP shall seek approval under Section 164 of Electricity Act, from CEA after acquisition of SPV. The approval shall be granted by CEA generally within 30 days but in no case later than 45 days from the date of receipt of application (complete in all aspects).	We request BPC to confirm that in case of delay in grant of section 164 approval beyond 45 days by CEA, will this qualify as Force Majeure (FM) event under TSA, and we can get relief as per TSA.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
69	RFP for Selection of	Request for Proposal Notification, Disclaimer	We would like to mention that it will be		Bidder needs the information for proper	This is as per the SBD and

No Docu	of the ment	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
Bidde Trans Servio Provio	r as mission æ Jer	This RFP may be withdrawn or cancelled by the BPC at any time without assigning any reasons thereof. BPC further reserves the right, at its complete discretion to reject any or all of the Bids without assigning any reasons whatsoever."	unreasonable on part of BPC to reject a bid without assigning any reason. Since the BPC can be construed as 'state' under the Constitution, conduct of BPC ought to have transparent and as such BPC cannot take any decision without assigning proper reason/ justification.		estimation.	amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
70 RFP Selec Bidde Trans Servio Provio	for tion of r as mission ce der	Definition: Conflict of Interest" A Bidder shall be considered to be in a Conflict of Interest with one or more Bidders in the same bidding process if they have a relationship with each other, directly or through a common company, that puts them in a position to have access to information about or influence the Bid of another Bidder	It needs to be noted that this definition is vague and wide in as much as it only requires that an entity is able to have access; it is immaterial whether information was accessed or not, just the fact that a party is in a position to access information or influence bid of another party is enough. As far as this aspect is concerned, this definition should be amended.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			situation between the BPC and any of the bidder			
71	RFP for Selection of Bidder as Transmission Service Provider	Annexure-B, Clause 3.3 provides that "the Bidder shall disclose the name and address of agents and representatives and Indian Bidder shall disclose their foreign principals or associates". Clause 3.4 states that "the Bidder shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid".	BPC is requested to clarify the rationale for having this clause? We understand that The Bidder is free to engage any consultant as long as it is under the purview of applicable law.		Bidder needs the information for proper estimation	This is as per the SBD and amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
72	Transmission Service Agreement	TSA: Clause F The TSP has agreed to execute the agreement(s) required, if any, under Sharing Regulations within fifteen (15) days from the date of grant of Transmission License from the Commission.	Please note that the Sharing Regulations only provides for Supplementary TSA and Revenue Sharing Agreement with CTU. Kindly confirm is there any other Agreement which is also required to be signed?		Bidder needs the information for proper estimation.	Please refer Clause No. 2.5.7 of RFP document.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
73	Transmission Service Agreement	TSA: Clause H The billing, collection, and disbursement of the Transmission Charges by the CTU to the ISTS Licensee shall be governed as per Sharing Regulations.	In case of the default in the payment by the DIC, BPC is requested to clarify following. a) How will the Transmission charges be recovered? b) what is the assurance for recovery of Transmission charges in view of the repeal of the Regulation of the power supply 2010 by the CERC.		Bidder needs the information for proper estimation.	The payment of Transmission Charges by the CTU to the ISTS Licensee shall be governed as per CERC Sharing Regulations, as amended from time to time.
74	Transmission Service Agreement	TSA ARTICLE: 1DefinitionsandInterpretationsIndependentIndependentEngineer"shallmeanan agency/company,appointedbyNodalAgencyinaccordancewiththeGuidelinesforEncouragingCompetitioninDevelopmentofTransmissionProjectsTSAARTICLE:1818.3RemunerationofIndependentEngineer	We understand that as the Independent Engineer to be appointed by Nodal Agency (CTU), The fee and charges of the Independent Engineer shall be paid by CTU and TSP does not have to consider any fee and charges of the Independent Engineer in its bid.		Bidder needs the information for proper estimation.	Provisions of the TSA are amply clear in this regard and shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
75	Transmission Service Agreement	TSA ARTICLE: 1 Definitions and Interpretations Definition of Nodal Agency Nodal Agency" shall mean CTU, which shall execute and implement the Transmission Service Agreement (TSA);	The proviso to the definition states that while taking major decisions, CTU shall consult CEA on technical matters and any other matter if it feels necessary. BPC is requested to provide clarity on what would constitute 'major decisions'; further, what would be the nature of consultation is not clear, whether such consultation would be binding or just advisory in nature? Further, there is an element of discretion as well on the part of CTU, which should be done away with.		Bidder needs the information for proper estimation.	Nodal Agency will consult the CEA on case-to-case basis as per the provisions of the Standard Bidding Documents.
76	Transmission Service Agreement	TSA ARTICLE: 6 Clause no. 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)	BPC is requested to clarify in case of preponement of COD, whether the agreement will be effective for a period of 35 years from the date of such COD, or will there be extra period that will be granted to		Bidder needs the information for proper estimation.	Provisions of TSA are amply clear in this regard and shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.	TSP as an incentive for declaring the commissioning earlier than the SCOD?			
77	Transmission Service Agreement	TSA ARTICLE: 11 Clause no. 11.4.1  (g) Any error or omission in the survey report provided by BPC during the bidding process	We request BPC to remove the point no g form the Force Majeure Exclusions.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
78	Transmission Service Agreement	TSA ARTICLE: 13 Clause no.13.7 Termination Payment -	As there is no mechanism for termination payment. We request BPC to provide the mechanism for compensating the cost		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
79	Transmission Service Agreement	If Agreement is terminated on account of Force Majeure Events, nonrequirement of any Element or Project during Construction, Nodal Agency's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets. TSA ARTICLE: 3 Clause No. 3.3.4 Provided, that due to the provisions of this Article 3.3.4, any increase in the time period for completion of conditions subsequent mentioned under Article 3.1.3, shall lead to an equal increase in the time	incurred by the TSP for construction of asset, in case of non-requirement of any element during construction stage.		Bidder needs the information for billing purpose.	SBD and amendments thereof, issued by the Ministry of Power.
		period for the Scheduled				

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		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.				
80	Transmission Service Agreement	TSA ARTICLE: 8 8.2 Target availability The Target Availability of each Element and the Project shall be 98%.	As per previous TSA, target availability was at project level not for each element. We request BPC to maintain target availability at Project level only.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged
81	Transmission Service Agreement	TSA ARTICLE: 12 Relief for change in law 12.2.3 - 12.2.3 For any claims made under Articles 12.2.1	Please note that No timelines defined for response by CTU in case of CIL event. We request BPC to define timeline in which CTU will respond to the TSP.		Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
82	Transmission Service Agreement	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. TSA ARTICLE: 12 Payment on account of Change in Law 12.4.1 The payment for Change in Law shall be through a separate Bill. However, in case of any change in Monthly Transmission Change in Law, as determined in accordance with this Agreement, the	BPC is requested to provide the format and timeline for submission of sperate bill of sperate bill for settlement of CIL events?	amendment	Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard.
		Bills to be raised by the Nodal Agency after such change in Transmission Charges shall appropriately reflect the changed Monthly Transmission Charges.				

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
83	Transmission Service Agreement	Schedule 2 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 prerequired for declaring the commercial operation of such Element as mentioned in the above table.	BPC is requested to clarify that in case an element is successfully commissioned and is put to use/power flows, but the pre-required element is not successfully commissioned. Will TSP be eligible for getting Tariff?		Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard and shall prevail.
84	Transmission Service Agreement	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	What is the rationale for the increase in Transmission Charges as stated above shall be applicable only if the value of increase in Transmission Charges as calculated above exceeds 0.30% (zero-point three percent) of the quoted Transmission Charges of the TSP.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		period beyond one hundred eighty (180) days and/ or Change in Law during the construction period shall be as under: $\Delta T = [(P \times d)] \div [1-(1+d)^{(-n)}]$				
85	RFP for Selection of Bidder as Transmission Service Provider	ANNEXURE 22 – FORMAT FOR AFFIDAVIT	We would like to mention that with reference to the RFP Clause 2.1.9 Bidders shall confirm a notarized affidavit as per Annexure 22. Please note for large conglomerates signing on behalf of all the affiliates can run into hundreds of numbers and different geographies, is practically impossible. We request you to allow Annexure-22 to be signed by the Authorized signatory of the Bidding company on behalf of Bidding entity only.		Bidder needs the information for preparation of techno-commercial bid.	The declaration and details with respect to Clause 2.1.9 of RFP is to be provided by the bidding company including Affiliate / Parent company of the Bidding company being used for meeting financial / technical qualification requirements as per Annexure 22 of the RFP document. The signing of the format has to be done as per provisions of RFP Document.
86	RFP for Selection of Bidder as Transmission Service	Definitions: Transmission Service Agreement" or "TSA" shall mean the agreement	As per the bidding documents TSA shall be signed between Nodal agency and TSP only. We request BPC to clarify		Bidder needs the information for proper estimation.	Please refer Clause 2.5.7 of RFP.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
	Provider	entered into between Nodal Agency and the TSP, pursuant to which the TSP shall build, own, operate and transfer the Project and make available the assets of the Project on a commercial basis.	role of Designated ISTS Customers and linkage of Designated ISTS Customers to TSA.			
87	RFP for Selection of Bidder as Transmission Service Provider / Transmission Service Agreement	REQUEST FOR PROPOSAL NOTIFICATION Point no 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 SPV [which is under incorporation].	We would like to inform you that without the name of the SPV, the bidders are not able to obtain the approvals from their respective Boards for issuance of Board resolution/ POA, which delays the finalization of documents required for bidparticipation/submissio n from the bidder's end. You shall appreciate that the Board meetings for large conglomerates generally happens once a quarter. In view of the above, we request the BPC to provide the name of the SPV along with RFP issuance or maximum 7		Bidder needs the information for proper estimation.	The SPV name is "KHAVDA IV C POWER TRANSMISSION LIMITED"

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			days from RFP issuance.			
88	Transmission Service Agreement	Schedule: 9 Methodology for determining the Relief Under Force Majeure Event & Change in Law during Construction Period.	As per Schedule 9 of the TSA, the Discount rate as notified by the CERC would be applicable for calculation of relief under occurrence of Change in Law and Force Majeure event. CERC notified 'Discount rate for computation of levelized transmission charges' is 7.8% on April, 2023, please confirm if this Discount rate for computation of levelized transmission charges is to be considered for this calculation under schedule-9.		Bidder needs information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.
89	RFP for Selection of Bidder as Transmission Service Provider	Definitions: "Bid Bond" shall mean the unconditional and irrevocable bank guarantee for Rupees Thirty Seven Crore Forty Lakhs Only (Rs. 37.40 Crore), to be submitted along with the Technical Bid by the Bidder &	We would like to bring to your kind attention the Government's progressive decision to allow Insurance Surety bonds as a security mechanism. This was announced by the Hon'ble finance minister during the Union budget for FY-23.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		2.12 Contract Performance Guarantee Within ten (10) days from the date of issue of the Letter of Intent, the Selected Bidder, on behalf of the TSP, will provide to the Nodal Agency the Contract Performance Guarantee for an amount of Rs. 93.5 Crore	The Hon'ble Ministry of Road Transport & Highways has already taken a significant step by amending the bidding documents for EPC, HAM, and BOT (ToT) projects, incorporating provisions for accepting insurance surety bonds as 'Bid Security' and 'Performance Security'. Considering the capital- intensive nature of transmission projects, we request BPC to also allow submission of Insurance Surety Bonds as an alternative to Bank Guarantees as a security mechanism.			
90	Transmission Service Agreement	<ul> <li>As per TSA,</li> <li>1. Scheduled COD for the Project: 24 Months from Effective Date.</li> <li>2. Scheduled COD of each transmission Element: 24 months from SPV transfer</li> <li>3. The Definition of Month:</li> </ul>	The Schedule COD for the Project is 24 Months from Effective Date and Schedule COD for each Element is 24 Months from SPV transfer and since the Month is used as defined term in both, therefore, the 24 Months for the Project and		Bidder needs the information for proper estimation	Provisions of TSA are amply clear in this regard and shall prevail.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		"Month" shall mean a period of thirty (30) days from (and excluding) the date of the event	Elements will be calculated based on 30 days in each month? For example: If the Effective Date is 01-05-2023 then SCOD will be 20-04- 2025.			

SI.	Clause No.	Existing Provisions		New / Revised Provisions			
No.							
1.	RFPSpecific TechnicalRequirementsfor	x) 765kV South Olpad (G	S) Extn-Section I:	x) 765 kV South Olpad (GIS) Extn-Section I:			
	SubstationClause no.	For termination of 765kV Bois	ar-II (GIS) – South Olpad	For termination of 765 kV Boisar-II (GIS) – South Olpad (GIS) D/c			
	B.1.2	(GIS) D/c Line, new diameters	shall be constructed under	Line, new diameters shall be constructed under present scope and			
		present scope and the <b>bay co</b>	nfiguration shall be Line-	the bay configuration shall be (i) Line-Tie-ICT Bay (for			
		Tie-ICT Bay (for termination	of 765kV side of future	termination of 765 kV side of future 765/400 kV ICT) for one			
		765/400kV ICT). Space prov	ision for 02 nos. 765kV	diameter and (ii) Line-Tie-Line with Switchable Line Reactor			
		diameter shall be kept in the e	xisting 765kV GIS building	Bay (for termination of future	Line with Switchable Line		
		to be constructed by the de	eveloper of Transmission	Reactor) for other diameter. Space	e provision for U2 nos. 765 kV		
		System for Evacuation of Powe	er from potential renewable	diameter shall be kept in the existin	IG 765 KV GIS building to be		
		N (7 CM): Dert B" This ar	K of Gujarat under Phase-	constructed by the developer of "Transmission System for			
		installation of 02 nos 765k)	diameter under present	Khavda RE park of Guiarat under Phase-IV (7 GW). Part B" This			
		scope Any augmentation/ex	tension of GIS hall if	space may be utilized for installation of 02 nos. 765 kV diameter			
		required shall be executed b	v the TSP under present	under present scope. Any augmentation/extension of GIS hall, if			
		scope.		required, shall be executed by the TSP under present scope.			
2.	RFPSpecific						
	TechnicalRequirementsfor	xi) Boisar-II.		XI) BOISAF-II.			
	Substation	Provision of 765kV Bus	Sectionalization (Future)	Provision of 765 kV Bus Sectionalization (Future) and space			
	Clause no.B.1.2	and space provision shall be	e with the following feeder	provision shall be with the following feeder distribution.			
		distribution.		765 kV Pue Section 1	765 kV Buc Section 2		
		765kV Bus Section-1	765kV Bus Section-2	705 KV Bus Section-1	(Future)		
			(Future)				
				a) 6 nos. of present 765 kV	a) 6 nos. of future 765 kV		
		a) 6 nos. of present	a) 6 nos. of future	Line			
		h) 4 post of prosent	/ OOK V LIFIE		$\begin{bmatrix} b \end{bmatrix} \frac{1}{100} \frac{1}{100$		
			$\frac{2}{765/400kV}$	c) 2 nos of present 765 kV	$(x) = \frac{x \sqrt{101}}{2 \cos \alpha}$		
		c) 2 nos of present	c) 2 nos of future	Bus Reactor	Bus Reactor		
		765kV Bus Reactor	765kV Bus Reactor	d) 2 nos of future 765 kV			

SI. Clause No.	Existing Provisions	New / Revised Provisions
No.		
	d) 2 nos. of future 765kV lines	lines e) <u>1 no. of future 765/400 kV</u> <u>ICT</u>
3. RFP	C Q Engineering studies	C. Q. Engineering studies
Specific Technica		C.9 Engineering studies
Substation	n	
	New clause added	Base Case study files for Solar Max scenario (Feb'28)
	New clause auteu.	timeframe shall be shared with BPC/CEA separately wherein
		all the existing as well as envisaged system up to 2028-29
		timeframe will be modelled using generic parameters as
		available with CTUIL. However, these generic parameters are
		to be fine-tuned to establish a converged dynamic case in
		steady state as well as the contingency cases. The line tuning
		which shall be done in consultation with CFA_CTUIL and Grid-
		India and the TSP share the final converged dynamic files with
		CTUIL, CEA and Grid-India.

S	I. Clause No.	Existing Prov	isions	New / Revised Provisions			
Ν	lo.	_					
4	4. 2.7.1 of RFP	The Bidders s	should submit the Bids online through the	; .	The Bidders sh	ould submit the Bids online through the electronic	
		electronic bidd	ing platform before the Bid Deadline i.e., on	1	bidding platforr	n before the Bid Deadline i.e., on or before 1200	
		or before 1200	) hours (IST) on 13.02.2024. In addition to		hours (IST) on <b>27.02.2024</b> . In addition to the online submission, the		
		the online sub	mission, the Bidder with lowest Final Offer	-	Bidder with lowest Final Offer will be required to submit original		
		will be required	will be required to submit original hard copies of Annexure			Annexure 3. Annexure 4 (if applicable). Annexure 6	
		3. Annexure 4	(if applicable) Annexure 6 (if applicable)		(if applicable) a	nd Annexure 14 before issuance of Lol.	
		and Annexure	14 before issuance of Lol		(		
	5 2 7 2 of REP	Important time	lines are mentioned below:		Important timeli	nes are mentioned below:	
			ines are mentioned below.		important timen		
		Date	Event	111	Date	Event	
		30.01.2024	Issue of final RFP Project Documents		12.02.2024	Issue of final RFP Project Documents	
		12 02 2024	Submission of Bid (Online submission of		27 02 2024	Submission of Bid (Online submission of Bid	
		13.02.2024	Bid through electronic bidding portal)		<u> 27.02.2024</u>	through electronic bidding portal)	
		<u>13.02.2024</u>	Opening of Technical Bid		<u>27.02.2024</u>	Opening of Technical Bid	
		<u>21.02.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal		<u>06.03.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal	
		22.02.2024	Opening of Financial Bid - Initial Offer		07.03.2024	Opening of Financial Bid - Initial Offer	
		23.02.2024	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		08.03.2024	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	
			Submission of original hard copies of			Submission of original hard copies of Annexure 3,	
		28 02 2024	Annexure 3, Annexure 4, Annexure 6, as		<u>13.03.2024</u>	Annexure 4, Annexure 6, as applicable and	
		20.02.2024	applicable and Annexure 14 by the			Annexure 14 by the bidder with lowest Final Offer	
			bidder with lowest Final Offer		<u>18.03.2024</u>	Selection of Successful Bidder and issue of LOI	
		04.03.2024	Selection of Successful Bidder and issue		20.02.2024	Signing of RFP Project Documents and transfer	
			OF LOI Signing of REP Project Decuments and		<u>28.03.2024</u>	of Khavda IV C Power Transmission Limited	
		14 03 2024	transfer of Khavda IV C Power	$\left \right $	·	•	
			Transmission Limited				

SI.	Clause No.	Existing Provisions	New / Revised Provisions
No			
6.	2.13.1 of RFP		
		Opening of Envelope (Technical Bid): 1230 hours (IST) on 13.02.2024	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>27.02.2024</u>
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>22.02.2024</u> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <b>07.03.2024</b> in the office of CEA.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarifications competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
		P		Amendment	Clarification	
					or	
	DED				Amendment	
1. G el	RFP	General	Kindly confirm: whether the Project / Elements are covered under "Generation linked Project" or "System Strengthening Project"			The subject transmission scheme has been approved as "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C"
2.	RFP	General	Kindly confirm: Whether the Project/ Elements are eligible for early commissioning incentive as per MoP, Gol order dated 15.07.2015.			The provisions in TSA pertaining to commissioning shall prevail which interalia covers the matter of preponing of CoD. The TSP may approach the Committee constituted by MoP vide its OM No. 15/1/2013- Trans dated 14.12.2021 to ensure smooth operationalization of the Policy for early commissioning.
3.	Specific technical	B.1.2 Switching Scheme	As per the RFP, we understand		Bidder needs	South Olpad Extn:
	requirement for S/s Clause no B.1.2	Notes: - x) 765 kV South Olpad (GIS) Extn-Section I: For termination of 765 kV Boisar-II (GIS) – South Olpad (GIS) D/c Line, new diameters shall be constructed under present scope and the bay configuration shall be Line-	2nos of Dia in existing building For termination of 765 kV Boisar- II (GIS) – South Olpad (GIS) D/c Line at 765/400/220kV South Olpad shall be kept by developer of "Transmission System for Evacuation of Power from potential renewable energy zone in Khavda RE park of Gujarat under Phase-IV (7 GW): Part B: " and TSP need not to construct GIS hall, and need not to provide		for proper estimation.	As per RfP, space provision for 02 N os. 765 kV diameter shall be kept in the existing 765 kV GIS building to be constructed by the developer of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda RE park of Gujarat under Phase-IV (7 GW): Part B". This space may be utilized for installation of 02 nos. 765 kV diameter under present scope. Any augmentation/extension of GIS hall, if

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification or	
h el		Tie-ICT Bay (for termination of 765 kV side of future 765/400 kV ICT). Space provision for 02 nos. 765 kV diameter shall be kept in the existing 765 kV GIS building to be constructed by the developer of "Transmission System for Evacuation of Power from pot ential renewable energy zone in Khavda RE park of Gujarat under Phase-IV (7 GW): Part B". This space may be utilized for installation of 02 nos. 765 kV diameter under present scope. Any augmentation/ extension of GIS hall, if required, shall be executed by the TSP under present scope.	associated Illumination, LCR Room, AHU System, Air- conditioning system of LCR, Fire protection system of GIS Hall, LCR room, cable trench in GIS Hall & LCR Room <b>Kindly confirm</b> .		Amenument	required, shall be executed by the TSP under present scope. Further, all other associated Illumination, LCR Room, AHU System, Air- conditioning system of LCR, Fire protection system of GIS Hall, LCR room, cable trench in GIS Hall and LCR Room etc. shall be provided under present scope.
4.	Specific technical requirement for S/s Clause no B.1.2	B.1.2 Switching Scheme Notes:- xi) Boisar-II	As per feeder distribution, 2nos of 765/400kV ICT has been kept in 765kV Bus-Section-2 (Future) and same are proposed to be terminated in 400kV Section-I & Section-II, Further, 2nos of 400/220kV ICT in 400kV Section-II are proposed to be terminated in 220kV Section-I.		Bidder needs information for proper estimation.	Please refer <b>Amendment II</b> dated 12.02.2024 in this regard.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarifooased competitive bidding process

S. No.	Name of the document	Clause No. an provision	d Existing	Clarification required		Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
		Person of 2019 Jac Armadation Per Manage Independent	neć ed gan proximitel in odd	Considering a GIS Substation, as such termination of Future				
		1617 Be 5456-1	With the Section? (Eastern)	ICT in opposite	section, shall			
h el	0     6 an diprot William     0     6 an diprot William       0     6 an diprot William     0     2 an diprot William       0     2 an diprot William     0     2 an diprot William		e tau (jan 100000000 10 Dau (jan 100000000 10 Dau (jan 100000 1000	(duct crossings/not adequate space for positioning of duct support structure etc) in future extension in 765/400/220kV Substation, it is requested that Bus Section in 400kV be done				
		Hermite, of 400 ft the becomission and user persons shall be well the fully Swite databases						
		still behold	###/ Referred	like that				
		<ul> <li>i. Ann. Cysensi 40:12 Lin.</li> <li>i. an. Cysensi 40:10 Lin.</li> <li>i. an. Cysensi 40:40:10 Lin.</li> <li>i. an. Cysensi 40:40:20 Lin.</li> <li>i. an. Cysensi 40:40:20 Lin.</li> <li>i. an. Cysensi 40:40:20 Lin.</li> <li>j. an. Cysens 40:40:20 Lin.</li> <li>j. an. Cysens 40:40:20 Lin.</li> </ul>	A Tax. Append (0.01 Tax)     Tax. Append (0.01 Tax)     Tax     Construction (0.01 Tax)     Tax     Construction (0.01 Tax)     Construction (0.01 Tax)	400kVBusSection-1a)a)4nos.ofpresent400kVLineb)3nos.ofpresent765/400	400kVBusSection-2a)2nos.ofpresent400 kVLineb)1nos.ofpresent			
		Annua d (511) In Sebudatos Jobel ad que penas dal le sil Minagleire nationa		kV ICT 765/400 kV c) 1 no. of ICT				
		128 M Dat Serbes 1	2016 doctored charm	present Bus Reactor	C) 2 NOS. OF			
		<ul> <li>Sam diposed 40:0041103</li> <li>Samuel priori IX Sep <ul> <li>Samuel priori IX Sep <li>Samuel State (SEP Dec</li></li></ul></li></ul>	of You, glass 48031877 & Ann affant 19872ne of AnnarCherAlle	d) 1 no. of 4 present Stacom IC	400/220 kV ICT d) 1 no. of			
				kV future lines f) <del>1 no. of future</del>	present Bus Reactor			
				g) 3 nos. of future 400/220 kV ICT	e) 1 no. of present STATCOM f) 4 nos. of			
				h) 1 no. of future Bus Reactor	future 400 kV Line			

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tarife based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
G el			g) 2 no. of future 765/400 kV ICT h) 3 nos. of future 400/220 kV ICT i) 1 no. of future Bus Reactor220 kV Bus Section-1 (Future)220 kV Bus Section-2a) 4 nos. of future 400/220 kV ICT b) 6 nos. of future 220 kV b) 6 nos. of future 220 kV Line c) Associated future BC baya) 2 nos. of present 400/220 kV b) Associated present BC 			
			Kindly Confirm acceptance of the revised bay arrangement of bus section as mention above			
5.	Specific technical requirement for S/s	B.2.1 Power Transformers B.2.1.1 (765/□3)/(400/□3)/33 kV	As per clause no 28.0.(dd) FITTINGS & ACCESSORIES of chapter-II of Standard Specifications and Technical		Bidder needs information for proper estimation.	CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above voltage class)" shall be followed
S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
-----------	----------------------	-----------------------------------	-------------------------------------	---------------------------	-------------------	--
				Amendment	Clarification	
					or	
	Clause no	Single Phase	Parameters for Transformers		Amenament	and Online Oil Drying Out System as
	B 2 1	Autotransformer	and Reactors (66 kV and above)"			well as other assets monitoring system
	0.2.1	500 MVA				as per these Standard Specifications
		765/_3)/(400/_3)/33 kV, 1-	Online insulating oil drying			shall be installed.
		phase Transformer shall	system (in 400 kV and above			
		conform to CEA's "Standard	level Transformers/ Reactors) as			
0		Specifications and Technical	per Annexure-U is to be provided			
~		Parameters for	as standard accessories.			
×		Transformers and Reactors				
		(66 kV and above)" as	Vide CEA letter File No.CEA-PS-			
		amended up to date	14-169/2 /2019-PSETD Division			
		available on CEA website.	dated 20.09.2023, it has been			
		Spare transformer (1-phase)	further suggested to install online			
		connected in such a way that	system for transformers and			
		in case of fault in any unit of	same is to be integrated on			
		any of the transformer banks	dashboard on Engineers PC			
		(including for future	Kindly confirm whether			
		transformer banks) can be	same is to be complied by			
		replaced by spare unit	TSP			
		without physically moving it.				
6.	RFP DoC for	B.1.2 Switching Scheme	As per the RFP of Part-D			Please refer Amendment II dated
	TS for		Scheme, 765kV D/C Boisar-II-			12.02.2024 in this regard.
	KHAVDAPHA		Pune-III TL shall be connected in			
	SE-IV (/GVV):	 Nata	the 2nos new diameters with bay			
	PART D Issues	Note:-	configuration Line-Tie-Line(F)			
	Dy FFC (DFC).	 ix) 765kV Boisar-II CIS	totaling 4 nos. main bays.			
	Requirement	<b>Extn:</b> For Pune-III (GIS)-	However, in feeder distribution of			
	Clause no	Boisar-II (GIS) $765kV$ D/C	present scheme only 2 nos			
	B.1.2	line, 2 nos. new diameters	765kV future lines are envisaged			
		shall be constructed, and the	in Section The element for			
			in Section-I. The element for			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
L el		bay configuration shall be Pune -III (GIS) Line-Tie- Line (provision with Switchable Line Reactor) for termination of future line.	other two main bays ( for dia being constructed in Part- D) are not identified.In view of above, we propose that 765kV D/C Boisar-II- Pune- III TL associated with PART- D scheme may be terminated in Section- II of 765kV Boisar-II S/s and request to specify the utilization of other two main bays.In view of above Proposed Bus section for 765kV Boisar- II is as under:-765 kV Bus Section-1765 kV Bus Section-1a) 6 nos. of present 765 kV Line# b) 4 nos. of present 765/400 kV ICT# c) 2 nos. of present 765 kV Bus Reactor# d) 2 nos. of future 765 kV Bus Reactor# d) 2 nos. of future 765 kV Bus Reactor# d) 2 nos. of future 765 kV Bus Reactor#			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					Amendment	
2			<ul> <li># Under Phase-IV Part- C Scheme</li> <li>\$ out of 6 two number of future bays shall be utilized Under Phase-IV Part-D Scheme.</li> <li>Kindly confirm</li> </ul>			
a.	Specific Technical Requirement for Transmission system in RFP	C.8.9 Coupling Transformer The TSP shall provide single phase coupling transformers to operate as 3- phase bank with one unit as a common spare for stepping down the voltage from 400 kV system to a suitable medium voltage value as required. Common spare transformer unit shall be provided with necessary auxiliary arrangements for replacing any one of the faulty phase units without physically shifting the transformer. The Medium Voltage side of the coupling transformer to couple with the STATCOM shall not be less than 20 kV to ensure optimum power transformation.	We understand that the common spare transformer unit shall be provided with necessary auxiliary arrangements in HV (GIS type) & MV (AIS type) Side for replacing any one of the faulty phase units without physically shifting the transformer. Kindly confirm our understanding.			Acceptable.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
8. L L	Technical Requirement for Transmission system in RFP	C.3 Scope of work for STATCOM TSP shall carry out a detailed study on prevailing system conditions before interconnection of the STATCOM to assess the performance of the STATCOM. Parameters tuning to avoid any adverse impact on the grid with integration of the STATCOM shall also be identified and implemented at this stage. TSP shall carry out tuning of Power Oscillation damping (POD) along with an interaction study with nearby HVDC/FACTS controllers.	We understand that TSP has to carry out tuning of POD along with an interaction study with nearby HVDC/FACTS controllers. To carry out this study TSP shall require working modal of nearby HVDC & FACTS devices to access the appropriate remedy measures in bid. Please provide the network PSSE files which need to be refer for Boisar-II & Navsari along with following: - All user-defined dynamic models and documents explaining about the models - Other PSS/E simulation settings – such as ZIP load model composition - The multi-mass generator model, series capacitor, and other FACTS devices near Boisar-II & Navsari substation - Geometric line(tower/conductor) data of the AC transmission lines		For estimation purpose.	Base Case study files for Solar Max scenario (Feb'28) timeframe shall be shared with BPC/CEA separately wherein all the existing as well as envisaged system upto 2028-29 timeframe will be modelled using generic parameters as available with CTUIL. However, these generic parameters are to be fine- tuned to establish a converged dynamic case in steady state as well as the contingency cases. The fine tuning of the generic parameters shall be under the scope of TSP, which shall be done in consultation with CEA, CTUIL and Grid-India and the TSP share the final converged dynamic files with CTUIL, CEA and Grid-India.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
			directly connected to Navsari substation - R, L, and C parameters of any filters/shunt capacitors at/near Boisar-II & Navsari substation			
الله الله	Specific Technical Requirement for Transmission system in RFP	Clause 6.1 j) of Annexure-C The injected harmonics by STATCOM Station under the full operating range measured at 400 kV Bus (PCC) in accordance with IEEE-519-2014.	Please note that conventional CVT and IVT are not in position to measure the harmonic voltage at the secondary side of the VTs because the bandwidth of the VTs are not enough to measure the harmonic voltages up to 3kHz. Only RCVT or PQ Sensor installed in CVT can measure the power system harmonics exactly. It is recommended to specify RCT or PQ Sensor or other similar devices for the VTs used for STATCOM control.		For estimation purpose.	Requirement of RfP shall be followed.
10.	Specific Technical Requirement for Transmission system in RFP	C.6.2.7 STATCOM Station Response	<ol> <li>It is requested to please clarify this clause based on Clause 8.2.2 of IEEE std. 1052-2018.</li> <li>According to the clause (in the IEEE std.), the step response is defined as the response of PCC voltage to the step change of voltage reference.</li> </ol>		For estimation purpose.	Requirement of Clause C.6.2.7 of RfP shall be followed.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL response
					or Amendment	
L el			<ul> <li>2) Please define the phrase "small disturbance," in % value of voltage step change. Please also specify the slope setting value for the response time test.</li> <li>3) Please note that, Step response is applicable for STATCOM only, not for slow switching devices like MSCs and MSR. The specification says "STATCOM station" response to be fulfilled. MSCs and MSR switching is associated with time delays.</li> </ul>			
11.	Specific Technical Requirement for Transmission system in RFP	Clause C.9.6.b para 2 PSS/E files may be used for developing RTDS files/ models. For simulation of STATCOM in PSS/E file (load flow & dynamic) and PSCAD/EMTP-RV (Transient) model for STATCOM is required for study. TSP will share STATCOM models with CEA, CTU & Grid- India along with detailed documentation for above	We understand that transient model only in one format need to be submitted i.e. either in PSCAD format OR in EMTP- RV format.		For estimation purpose	Requirement of RfP shall be followed.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
		study purposes and				
		simulations.				
		For PSS/E, both Generic &				
		be abarad by the TSD with				
		the CEA CTU & Crid India				
		Ceneric model response				
2		shall be benchmarked with				
2		user defined				
$\sim$		model to the extent possible				
		by the TSP. Generic models				
		can be shared by the CEA,				
		CTU & Grid-India with the				
		concerned stakeholders e.g.				
		STUs etc. For User Defined				
		model, confidentiality shall				
		be maintained by the CEA,				
		CTU & Grid-India. For				
		PSCAD/EMTP-RV, User				
		Defined model shall be				
		provided by the TSP lor which confidentiality shall be				
		maintained by the CEA				
		CTU & Grid-India				
12.	Specific	C.6.2.1.10 Coordinated	We understand that The			RfP provisions shall be followed.
	Technical	reactive power control of	STATCOM System are adopted			
	Requirement	external device.	to provide dynamic range of			
	for		compensation and independent			
	Transmission	There should be a provision	operation of MSR & MSC will not			
	system in RFP	for independent operation of	serve this purpose as fixed			
		MSC/MSR after delinking it	compensation can be achieved			
		with STATCOM controls				

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
h el		when STATCOM is out of service due to any reason. The threshold values for switching the MSC/MSR on/off shall be configurable in all modes of operation	by putting shunt compensation directly on HV Bus. Further due to significant switch in switch out time required for these devices this requirement shall not include complexity in STATCOM station but also be very challenging for operation also. Hence we request to remove this requirement.		Amenument	
13.	Specific Technical Requirement for Transmission system in RFP	Clause C.6.9.8 Guaranteed Failure Rate OF Sub modules (including all component and electronic) The maximum annual guaranteed failure rate of sub module (including all component and electronic) shall not exceed 1.0% per STATCOM. The failure rate shall not include failures directly attributable to operation and maintenance errors.	We understand that the immediate auxiliaries include heat sinks, PCUs. Kindly confirm.		For estimation purpose.	Bidder's understanding of immediate auxiliaries of sub module is correct.
14.	Specific Technical Requirement	Clause C.8.3.2 p) List of Protection functions for Stacom station	We understand that in place of differential protection, duplicate over current protection and		For estimation purpose.	Protection as envisaged in the RfP shall be provided by the TSP.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
	for Transmission system in RFP	STATCOM Branch Protection: i) Differential Protection (87)	converter blocking at high current in valve can be provided. Please confirm.			
15. L e(	Specific Technical Requirement for Transmission system in RFP	Clause No C.3, Scope of Work for STATCOM :- The STATCOM Station including STATCOM Units, MSCs and MSRs shall be designed to operate continuously under the worst possible combination of steady state voltage and frequency range of 360- 440 kV and 47.5 Hz – 52.5 Hz respectively and transient and temporary over volt ages defined in Clause 6.1-f).	We understand that in accordance with clause 3, the rated capability of STATCOM, MSC (as applicable) & MSR (as applicable) shall be at 400 kV (Referred to as "Point of Common Coupling" or PCC) and in the steady state frequency range of 48.5 Hz-50.5 Hz. Further, STATCOM system should be designed to continuously operate under the worst possible combination of steady state voltage and frequency range of 360- 440 kV and 47.5 Hz – 52.5 Hz respectively and transient and temporary over voltages defined in Clause 6.1-f). Kindly confirm.		For estimation purpose.	Acceptable as the same meets the requirement of RfP.
16.	Specific Technical Requirement for	Clause No C.6.1,i STATCOM Station Ratings: i) The TSP shall assume the negative sequence voltage of 1% at rated short circuit	We understand that the specified negative sequence is only valid for the STATCOM because a single phase operation of MSRs		For estimation purpose.	Confirmed.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
	Transmission system in RFP	level and provide control to reduce this unbalance.	and MSCs is not possible (only three phase operation). Kindly confirm this understanding.			
17. L	Specific Technical Requirement for Transmission system in RFP	Clause No C.6.2.3.3. d) Over Voltage Strategy: d) The TSP shall ensure that STATCOM Station will not excite ferro-resonance and sub-synchronous oscillation in the AC system. The study report in this regard shall be preserved and to be submitted to CEA/CTU/GRID-INDIA, if required.	In case OEM confirms that their STATCOM solution does not excite Ferro-resonance and sub- synchronous oscillations in AC network. Therefore, studies are not applicable for STATCOM technology and no simulation is foreseen. If required, an undertaking from OEM will be provided in this regard.		For estimation purpose.	TSP shall follow the requirement of RfP.
18.	Specific Technical Requirement for Transmission system in RFP	Clause No C.8.1.2, Semiconductor Switches: Basic semiconductor devices shall be of the Press Pack type, or packaged to provide short circuit means in case of device failure such that the STATCOM can continue to operate without interruption.	As understood from STATCOM OEMs / Suppliers, "press pack" or "packaged to provide short circuit" design are OEM specific terms. TSP may propose alternative design where in the functional requirement is met by incorporating the bypass switch as an external device to the AC connections of the sub module. Kindly Confirm.		For estimation purpose	Acceptable subject to fulfilment of all other design requirements of RfP.

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
No.	document	provision		text for the	the	
				Amendment	Clarification	
					Or	
10	Specific		We understand that "Black Star		For ostimation	It is clarified that the black start
13.	Technical	STATCOM Valve Cooling	Canability" means that selection		nurnose	capability shall be done with adequate
	Requirement	system:	of DG set and UPS / UMD shall			UPS/UMD capacity
	for		be done in such a way that Valve			or evenue capacity.
	Transmission	The Valve cooling	Cooling System can be started			Further, TSP shall decide sizing of
	system in RFP	system shall have black start	even when normal Aux power			UPS/UMD for its adequacy.
		capability and necessary	sources are out of service and			
~		UPS/UMD shall be provided	emergency supply is being fed			
2		separately for each	by offered DG set. Please			
		STATCOM Unit.	confirm. If our understanding is			
			not in line, please elaborate it.			
20.	Specific	C 6.6 Audible Noise	We understand that the values		For estimation	Bidder's understanding regarding
	lechnical		provided in the table are above		purpose.	value of Audible noise for valve hall is
	Requirement	The TSP shall limit the	the ambient noise value and not			ok. Further, it is clarified that for valve
	Tor	audible noise in various	the absolute value.			nail, measurement snail be done at the
	system in PED	Station buildings	Also as human entrance			nearest accessible point.
		and containers to the	incide the value hall during			
		following values	inside the valve half during			
			operation is not envisaged,			
			the limit inside valve hall (90			
			dBA) can be removed.			
			Please confirm.			
21.	Specific	C.6.2.7 STATCOM station	We understand that the		For estimation	Confirmed as it meets the requirement
	l echnical	response	response requirement is for the		purpose.	OT KIP.
	for	STATCOM station response	STATUONI ONLY as MSC, MSR			
	Transmission	shall be such that the	mechanical operation Further			
	system in RFP	change in measured system	we understand that max			
		voltage to small disturbance	overshoot shall be 20% of total			
		should reach 90% of the	change. Please confirm.			
		desired total change within				

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
hel		30ms of the initiating a 5% step change of voltage reference. The maximum overshoot should not exceed 120% of the total change and the settling time should not exceed 100 ms, after which the voltage should be within ±5% of the final value				
22.	Specific Technical Requirement for Transmission system in RFP	Clause C.6.5.1 Radio Interference a) the radio interference level from electromagnetic or electrostatic inductions generated by the STATCOM station shall not exceed 100 micro-volts/m, under fair weather conditions, at any point outside the station fence. The Rad io Interference Level (RIL) criteria shall be achieved at all frequencies within the range of 150 kHz to 300 MHz and with the STATCOM operation at any level up to and including rated value, the design shall provide correcting measures, should the	<ol> <li>The limit of 100 micro- volts/m specified in the RFP is based on old references which cannot be achieved under fair weather conditions, at the STATCOM station fence. However, the limit based on IEC 62236-2 will be complied. We understand that this is acceptable.</li> <li>We understand that the "Station Fence" refers to the external fence/boundary wall of the substation. Please confirm acceptance of our understanding.</li> </ol>		For estimation purpose.	Bidder to meet the requirement of the RfP documents.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
2		<ul> <li>specified design not being realized in the final installation.</li> <li>b) Measurements of actual RI at STATCOM Station shall be made by the TSP, at points along the above</li> </ul>				
el		<ul> <li>c) RIV (Radio Interference voltage) measured at a phase to ground voltage (266 kVrms) in accordance to NEMA-107 shall not be more than 500 micro- volts for 400 kV system. For other system Voltages IEC/NEMA in the order of preference shall be applicable.</li> </ul>				
23.	Specific Technical Requirement for Transmission system in RFP	Clause 6.7.1 Loss Requirement It should be assumed that the ambient temperature is 20 °C, the PCC voltage is 1 per unit, and the slope setting is 1%.	System frequency is also a critical factor loss determination. Kindly incorporate nominal frequency in the reference clause.		For estimation purpose.	System frequency is already indicated in other clauses of RfP.
24.	Specific Technical Requirement	Clause A.8.9.1, General Requirements	The highest voltage on secondary side occurs when the band (0.95- 1.05) is set to zero,		For estimation purpose.	TSP shall follow the requirement of RfP.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
G el	for Transmission system in RFP	I) The transformer should be designed to carry a certain level of direct current consistent with the STATCOM design. To ensure minimum harmonics generation, the saturation flux density of the transformer should be higher than the maximum flux density reach ed over the full steady state (continuous operating) range; this margin shall be at least 10%. This maximum flux density (over the full steady-state range) is obtained at the highest secondary voltage during any reactive power generation, highest reference voltage, minimum slope, and minimum continuous frequency. The flux density at the highest secondary voltage shall lie in the linear portion of the BH curve of the core. Any harmonic generated by the transformer should be considered for the design of the STATCOM.	held at 1.05pu primary voltage, slope is 0% and the STATCOM STATION (including MSCs) operates with its maximum capacitive output. It is understood that this highest voltage plus the specified safety margin of 10% shall be used for the transformer knee point. Please confirm.			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or Amendment	
25. L L	Specific Technical Requirement for Transmission system in RFP	Clause C.9.1, System Dynamic Performance Studies Clause C.9.3 Electromagnetic transients, control performance, and overvoltage studies	If possible most of the system dynamic performance studies will be performed on the real time simulator during FAT. If needed, some studies (namely the POD, interaction study, control interaction study) in this section will be performed in the software PSSE. The PSSE files to be provided by CTU (as mentioned in Section 9 of the technical specification) must contain both load flow data as well as dynamic data for all machines and it should be defined which kind of interaction should be studied. Kindly provide PSSE files for subject pacakage.		For estimation purpose.	Dynamic studies shall be performed as per RfP. Base Case study files for Solar Max scenario (Feb'28) timeframe shall be shared with BPC/CEA separately wherein all the existing as well as envisaged system upto 2028-29 timeframe will be modelled using generic parameters as available with CTUIL. However, these generic parameters are to be fine- tuned to establish a converged dynamic case in steady state as well as the contingency cases. The fine tuning of the generic parameters shall be under the scope of TSP, which shall be done in consultation with CEA, CTUIL & Grid- India and the TSP share the final converged dynamic files with CTUIL, CEA & Grid-India.
26.	Specific Technical Requirement for Transmission system in RFP	Clause C.6.2.5 Dynamic Performance Controls of STATCOM Station The TSP must describe in detail, the dynamic reactive power controls for enhancing stability margin and also damp oscillations of any critical frequencies. The dead band for	It is requested to elaborate on the requirement and the understanding of the terms 'enhance stability margin', 'critical frequencies' and 'no discernible sustained oscillations' supplemented with numbers that can be observed and verified.		For estimation purpose.	Requirement of RfP is amply clear.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
					Amendment	
		continuous damping control must be very small so that there are no discernible sustained oscillations.				
27. G &	Specific Technical Requirement for Transmission system in RFP	Clause C.9.6, Software Simulation Models a) Stability Model TSP should provide a detailed STATCOM system dynamics model for use in (PSCAD and PSSE) powerflow and stability simulation software.	We understand that TSP has to provide a dynamic model for power flow and positive sequence power simulations in PSSE only and not PSCAD. The PSCAD model is to be submitted as a transient model as mentioned in the technical specification. Please confirm.		For estimation purpose.	Requirement of RfP is amply clear.
28.	Specific Technical Requirement for Transmission system in RFP	Clause C.9.7 Factory Tests of Controls b. The simulator should provide an accurate network representation including network harmonic behavior, as well as synchronous condensers, power stations, generators (with AVRs), and pump storage schemes, existing HVDC, SVCs and STATCOMs, future SVCs andS TATCOMs, FSC (fixed series capacitors), and	<ul> <li>i) In case zero sequence impedance is not available in PSSE file suitable value will be assumed for modelling in RSCAD (3 or 2 times of positive sequence impedance)</li> <li>2. The PSSE (raw and dyr) files cannot be used to develop an RSCAD file/model. A network reduction in PSSE can be performed and the reduced network can be used as an input to develop the RSCAD file. However, this means that user defined models, generic HVD C, STATCOM, SOLAR, WIND etc.</li> </ul>		For estimation purpose.	Requirement of RfP is amply clear.

S. No	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
NO.	abcument			Amendment	Clarification	
					or	
					Amendment	
		shunt reactors/ capacitors/	models will not be represented in			
		filters.	the reduced network model. The			
			reduced network model will only			
			contain conventional			
			synchronous machines, PQ			
			loads and transmission lines.			
0			The dynamics of the entire			
20			network shall be captured using			
r K			elements that can be mod elled in			
			RSCAD with a pre-requisite that			
			they are available in both PSSE			
			and RSCAD (i.e IEEE standard			
			dynamic models).			
			3. In case there are user defined			
			models, or			
			HVDC/SOLAR/STATCOM/WIN			
			D etc. models in the vicinity of the			
			STATCOM bus under			
			consideration, they will be			
			replaced by either synchronous			
			machines or PQ loads, keeping			
			the dynamics of the bus under			
			study similar to that of the original			
			network. No generic models from			
			RSCAD in any form will be			
			implemented or used. In case			
			there are contingencies defined			
			that involve tripping of the user			
			defined models, or			
			HVDC/SOLAR/STATCOM/WIN			
			U in the technical specification,			

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
No.	document	provision		text for the	the Clarification	
				Amenament	or	
					Amendment	
			the replaced synchronous			
			machines or PQ loads shall be			
			tripped instead.			
			4. In case generic models			
			available in RSCAD have to be			
2			used, the parameters for these			
0			models shall be provided by the			
$\boldsymbol{\boldsymbol{\lambda}}$			customer. The usage of these			
			models are limited to the stability			
			of the entire network. In case the			
			network is unstable after			
			introduction of these generic			
			models, the original working			
			models will be replaced back			
			again. Since the dynamic models			
			of RSCAD are not available in			
			PSSE and vice-versa, the overall			
			dynamics of the system (fault			
			behavior for the contingencies			
			defined) will be different between			
			the two software. In case there			
			are contingencies that involve			
			the tripping of such			
			aforementioned models, this will			
			be performed only if the system			
			remains stable post fault, else			
			neglected.			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					Or Amendment	
29. L	Specific Technical Requirement for Transmission system in RFP	Clause C.8.1 STATCOM Unit In general the STATCOM units shall equally share the load however under contingency condition it should be possible to run the units with unequal load.	Unequal loading is not foreseen during operation. Load will be shared symmetrically between active STATCOM branches by the control system. However, uneven load sharing can be controlled manually through HMI, if required for testing purpose. Please confirm our understanding is correct.		For estimation purpose.	Requirement of RfP is amply clear.
30.	Specific Technical Requirement for Transmission system in RFP	Clause C. 8.1.5 Valve Cooling System s) Replacement of certain cooling equipment (e.g., pumps, fans, cooler unit etc.), if defective, should be possible while the cooling system still operates.	Please note that in the design of the Valve Cooling system, redundant fans/pumps are considered. In case of failure of any fan/pump, redundant fan/pump will take over and the faulty fan/pump can be replaced during scheduled maintenance/ outage activity. Ad ditionally, please note that working on the faulty pump/faulty fan during the time when adjacent equipment are running is a safety hazard and is not followed as per global safety practice. Please confirm our understanding.		For estimation purpose.	Requirement of RfP shall be followed by the TSP.
31.	Specific Technical	Number of switching for MSC & MSR are not defined.	Number of switching events is not defined within any document.		For estimation purpose.	Refer clause 8.5 and 8.6 of Technical specification of STATCOM wherein it is

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
NO.	uocument	provision		Amendment	Clarification	
					or	
					Amendment	
	for		Hence, Switching stresses will			mentioned that the same shall be
	Transmission		De calculated as per IEC 60871-			operation according to the overall
	system in RFP		Part'i Please confirm.			performance requirements of the
	-					STATCOM Station with consideration
~						of successful life as mentioned in the RfP.
32.	Specific	Clause C.6.2.1.6, Damping	The power oscillation damping		For estimation	Requirement of RfP is amply clear.
X	Technical	of Power Oscillations	controller will be provided and its		purpose.	
	Requirement		functionality shall be tested in the			
	Transmission	provide pecessary damping	RTDS simulation setup on a test			
	system in RFP	to power oscillations by	the working of the controller			
		modulating its output in its				
		entire range based on the	The actual parameters for the			
		measured rate of change of	POD controller needed for the			
		power/frequency at the 400	project and the impact of the			
		kV bus. The damping	SIAICOM on the inter-area			
		area oscillations as well as	separate POD study that will be			
		wide area oscillations and	executed in the project execution			
		control would include	phase in the software PSSE.			
		several loops each focused				
		on different frequencies.	As input for the design of a power			
			oscillation damping function,			
			information (amplitude,			
			frequency and damping) of the			
			expected and already known			
			power oscillation modes is			
			required. Furthermore, for the			
			design and validation of the			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or Amendment	
L el			damping controller, a dynamic model of the AC network shall be provided by the customer in the software PSSE (both the load flow and the dynamic files), where the above-mentioned oscillations which are observable or expected can be simulated in the software. In case the necessary input data cannot be provided, a POD structure will be implemented, however the parameters to handle real life incidents will not be in the scope of TSP.			
33.	RFP for Selection of Bidder as Transmission Service Provider	Annexure-C: Specific Technical requirements for Transmission Line	Please note that for transmission line, no special requirement is specified for type of Insulator and creepage in RFP document. Hence it is understood that bidder can decide the type of insulator along with creepage requirement based on general CEA regulations and relevant standards. Kindly confirm our understanding.		Bidder needs information for proper estimation.	The minimum specific creepage distances shall be decided for the pollution condition in the area of installation. It shall be as per CEA regulations and relevant standards.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
34. L l	RFP for Selection of Bidder as Transmission Service Provider	Annexure-C: Special Technical requirement for Transmission Line Clause A.17.0.b specifies "Importance factor for cyclonic region (K4) of 1.3 shall be considered for tower design"	It is understood that the importance factor K4 for cyclonic region is derived from IS 875 (Part 3):2015 which is yet not part of IS 802: (Part -1/Sec-1). Also, IS 875 (Part 3):2015 specifies loads applicable for structures while IS 802: (Part - 1/Sec-1):2015 specifies loads applicable for tower design that is inclusive of load on structure as well as conductor loads. Based on above confirmation is required whether the specified K4 factor of 1.3 is applicable for: 1. Tower structure body wind calculation only and not to Conductor/EW/Insulator 2. Applicable to overall tower design i.e. Tower		Amendment Bidder needs confirmation for better understanding and proper estimation.	K4 factor shall be considered along with the factors K1 and K2 while determining design wind speed (Vd) and shall be applied for calculating wind load on tower structure. K4 factor is not required to be applied for Narrow front wind loading for Suspension tower.
			body/conductor/EW/insulator.			
35.	RFP for Selection of Bidder as	Annexure-C: Special Technical requirement for Transmission Line	As per IS 802 (Part-1, Sec- 1):2015, Suspension tower is required to be designed for		Bidder needs confirmation for better	K4 factor is not required to be applied for Narrow front wind loading for Suspension tower.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
hel	Transmission Service Provider	Clause A.17.0.b specifies "Importance factor for cyclonic region (K4) of 1.3 shall be considered for tower design"	Narrow front wind loading where a factor of 1.5 is applied to basic wind speed. BPC is requested to confirm whether, the factor 1.3 is required to be multiplied in addition the factor of 1.5 in case of Narrow front wind loading.		understanding and proper estimation.	
36.	RFP for Selection of Bidder as Transmission Service Provider	Annexure-C: Special Technical requirement for Transmission Line Clause A.17.0.a specifies "Terrain category with terrain roughness factor (K2) shall be considered as per IS 802 (part 1/ Sec 1), as amended from time to time, for tower design for exposed open terrain with few or no obstruction which also includes open s ea coasts, open stretch of water, desert and flat treeless plains."	It is understood from the specified clause that terrain category is to be decided based on actual terrain and accordingly terrain roughness coefficient is to be considered as per IS 802 (Part 1/Sec 1)	Terrain category with terrain roughness factor (K2) shall be considered as per IS 802 (part 1/ Sec 1), as amended from time to time, for tower design.	Bidder needs confirmation for better understanding and proper estimation.	RfP provision is amply clear. Terrain category-I shall be used for design of towers to be used in the areas specified in the subject clause of RfP and in IS 802.
37.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad	The bidder understands that space along with sufficient AHU capacity is available in the existing GIS Hall at South Olpad for execution of current scope of work. Please confirm.		Bidder needs the information for proper estimation	<b>South Olpad Extn:</b> As per RfP, space provision for 02 N os. 765 kV diameter shall be kept in the existing 765 kV GIS building to be constructed by the developer of "Transmission System for Evacuation

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
6 el		(GIS) –Boisar-II (GIS) 765 kV D/c line			Diddor	of Power from potential renewable energy zone in Khavda RE park of Gujarat under Phase-IV (7 GW): Part B". This space may be utilized for installation of 02 nos. 765 kV diameter under present scope. Any augmentation/extension of GIS hall, if required, shall be executed by the TSP under present scope. Further, all other associated Illumination, LCR Room, AHU System, Air- conditioning system of LCR, Fire protection system of GIS Hall, LCR room, cable trench in GIS Hall and LCR Room etc. shall be provided under present scope.
38.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line	<ul> <li>BPC is requested to provide following data/documents for extension work at South Olpad GIS S/S:</li> <li>1. Availability of CU and PU for bays under present scope of work.</li> <li>2. Sufficiency of fire hydrant system for extension work/ fire hydrant layout</li> <li>3. Please confirm availability of optical direction existing SDH equipment for present project link.</li> </ul>		Bidder needs the information for proper estimation	<ol> <li>South Olpad S/S is under bidding under separate scheme.</li> <li>The existing bus bar protection shall be augmented as per requirement under present scope. PUs shall be provided by respective bay owners.</li> <li>The fire-fighting systems shall be augmented/ extended to meet the requirements of present scope.</li> <li>Optical MSP direction is available in the upcoming FOTE in the Control ROOM of South Olpad (GIS) for</li> </ol>

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
						termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line.
39. G el	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line	<ul> <li>BPC is requested to provide SLD &amp; GA drawing of South Olpad GIS S/S with clearly marked present scope of work in it for better understating of present scope.</li> <li>BPC is also requested to provide Coordinates of take- off gantry for Present scope of work.</li> </ul>		Bidder needs the information for proper estimation	South Olpad S/S is under bidding under separate scheme. SLD and GA are not available at this stage.
40.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line	BPC is requested to provide following data/documents for extension work at South Olpad GIS S/S: 1. Earthmat layout Cable trench layout		Bidder needs the information for proper estimation	South Olpad S/S is under bidding under separate scheme. Earhing and cable trench layout are not available at this stage. Development of drawings is in the scope of TSP.
41.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line	We understand that space in the existing control room at South Olpad GIS S/S is available for the extension work under the present scope. Please confirm.		Bidder needs the information for proper estimation	<b>South Olpad Extn:</b> As per RfP, space provision for 02 N os. 765 kV diameter shall be kept in the existing 765 kV GIS building to be constructed by the developer of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda RE park of

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
No.	document	provision		text for the	the	
				Amendment	Clarification	
					or	
					Amendment	
						Gujarat under Phase-IV (7 GW): Part
						B". This space may be utilized for
						Installation of U2 Nos. 765 kV diameter
						under present scope. Any
						augmentation/extension of GIS nall, If
						required, shall be executed by the TSP
2						under present scope. Further, all other
0						AUL System Air conditioning system
$\sim$						of LCR Fire protection system of GIS
						Hall I CR room cable trench in GIS
						Hall and LCR Room etc. shall be
						provided under present scope
42.	RFP for	Section-1. Clause 1.2.	We understand that at South		Bidder needs	It is envisaged that AC and DC
	Selection of	Scope of work	Olpad GIS S/S, there is space		the information	distribution boards at existing S/S shall
	Bidder as	Sr. No. 3:	along with spare feeders		for proper	have modules for feeders under
	Transmission	2 Nos. of 765 kV line bays at	available in existing ACDB and		estimation	present scope.
	Service	South Olpad (GIS) for	DCDB panels for present scope			
	Provider	termination of South Olpad	of work.			
		(GIS) –Boisar-II (GIS) 765	Please confirm.			
		kV D/c line				
43.	RFP for	Section-1, Clause 1.2,	BPC is requested to provide		Bidder needs	South Olpad S/S is under bidding
	Selection of	Scope of work	following data/documents for		the information	under separate scheme. However,
	bidder as	Sr. NO. 3: 2  Nos. of  765  W  (line have st	extension work at South Ulpad		for proper	development of drawings & soil testing
	Sonvice	2 NUS. 01 / 05 KV IIIIE DAYS AL	1 Soil toot report		esumation	is in the scope of 15P.
	Drovider	termination of South Oland				
		(GIS) _Boisar-II (GIS) 765	<ol> <li>∠. ⊢ire nyarant layout</li> </ol>			
		kV D/c line				
44	RFP for	Section-1. Clause 1.2	We understand that at South		Bidder needs	New Battery and Battery charger are
	Selection of	Scope of work	Olpad GIS S/S, the existing Fire-		the information	not envisaged under present scope for
	Bidder as	Sr. No. 3:	fighting system, battery and			existing sub stations.

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
NO.	aocument	provision		Amendment	Clarification	
					or	
					Amendment	
	Transmission	2 Nos. of 765 kV line bays at	battery charger have sufficient		for proper	
	Brovider	South Olpad (GIS) for	capacity to cater the extension		estimation	I he existing fire-fighting systems shall
		(GIS) –Boisar-II (GIS) 765	Please confirm			requirements under present scope
		kV D/c line				
45.	RFP for	Section-1, Clause 1.2,	1. Please provide the		Bidder needs	South Olpad S/S is under bidding
2	Selection of	Scope of work	details of GIS make for		the information	under separate scheme. The details
2	Transmission	2  Nos of  765  k/ line bays at	765kV South Olpad.		estimation	are not available at this stage.
	Service	South Olpad (GIS) for	2. Please confirm the			
	Provider	termination of South Olpad	availability of extension			
		(GIS) –Boisar-II (GIS) 765	link at GIS main bus for			
		kV D/c line	765kV South Olpad			
			extension.			
			3. Please provide the			
			existing 765KV South			
			Olpad GIS end plate			
			details.			
			plan and section view for 765kV			
			South Olpad to understand the			
46.	RFP for	Section-1, Clause 1.2,	BPC is requested to provide the		Bidder needs	South Olpad S/S is under bidding
	Selection of	Scope of work	make and dimensions (Drawing)		the information	under separate scheme. The details
	Bidder as	Sr. No. 3:	of the 765kV main bus		for proper	are not available at this stage.
	I ransmission	2 NOS. OF / 65 KV line bays at	Interface/Extension modules at		estimation	
	Provider	termination of South Olnad	work			
		(GIS) –Bojsar-II (GIS) 765	1. Also, BPC is requested to			
		kV D/c line	provide the make of GIS			
			at South Olpad S/S.			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
47.	RFP for	Section-1, Clause 1.2,	BPC is requested to confirm the		Bidder needs	24F OPGW is available in Navsari
	Selection of	Scope of work	existence of OPGVV in the		for proper	(New) – Padgne (PG) 765 kV D/c line.
	Transmission	SI. NO. 5.	(DC) 765 kV $D(a line and also$			in not evaluate an link is under
	Service	Padaba (PG) 765 kV D/c	(FG) 705 KV D/C life and also		esumation	implementation
	Provider	line at Boisar-II				
48	RFP for	Annexure-C SPECIEIC	We understand that the feeders		Bidder needs	Refer clause B 1 2 (iv) of RfP
2	Selection of	TECHNICAI	for the future bays are to be		the information	
2	Bidder as	REQUIREMENTS FOR	terminated immediately outside		for proper	
	Transmission	SUBSTATION	the GIS hall with isolation link.		estimation	
	Service	Clause: B.1.2 Switching	Please confirm.			
	Provider	Scheme				
49.	RFP for	Section-1, Clause 1.2,	The bidder understands that		Bidder needs	GIS hall for present scope shall be
	Selection of	Scope of work	space along with sufficient AHU		the information	provided by successful bidder. Refer
	Bidder as	Sr. No. 11:	capacity is available in the		for proper	clause B.3.6 of RfP.
	Transmission	± 300 MVAR STATCOM	existing GIS Hall at Navsari		estimation	
	Service	With 3x125 MVAR	(New)(PG) S/s for execution of			
	Provider	MSC, 1X125 MVAR MSR at	Diagona confirm			
		400 KV level of Noveari (New)(PC) S/s with	Please commin.			
		1 No of $400 \text{ kV}$				
		bay (GIS)				
50.	RFP for	Section-1, Clause 1.2,	BPC is requested to provide		Bidder needs	1. The existing bus bar protection
	Selection of	Scope of work	following data/documents for		the information	shall be augmented as per
	Bidder as	Sr. No. 11:	extension work at Navsari		for proper	requirement under present scope
	Transmission	± 300 MVAR STATCOM	(New)(PG) S/s:		estimation	PLIs shall be provided by respective
	Service	with 3x125 MVAR	1. Availability of CU and PU			hav owners
	Provider	MSC, 1x125 MVAR MSR at	for bays under present			2 The fire fighting evotome shall be
		400 kV level of	scope of work.			2. The me-ingriting systems shall be
		Navsari (New)(PG) S/s with				augmented/ extended to meet the
		I INO. OF 400 KV				requirements of present scope.
50.	Bidder as Transmission Service Provider RFP for Selection of Bidder as Transmission Service Provider	Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS) Section-1, Clause 1.2, Scope of work Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	<ul> <li>capacity is available in the existing GIS Hall at Navsari (New)(PG) S/s for execution of current scope of work.</li> <li>Please confirm.</li> <li>BPC is requested to provide following data/documents for extension work at Navsari (New)(PG) S/s: <ol> <li>Availability of CU and PU for bays under present scope of work.</li> </ol> </li> </ul>		for proper estimation Bidder needs the information for proper estimation	<ol> <li>The existing bus bar protection shall be augmented as per requirement under present scope. PUs shall be provided by respective bay owners.</li> <li>The fire-fighting systems shall be augmented/ extended to meet the requirements of present scope.</li> </ol>

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
No.	document	provision		text for the	the	
				Amendment	Clarification	
					or	
			2 Cufficiency of fire budrent		Amenament	2 Ontion Direction in Evicting CDU
			2. Sufficiency of fire hydrant			5. Optical Direction in Existing SDH
			system for extension			equipment is available at Navsari
			work/ fire hydrant layout			(NEW) PG S/s. However, TSP shall
			3. Please confirm			provide necessary interfaces to
			availability of optical			meet the voice and data
			direction existing SDH			communication requirement
20			equipment for present			between Navsari (New) PG S/s,
2			project link.			Boisar-II (GIS) S/s.
51.	RFP for	Section-1, Clause 1.2,	BPC is requested to provide		Bidder needs	Development of drawings is in the
	Selection of	Scope of work	following data/documents for		the information	scope of TSP. For existing details;
	Bidder as	Sr. No. 11:	extension work at Navsari		for proper	bidder may visit the site and acquaint
	Transmission	± 300 MVAR STATCOM	(New)(PG) S/s:		estimation	themselves with site conditions.
	Service	with 3x125 MVAR	1. Earthmat layout			
	Provider	MSC, 1x125 MVAR MSR at	2. Cable trench layout			
		400 kV level of				
		Navsari (New)(PG) S/s with				
		1 No. of 400 kV				
52	DED for	Day (GIS)	Ma understand that appear in the		Diddor poodo	Diddor may visit the site to apportain
52.	Selection of	Section-1, Clause 1.2,	evisting control room at Navsari		the information	the space as per their requirement
	Bidder as	Scope of work	(New)(PG) S/s is available for		for proper	the space as per their requirement.
	Transmission	+ 300 MVAR STATCOM	the extension work under the		estimation	
	Service	with 3x125 MVAR	present scope Please confirm		Countration	
	Provider	MSC. 1x125 MVAR MSR at				
		400 kV level of				
		Navsari (New)(PG) S/s with				
		1 No. of 400 kV				
		bay (GIS)				
53.	RFP for	Section-1, Clause 1.2,	We understand that at Navsari		Bidder needs	AC and DC feeders for present scope
	Selection of	Scope of work	(New)(PG) S/s, there is space		the information	are to be provided by successful
	Bidder as	Sr. No. 11:	along with spare feeders			

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the Clarification	RECPDCL response
				Amenument	or Amendment	
6	Transmission Service Provider	± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	available in existing ACDB and DCDB panels for present scope of work. Please confirm.		for proper estimation	bidder. Bidder may visit the site for existing details. Refer clause C.8.11 for STATCOM Auxiliary supply.
45. 250 (	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	BPC is requested to provide following data/documents for extension work at Navsari (New)(PG) S/s: 1.Soil test report 2Fire hydrant layout		Bidder needs the information for proper estimation	<ol> <li>Refer FAQ 2.4.</li> <li>Bidder may visit site and acquaint themselves with the provisions/facilities available at substation.</li> </ol>
55.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	We understand that at Navsari (New)(PG) S/s, the existing Fire- fighting system, battery and battery charger have sufficient capacity to cater the extension works under present scope. Please confirm.		Bidder needs the information for proper estimation	Refer clause C.8.11 & C 8.12 of RfP.
56.	RFP for Selection of Bidder as Transmission	Section-1, Clause 1.2, Scope of work Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR	<ul> <li>a. Please provide the details of GIS make for 400kV Navsari.</li> <li>b. Please confirm the availability of extension link at</li> </ul>		Bidder needs the information for proper estimation	Bidder may visit site and acquaint themselves with the provisions/facilities available at substation.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
-				Amendment	Clarification	
					or	
					Amendment	
	Service	MSC, 1x125 MVAR MSR at	GIS main bus for 400 kV Navsari			
	Provider	400 KV level of	extension.			
		1 Navsari (New)(PG) 5/s with	c. Please provide the			
		hav (GIS)	plate details			
			d Please provide GIS			
			equipment plan and section view			
2			for 400kV Navsari to understand			
2			the present scope of work.			
57.	RFP for	Section-1, Clause 1.2,	BPC is requested to provide the		Bidder needs	Bidder may visit site and acquaint
	Selection of	Scope of work	make and dimensions (Drawing)		the information	themselves with the
	Bidder as	Sr. No. 11:	of the 400kV main bus		for proper	provisions/facilities available at
	Transmission	± 300 MVAR STATCOM	interface/Extension modules at		estimation	substation.
	Service	with 3x125 MVAR	Navsari (New)(PG) S/s for			
	Provider	MSC, 1x125 MVAR MSR at	extension work.			
		AUU KV IEVELOI Noveari (New)(PC) S/s with	Also, BPC is requested to			
		1 No of $400 \text{ kV}$	Navsari S/S			
		bay (GIS)				
58.	RFP for	Section-1, Clause 1.2,	We understand that the space for		Bidder needs	Space for present scope of work at
	Selection of	Scope of work	present scope of work at South		the information	South Olpad as mentioned in the notes
	Bidder as	Notes:	Olpad as mentioned in the notes		for proper	shall be provided to the TSP free of
	Transmission	iv. TSP of South Olpad	shall be provided to the TSP free		estimation	cost.
	Service	(GIS) S/s shall provide	of cost.			
	Provider	space for work envisaged at	Please confirm.			
50		SI. No. 3 and 4.			Diddon noodo	Change for managent accurs of work at
59.	Selection of	Section-1, Clause 1.2,	vie understand that the space for		the information	Space for present scope of work at Navsari Substation shall be provided to
	Ridder as	+ $300 \text{ M}/\text{AR}$ STATCOM	Substation shall be provided to		for proper	the TSP free of cost
	Transmission	with 3x125 MVAR	the TSP free of cost		estimation	
	Service	MSC, 1x125 MVAR MSR at	Please confirm.			
	Provider	400 kV level of				

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the Clarification	RECPDCL response
				Amenament	or	
					Amendment	
		Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)				
60.	RFP for Selection of Bidder as Transmission	Annexure: C, Specific Technical Requirement for STATCOM Clause 3: Scope of work	BPC is requested to provide the base data for the system studies to be performed by TSP in the form of PSSE file or other similar		Bidder needs the information for proper estimation	Base Case study files for Solar Max scenario (Feb'28) timeframe shall be shared with BPC/CEA separately wherein all the existing as well as
el	Service Provider	The TSP shall also perform the system studies (steady state and dynamic) according to the requirement mentioned and documentation of the same shall be preserved by TSP & to be submitted to CEA/CTU/GRID-INDIA, as per their request.	form so that base data for system studies is same for all the bidders.			envisaged system up to 2028-29 timeframe will be modelled using generic parameters as available with CTUIL. However, these generic parameters are to be fine-tuned to establish a converged dynamic case in steady state as well as the contingency cases. The fine tuning of the g eneric parameters shall be under the scope of TSP, which shall be done in consultation with CEA, CTUIL and Grid-India and the TSP share the final converged dynamic files with CTUIL, CEA and Grid-India.
61.	RFP for Selection of Bidder as Transmission Service Provider	Annexure: C, Specific Technical Requirement for STATCOM Clause 3: Scope of work Example of equivalent acceptable solutions for each STATCOM Station	We understand that the example combinations given are for 1 unit of STATCOM Station. Two such STATCOM Stations are to be provided by TSP in two half- dia under present scope of work. Please confirm.		Bidder needs the information for proper estimation	Refer clause C.3 of RfP.
62.	RFP for Selection of Bidder as Transmission	Annexure: C, Clause 3.1 Statcom Building	For the reduction in cost instead of separate control for Statcom, it is requested to have a single		Bidder needs the information for proper estimation	It is clarified that separate control room other than main control room of the s/s is envisaged for STATCOM as per RfP.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL response
					or Amendment	
	Service Provider		control room for the entire substation.			
63. G el	RFP for Selection of Bidder as Transmission Service Provider	Annexure: C, Clause 6.6 Audible Noise Valve Hall (Inside): 90 dBA	We understand that the values provided in the table are above the ambient noise value and not the absolute value. Also, as human entrance inside the valve hall during operation is not envisaged, the limit inside valve hall can be removed. Please confirm.			Bidder's understanding regarding value of Audible noise for valve hall is ok. Further, it is clarified that for valve hall, measurement shall be done at the nearest accessible point.
64.	RFP for Selection of Bidder as Transmission Service Provider	Annexure: C, Clause 6.9.6 Availability requirement	BPC is requested to clarify what is to be considered under human error.		Bidder needs the information for proper estimation	Human error is generic term which generally referred as not intended by human. Further, provisions of the RFP Document are amply clear and shall prevail.
65.	RFP for Selection of Bidder as Transmission Service Provider	Annexure: C, Clause 8.1.2 Semiconductor switches The proposed semiconductor switch shall be of a type which is in, or ready for, commercial operation with characteristics fully proven by recorded years of operation in other installations	BPC is requested to mention how many years of operation is required.		Bidder needs the information for proper estimation	Query do not pertain to the clause of RfP of subject scheme.
66.	RFPforSelectionofBidderasTransmission	Annexure: C, Clause 9. Engineering Studies The load flow and dynamic file available with CTU shall	As the latest version of PSSE is version 35, BPC is requested to include 35 as well.		Bidder needs the information for proper estimation	The existing provisions of RfP shall be followed.

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
	Service	be provided to the ISP in				
07	Provider DED for	PSSE version 34 format	Disconstruction that the effert asid		Didden neede	the ball bases are as becauti IEO
67.	RFP IOI Selection of	Relevant Standards	standard IEC 60254 has been		blader needs	It shall be as per relevant IEC.
	Selection of	STATCOW Station Shall	standard IEC 60354 has been		for proper	
	Transmission	comply with following	replaced by IEC 60076			
	Service		We understand that the same		esumation	
2	Provider		shall be considered			
2			Please clarify our understanding			
68.	RFP for	Annexure: C C 2 Relevant	We understand that in place of		Bidder needs	Cyber security shall be as per latest
	Selection of	Standard:	IEC 62243 which relates to		the information	Govt. of India guidelines.
	Bidder as	Point no. 6. 400 kV Power	"Artificial Intelligence Exchange		for proper	g
	Transmission	transformer (Coupling	and Service Tie to All Test		estimation	
	Service	Transformer) : IEC-60076,	Environments." the international			
	Provider	IEC-60354	cyber security standards and			
		15. Cyber Security: IEC-	recommendations like NERC-			
		62243	CIP, BDEW, IEC 62443, ISA99			
			NSA/CSS and NIST can be			
			considered.			
			Please clarify our understanding.			
69.	RFP for	Annexure: C, Clause	We understand that the step		Bidder needs	Confirmed as it meets the requirement
	Selection of	C.6.2.7	STATCOM station only as MSC		the information	OF RIP.
	Transmission	STATCOW Station	MSP are approximated with			
	Service	The maximum overshoot	delayed mechanical operation		Collination	
	Provider	should not	Further Bidder understands that			
		exceed 120% of the total	max overshoot shall be 20% of			
		change and the settling time	total change.			
		should not exceed 100 ms	Please confirm.			
		after				
		which the voltage should be				
		within $\pm 5\%$ of the final value.				

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
70.	RFP for	Annexure: C, Clause 6.5.1	We understand that estimation		Bidder needs	Requirement RfP shall be followed.
	Selection of	Radio Interference	and calculations of the possible			
	Transmission	D) Measurements of actual	STATCOMe based on data and			
	Service	shall be made by the TSP	characterization of a reference		esumation	
	Provider	at points along the above	STATCOM valve arrangement			
		defined contour and at other	(reference valve) is acceptable in			
20		critical point.	place instead of actual RI			
2		c) RIV (Radio Interference	measurement as this is a			
		voltage) measured at a	commonly used approach with			
		phase to ground voltage	good results.			
		(266 KV	In addition, if Radio Interference			
		NEMA 107 shall not be	component level we understand			
		more than 500 micro-volts	there is no need for performing			
		for 400	RIV measurement.			
		kV system. For other system	Please confirm.			
		voltages IEC/NEMA in the				
		order of preference shall				
		be applicable.				
71.	RFP for	Annexure: C, Clause 6.7	BPC is requested to state how		Bidder needs	TSP to maintain the losses as per
	Selection of	Loss Requirement	the STATCOM system losses			requirement of RTP. Further, cost
	Transmission		cost of losses should be		estimation	TSP as per their requirement
	Service		considered in the evaluation of		Countration	
	Provider		the bid.			
72.	RFP for	Annexure: C, Clause 6.9.8	If one IGBT fails in a sub module,		Bidder needs	As per RfP, zero voltage (/bypass)
	Selection of	Guaranteed Failure Rate	the particular sub module will be		the information	mode is also to be considered as
	Bidder as	OF Sub modules (including	switched with zero voltage which		for proper	failure of submodule. Further, bidder's
	Iransmission	all component and	is called as bypass mode This		estimation	understanding of immediate auxiliaries
	Service	electronic)	mode of operation shall not be			of sud module is correct.
	FIOVICIEN		considered as a sub module	1	1	

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
		The maximum annual	failure as it is defined as zero			
		guaranteed failure rate of	voltage mode as per IEC 62927.			
		sub module (including all	Please confirm that this zero			
		component and electronic)	voltage mode is not considered			
		shall not exceed 1.0% per	as a failure as long as there is no			
		STATCOM. The failure rate	Interruption in the rated capability			
2		foiluree directly ettributeble				
0		to operation and	Further, It is not clear about what			
$\sim$		maintenance errors	is meant by "sub module			
			(including all component and			
			electronic)" The definition of sub			
			module says "immediate			
			auxiliaries". Bidder understands			
			that the immediate auxiliaries			
			includes heat sinks, PCUs.			
			Bidder understanding is that			
			Valve/module support structures,			
			cooling pipes etc are not			
			considered part of sub module.			
			Kindly confirm.			
73.	RFP for	Annexure: C, Clause 8.3.2	We understand that in place of		Bidder needs	Protection as envisaged in the RtP
	Selection of	p) List of Protection	differential protection, duplicate		the information	shall be provided by the TSP.
		atation STATCOM Branch	over current protection and			
	Service	Protection:	current in value can be provided		esumation	
	Provider	i) Differential protection (87)	Please confirm			
74	RFP for	Section-1 Clause 1.2	We understand that unfettered		Bidder needs	TSP to coordinate with existing S/s
	Selection of	Scope of work	access will be provided to		confirmation	owner during execution stage.
	Bidder as	Note:	selected TSP for construction of		for better	
	Transmission	iv. TSP of South Olpad	present scope of work at South		understanding	
		(GIS) S/s shall provide			5	
Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Dasod competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or Amendment	
l, el	Service Provider	space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s	Olpad (GIS) S/s and Velgaon S/s Substation. We also request BPC to clarify if there is any binding arrangement or agreement by which, TSPs of South Olpad (GIS) S/s and by MSETCL for Velgaon S/s is obligated to provide unfettered access and space for construction of present scope of work to the selected TSP? Please confirm.		and proper estimation.	
75.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line end) & Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	We understand TSP must follow RFP requirement only. Existing station owner practice and requirement is not binding on TSP for other than interface points.		Bidder needs confirmation for better understanding and proper estimation.	Refer clause B.4 (b) of RfP.
76.	RFP for	Section-1, Clause 1.2	It has been observed during past		Bidder needs	CEA,s " Operation and Maintenance
	Selection of	Scope of work	projects for extension work,		the information	(O&M) guidelines and Standard

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Desired competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or	
					Amendment	
	Bidder as	On No. 2	existing substation owners does		for proper	Format for Memorandum of
	Transmission	Sr. No. 3: 2 No. of $765 k/(line have at$	not agree for mutual contracts		estimation	Understating between New ISP and Evicting TSP, issued by CEA vide its
	Brovider	South Olpad (GIS) for	allowed to do the O&M			Letter No. 1/28511/2023 dated
	FIONICEI	termination of South Olnad	themselves			22 06 2023 to be followed Copy of the
		(GIS) –Boisar-II (GIS) 765	In view of the above a meeting			guideline is available on CEA website
-		kV D/c line end)	was held under the			at following link:
2		&	chairmanship of Secretary,			5
S		Sr. No. 7	Ministry of Power on 28.03.2023			https://cea.nic.in/wp-
		2 Nos. of 400 kV line bays at	at Shram Shakti Bhawan to			content/uploads/psetd/2023/06/om
		Velgaon (MH)	discuss following two issues: -			_guidelines.pdf
		for termination of Boisar-II –	i. Operation & Maintenance			
		Velgaon (MH)	(O&M) Roles & Responsibilities			
		400 kV D/c (Quad	II. Operation & maintenance			
		ACSR/AAAC/AL59 moose	(O&W) charges			
			Below are the decisions taken in			
			thus meeting:			
			i. For all the upcoming projects			
			and under bidding projects, the			
			existing substation			
			owner/agency will carry out the			
			operation & maintenance (O&M)			
			activities in case of any bay			
			extension as well as in case of			
			existing substation			
			ii Existing substation			
			owner/agency will charge			
			Operation & Maintenance			
			(O&M) charges from the New			
			Transmission Service Provider			

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
<i>رور</i> 77.	RFP for Selection of Bidder as Transmission Service Provider & TSA	Para 1.6.1.1 of RFP Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/	<ul> <li>(TSP) @ 30% of the normative O&amp;M expenses (plus taxes etc.), as specified in CERC (Terms and Conditions of Tariff) Regulations.</li> <li>We request BPC to confirm that the TSP shall be allowed to perform the operation and maintenance of the bays in line with above mentioned resolutions. (Applicable forNavsari, South Olpad (GIS) S/s and Velgaon S/s.)</li> <li>i) BPC is requested to kindly provide the definitions for generation pooling substation, load serving substation and Greenfield intermediate Substation.</li> <li>ii) BPC is requested to confirm our understanding that the "4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s" under the present scope of work shall be classified as Greenfield Intermediate Substations.</li> </ul>		or Amendment	Provisions of RfP are amply clear. The 765/400/220 kV Boisar- II (GIS) S/s is planned as a Greenfield load serving substation. The proposed Boisar- II (GIS) S/s substation shall not be beyond 3 km radius of the proposed location as mentioned in the survey report. The survey report has been already issued to the bidders. Bidder may also refer Clause No 2.5.7 of RFP and Clause No 5.1.4 of TSA Document in this regard.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Dased competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
60		crossing/PTCC, etc.), land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. Further, the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.				
78.	RFP for Selection of Bidder as Transmission	Clause no. 1.2 of Section 1 of RFP,	We understand that Boisar- II (GIS) substations is classified as <b>Greenfield</b> intermediate		Bidder needs the information for proper estimation	The 765/400/220 kV Boisar-II (GIS) S/s as well as 765/400 kV South Olpad S/s are planned as Greenfield load serving substation s.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
					Amendment	
G el	Service Provider	Scope of the Transmission Scheme: South Olpad (GIS) – Boisar- II (GIS) 765 kV D/c line	Substation and South Olpad (GIS) Substation is classified as Greenfield Load serving Substation. The selected TSP can choose Boisar-II (GIS) substation location within 10 km radius of the location to be proposed by the BPC in the survey report. As the substation location is not freeze, the route length of 765 kV D/c line may differ based on actual location of substation and have cost impact on overall estimation.In an extreme case the route length of "765 kV D/c line" may increase upto 13KM which will be approx6-7% of the project cost. We understand that if such a situation occurs then it will be treated under change in law and TSP shall be compensated accordingly.Kindlyconfirmour			The proposed Boisar-II (GIS) S/s substation shall not be beyond 3 km radius of the proposed location as mentioned in the survey report. The survey report has been already issued to the bidders. Bidder may also refer Clause No 2.5.7 of RFP and Clause No 5.1.4 of TSA Document in this regard.
			understanding.			

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Deservice competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amenument	or	
					Amendment	
79. G OL	RFP for Selection of Bidder as Transmission Service Provider	Notes: II MSETCL shall carry out reconductoring of the balance portion of Padghe (M) – Boisar-II 400 kV D/c line (i.e., from LILO point up to Padghe(M)) and shall also carry out corresponding upgradation of 400 kV bays at Padghe (M) as may be required in matching time- frame of the LILO line. MSETCL has confirmed the maximum capacity of the	vve understand that the present scope of work is independent from the work to be executed by MSETCL i.e. to carry out reconductoring of the balance portion of Padghe (M)' – Boisar- II 400 kV D/c line and delay in implementation of MSETCL element, will not hamper commissioning of present scope of work. Please confirm.		Bidder needs confirmation for better understanding and proper estimation.	Confirmed.
		line which can be achieved after reconductoring considering clearances in existing towers of Babhaleswar – Padghe (M) 400 kV D/c line as 1700 MVA per ckt.				
80.	RfP	S       Scope of the Scope       Scope         I       Transmission       the         .       Scheme       Transmission         N       Scheduled       on Schem         o       COD in months       Schedule         .       from Effective       COD         Date       months       from	Extension of South Olpad SS: Confirm whether the land shall be provided on lease basis or on free of cost. If on lease basis, kindly provide the charges.		Bidder needs information for proper estimation	Space for present scope of work at South Olpad as mentioned in the notes shall be provided to the TSP free of cost. Further, South Olpad S/S is under bidding under separate scheme. SLD & GA are not available at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Cla	ause No. and ovision	Existing	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amondmont	RECPDCL response
				Date	over of land for construction. O&M of these bays are in the			
G el		1.	Inter-State Transmission system for "Transmission System For Evacuation Of Power From Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase- IV (7GW): Part C"	24 months	O&M of these bays are in the scope of TSP or Developer of South Olpad SS. Kindly confirm.			

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif**Obsect** competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
Gel		4				

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif**Obs**ed competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
81.	RFP for Selection of Bidder as Transmission Service Provider	SpecialTechnical requirementrequirementforTransmission LineClause A.5.0 & A.17.0As per clause A.5.0 "Further, forforfortransmissionlinesectionspassingwithin adistance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections."Also,asperA.17.0, "Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable"	Request BPC to provide survey report which includes information on Wind zone as well as Coastal zone against each angle point. This would help avoid any ambiguity between bidder estimations due to changes in Wind zone as well as coastal zone.		Bidder needs information for proper estimation	The survey report is already issued to the bidders which includes one suggested route with approximate route length etc. However, bidders shall finalize the route after detailed survey considering the requirement of RFP and CEA regulations. For any further details, Bidder may visit the site and acquaint themselves with the site conditions. Please refer Clause No. 2.5.7 of RFP Document.
82.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2 Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line end)	BPC is requested to share the make and model details of the VMS at both South Olpad (GIS) S/s.		Bidder needs the information for proper estimation	South Olpad: The S/S is under bidding under separate scheme. The details of VMS are not available at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif**Obasica** competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL response
					Amendment	
h el		& Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line				
83.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2 Scope of work Note: iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s	As the space to be provided by TSP of South Olpad (GIS) S/s for present scope of work, we understand that if any unsuitability of the space occurs for the construction of present scope of work at South Olpad (GIS) S/s shall be liable for same. Please confirm.		Bidder needs the information for proper estimation	South Olpad S/S is under bidding under separate scheme. TSP to coordinate with s/s owner of South Olpad (GIS) S/s during execution stage.
84.	RFP for Selection of Bidder as Transmission Service Provider	Annexure-C: Specific Technical requirements for Transmission Line Clause no. A.17.0 and A.18.0,: "Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable"	With reference to RFP Annexure C clause no. A17.0 & A18.0, if transmission lines passing through cyclone prone areas i.e. areas upto 60 km from coast bidders are advised to follow specific guidelines in tower/ foundation design. Kindly note that as the Gujarat coast is of irregular shape and		Bidder needs the information for proper estimation	The survey report is already issued to the bidders which includes one suggested route with approximate route length etc. However, bidders shall finalize the route after detailed survey considering the requirement of RFP and CEA regulations. For any further details, Bidder may visit the site and acquaint themselves with the site conditions. Please refer Clause No. 2.5.7 of RFP Document.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Dasid competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					or Amendment	
L el			<ul> <li>coast definition is not defined in the RFP and hence, there is an ambiguity in consideration of coastline. BPC is requested to clarify the following: <ul> <li>a) Provide the Coastline in kml/kmz file with clear demarcation, for entire Gujarat coast for consideration of cyclone prone area and coastal offset line of 60 km from coastal line.</li> </ul> </li> <li>BPC may please specify the point of reference for consideration of coastal line.</li> </ul>			
85.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 11: ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	<ul> <li>BPC is requested to provide SLD</li> <li>&amp; GA drawing of Navsari (New)(PG) S/s with clearly marked present scope of work in it for better understating of present scope.</li> <li>BPC is also requested to provide Coordinates of take- off gantry for Present scope of work.</li> </ul>		Bidder needs the information for proper estimation	SLD (C/ENGG/STATCOM/Navsari Extn/400 kV/SLD/01) & GA (C/ENGG/STATCOM/Navsari Extn/400 kV/GA/01) of Navsari S/S are already issued to the bidders as <b>Appendix A</b> and is again enclosed for reference. Bidder may visit site and acquaint themselves with the provisions/facilities available at substation.
86.	RFP for Selection of Bidder as	Section-1, Clause 1.2 Scope of work Note:	i) We understand that the mentioned space for the extension work (present scope)		Bidder needs confirmation for better	Space for present scope of work at South Olpad as mentioned in the notes

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
her	Transmission Service Provider	<ul> <li>iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4.</li> <li>v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s.</li> </ul>	at South Olpad (GIS) S/s will be made available without any charges to selected TSP. ii) BPC is requested to confirm the timelines for handing over the space by TSPs of South Olpad (GIS) S/s. iii) We understand that levelled land shall be provided for extension work at at South Olpad (GIS) S/s. Please confirm		understanding and proper estimation.	shall be provided to the TSP free of cost on as is where is basis.
87.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)	<ul> <li>The completion of project by the selected bidder would depend on provision of spaces to be provided by the Developer of Navsari (New)(PG) S/s and would be out of control of the selected bidder. BPC to clarify the following:</li> <li>a. Whether the spaces provided by TSP of Navsari (New)(PG) S/s for the performance will be compatible for the selected bidder?</li> <li>b. Whether the spaces will be provided by TSP of Navsari (New)(PG) S/s, as free of cost?</li> </ul>		Bidder needs confirmation for better understanding and proper estimation.	<ul> <li>a &amp; b: Yes. The land will be given free of cost to successful bidder in as is where is basis. Further, Bidders are also requested to visit the substation site to acquaint themselves with land condition &amp; suitability.</li> <li>c &amp; d: The land for construction of ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS) shall be provided free of cost to the successful bidder.</li> <li>e &amp; f: Provisions of the RFP Documents are amply clear in this regard and shall prevail.</li> </ul>

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Desed competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
4			<ul> <li>c. Under which documents or transactions, TSP of Navsari (New)(PG) S/s shall be obligated to provide spaces to the selected bidder?</li> </ul>			
øl			d. BPC to share the copy of the documents under which TSP Navsari (New)(PG) S/s, are obligated to provide spaces to the selected bidder.			
			<ul> <li>e. In case of any delay on the part of TSP of Navsari (New)(PG) S/s in providing spaces to the Selected Bidder, whether the extension of SCOD and reimbursement of the cost will be provided to the selected bidder?</li> <li>f. Whether the delays on the part of TSP of Navsari (New)(PG) S/s in providing the spaces will cover under force majeure?</li> </ul>			

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Doced competitive bidding process

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
NO.	uocument	provision		Amendment	Clarification	
					or	
					Amendment	
88.	RFP for	Section-1, Clause 1.2	Please note that the construction		Bidder needs	Provisions of the RFP Documents are
	Selection of	Scope of work	of elements by the selected		the information	amply clear in this regard and shall
	Transmission	iv TSP of South Olpad	provision of space provided by		estimation	prevaii.
	Service	(GIS) S/s shall provide	TSPs of South Olpad (GIS) S/s.		Countation	
	Provider	space for work envisaged at				
0		SI. No. 3 and 4.	In case of any delay in providing			
~		v. MSETCL shall provide	space for construction of present			
X		space for the work	scope of work at South Olpad			
		envisaged at Si. No. 7 at Velgaon S/s	(GIS) S/S.			
			We request BPC to confirm			
			following:			
			BPC to clarify the following:			
			i. A suitable time extension of			
			SCOD will be provided to the			
			selected ISP			
			ii. Extra costs incurred by the			
			ISP on account of delays			
			like IDC, Overheads etc. will			
			be suitably adjusted for in			
			Delay on the part of the existing			
			noviding the analog will be			
			providing the spaces will be			
00		D. 4.0. Outtaking Och and	covered under force majeure?			On and fan Owitch alde line na actor alde l
89.	KFP	B. I.2 Switching Scheme	IL IS UNDERSTOOD THAT I SP KEEP			Space for Switchable line reactor shall
		NO(65. VI)	for future lines only			765 kV & 400 kV lines as her RfP

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Constant competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text_for_the	Rationale for	RECPDCL response
		p		Amendment	Clarification	
					or Amendment	
		Specific Requirement for Space Provision for 765kV & 400kV Present as well as future line shall be kept considering switchable Line Reactor for the lines.	Pls confirm our understanding.			
°, €	RFP	Bay Extension work at South Olpad GIS Ss B. 1.2 Switching Scheme Notes : X)	For New Dia at South Olpad asked LINE-Tie-ICT Bay. However as per RFP of South Olpad Only One future ICT bay available in Bus Section -I. Accordingly, One Bay configuration will be Line – Tie-			Please refer <b>Amendment II</b> dated 12.02.2024 in this regard.
			Line with Switchable Line Reactor to be developed. Pl conform the configuration.			
91.	RFP	Bay Extension work at Navsari GIS SS B.2.3	BPC to confirm the Existing GIS Make and Bus extension module availability at Navsari GIS SS			Bidder may visit the site to acquaint themselves with the existing details.
92.	RFP	400kV Bay extension at Navsari GIS SS B.2.5. d)	it is understood that existing busbar protection have provision for future bays and also PUs are available for future bays. BPC to confirm.			The existing bus bar protection shall be augmented including PUs as per requirement under the present scope.
93.	RFP	400kV Bay extension at Navsari GIS SS B.2.6 a)	For SCADA, it is understood that necessary process I/O shall be available for future bays and			Necessary process I/O along with license shall be in the scope of the successful bidder.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Deservice competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
			accordingly license for same. BPC to confirm.			
94.	RFP	400kV Bay extension at Navsari GIS SS B.3.1	BPC to confirm the availability of AC & DC feeders in existing ACDB/DCDB for future bays.			It is envisaged that AC and DC distribution boards at existing S/S shall have modules for feeders under present scope.
50 00	RFP	400kV Bay extension at Navsari GIS SS B.3.1	We understand that existing equipment such as DG Set, LT Transformer, Battery & Battery charger have sufficient capacity to cater the requirements of bay under present scope of work, hence no need to consider new DG Set, LT Transformer, Battery & Battery charger in the existing sub stations. BPC to confirm the same.			New DG Set, LT Transformer, Battery and Battery charger are not envisaged under present scope for existing substation.
96.	RFP	400kV Bay extension at Navsari GIS SS B.3.2	No separate FF system is envisaged under the present scope of work. BPC to confirm			It is envisaged that the existing fire- fighting systems shall be extended to meet the additional requirements under present scope.
97.	RFP	B.3.6 GIS Hall at Navsari GIS SS	BPC to confirm the space availability in Existing GIS Hall for accommodation of bays under present scope.			GIS hall for bays under present scope shall be provided by successful bidder.
98.	RfP	S       Scope       of       the       Scope         I       Transmission       the       the         .       Scheme       Transmission       Transmission         N       Scheduled       on       Scher         o       COD in months       Schedule         .       COD       COD	of <b>Extension of Velgaon SS:</b> <sup>ISI</sup> Confirm whether the land shall <sup>ne</sup> be provided by MSETCL on <sup>Id</sup> lease basis or on free of cost. If in		Bidder needs information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Constant competitive bidding process

S. No.	Name of the document	Cla pro	ause No. and ovision	Existing	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL response
							Amendment	
G el		1.33	from Effective Date Inter-State Transmission system for "Transmission System For Evacuation Of Power From Potential Renewable Energy Zone In Khavda Area Of Gujarat Under Phase- IV (7GW): Part C"	months from Effective Date 24 months	oh lease basis, kindly provide the charges. What is the timeline for handling over of land for construction. O&M of these bays are in the scope of TSP or MSETCL . Kindly confirm.			Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
h el		4				
		Note: iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s. 				

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif**Obse**d competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
99. L	Specific technical requirement for S/s Clause no B.5	EXTENSION OF EXISTING SUBSTATION The following drawings/details of the existing substation are attached with the RFP documents for further engineering by the bidder	Single line diagram, GA, Earthmat Layout, VMS System mentioned clause no B.5.3is not attached with the RFP document, same may be provide.		Bidder needs information for proper estimation.	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
100.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 8: LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage	BPC is requested to confirm the existence of OPGW in the existing Babhaleswar – Padghe (M) 400 kV D/c line at Boisar- II and also share the make and model of OPGW equipment.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
101.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH)	The bidder understands that space along with sufficient AHU capacity is available in the existing GIS Hall at Velgaon for execution of current scope of work. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
		<b>P</b>		Amendment	Clarification	
					or	
		400  k/D/c (Quad			Amenament	Successful Bidder/TSP to coordinate
		ACSR/AAAC/AL59 moose equivalent) line				with MSETCL during execution stage for requisite information.
102. G el	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	<ul> <li>BPC is requested to provide following data/documents for extension work at Velgaon GIS S/S: <ol> <li>Availability of CU and PU for bays under present scope of work.</li> <li>Sufficiency of fire hydrant system for extension work/ fire hydrant layout</li> </ol> </li> <li>Please confirm availability of optical direction existing SDH equipment for present project line</li> </ul>		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
103.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	BPC is requested to provide SLD & GA drawing of Velgaon GIS S/S with clearly marked present scope of work in it for better understating of present scope. BPC is also requested to provide Coordinates of take- off gantry for Present scope of work.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
104.	RFP for Selection of Bidder as Transmission	Section-1, Clause 1.2, Scope of work Sr. No. 7	BPC is requested to provide following data/documents for extension work at Velgaon GIS S/S:		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
		-		Amendment	Clarification	
					or	
	Service Provider	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	1. Earthmat layout Cable trench layout		Amenument	clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
105.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	We understand that space in the existing control room at Velgaon GIS S/S is available for the extension work under the present scope. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
106.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	We understand that at Velgaon GIS S/S, there is space along with spare feeders available in existing ACDB and DCDB panels for present scope of work. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
107.	RFP for Selection of Bidder as Transmission	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH)	BPC is requested to provide following data/documents for extension work at Velgaon GIS S/S: 1.Soil test report		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
	Service Provider	for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	2Fire hydrant layout			Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
108. L eL	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	We understand that at Velgaon GIS S/S, the existing Fire- fighting system, battery and battery charger have sufficient capacity to cater the extension works under present scope. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
109.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	<ol> <li>Please provide the details of GIS make for 400kV Velgaon GIS S/s.</li> <li>Please confirm the availability of extension link at GIS main bus for 400kV Velgaon GIS S/s extension.</li> <li>Please provide the existing 400kV Velgaon GIS end plate details.</li> <li>Please provide GIS equipment plan and section view for 400kV Velgaon GIS S/s to understand the present scope of work.</li> </ol>		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S.	Name of the	Clause No. and Existing	Clarification required	Suggested	Rationale for	RECPDCL response
NO.	uocument			Amendment	Clarification	
					or	
					Amendment	
110.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II –	BPC is requested to provide the make and dimensions (Drawing) of the 400V main bus interface/Extension modules at Velgaon S/S for extension work. Also, BPC is requested to		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage.
her		Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	provide the make of GIS at Velgaon S/S.			Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
111.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Notes: v. MSETCL shall provide space for the work envisaged at Sl. No. 7 at Velgaon S/s.	We understand that the space for present scope of work at Velgaon as mentioned in the notes shall be provided to the TSP free of cost. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
112.	RFP for Selection of Bidder as Transmission Service Provider	Annexure-C, SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION Clause B.1.2 Switching Scheme	BPC is requested to share the Switching scheme at Velgaon SS.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
113.	RFP for Selection of Bidder as Transmission	Section-1, Clause 1.2, Scope of work Sr. No. 7 :	We understand that the Boisar- Velgaon line shall be terminated in existing line bays at Velgaon. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif Dased competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification or	
					Amendment	
	Service Provider	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	If not, then BPC is requested to inform the Bay configuration for the new dia envisaged for this project at Velgaon.			clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
4114. C	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2 Scope of work Note: iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s.	<ul> <li>i) We understand that the mentioned space for the extension work (present scope) at Velgaon S/s will be made available without any charges to selected TSP.</li> <li>ii) BPC is requested to confirm the timelines for handing over the space by MSETCL for Velgaon S/s.</li> <li>iii) We understand that levelled land shall be provided for extension work at Velgaon S/s. Please confirm</li> </ul>		Bidder needs confirmation for better understanding and proper estimation.	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
115.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2 Scope of work Sr. No. 3: 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) –Boisar-II (GIS) 765 kV D/c line end) & Sr. No. 7	BPC is requested to share the make and model details of the VMS at Velgaon S/s.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL response
				Amendment	Clarification	
					Amendment	
116.	RFP for	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line Section-1, Clause 1.2	Please note that the construction		Bidder needs	The land acquisition process for the
el	Selection of Bidder as Transmission Service Provider	Scope of work Note: iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s	of elements by the selected bidder would depend on provision of space provided by TSPs of Velgaon S/s. In case of any delay in providing space for construction of present scope of work at Velgaon S/s. We request BPC to confirm following: BPC to clarify the following: iii. A suitable time extension of SCOD will be provided to the selected TSP iv. Extra costs incurred by the TSP on account of delays like IDC, Overheads etc. will be suitably adjusted for in Tariff. Delay on the part of MSETCL for Valgaon S/s in providing the		the information for proper estimation	proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
			spaces will be covered under force majeure?			
117. L	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2 Scope of work Note: iv. TSP of South Olpad (GIS) S/s shall provide space for work envisaged at SI. No. 3 and 4. v. MSETCL shall provide space for the work envisaged at SI. No. 7 at Velgaon S/s	As the space to be provided by MSETCL for Velgaon S/s for present scope of work, we understand that if any unsuitability of the space occurs for the construction of present scope of work at Velgaon S/s shall be liable for same. Please confirm.		Bidder needs the information for proper estimation	The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
118.	RFP	Bay Extension work at Velgaon SS B.2.6 a)	For SCADA, it is understood that necessary process I/O shall be available for future bays and accordingly license for same. BPC to confirm. it is understood that existing busbar protection have provision for future bays and also PUs are available for future bays. BPC to confirm.			The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
119.	RFP	Bay Extension work at Velgaon SS B.3.1	BPC to confirm the availability of AC & DC feeders in existing ACDB/DCDB for future bays.			The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage.

Additional clarifications dated 12.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tarif based competitive bidding process

S. No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL response
						Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
120. G el	RFP	Bay Extension work at Velgaon SS B.3.1	We understand that existing equipment such as DG Set, LT Transformer, Battery & Battery charger have sufficient capacity to cater the requirements of bay under present scope of work, hence no need to consider new DG Set, LT Transformer, Battery & Battery charger in the existing sub stations. BPC to confirm the same.			The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.
121.	RFP	Bay Extension work at Velgaon SS B.3.2	No separate FF system is envisaged under the present scope of work. BPC to confirm			The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.

Additional clarifications dated 19.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariffor based competitive bidding process

SI.	Name of the	Clause No. and Existing provision	Clarification required	Suggested text	Rationale for	RECPDCL Response
No	Document			for the	Clarification/	
				amendment	Amendment	
1.	Transmission	Clauses 4.1(f) and 4.2.1(e)	BPC is requested to provide the		Bidder needs the	This is as per the SBD and
	Service	These clauses provide assistance by	definition of Arbitrators used as		information for	amendments thereof, issued
	Agreement	Nodal Agency or TSP to the	defined term.		proper estimation	by the Ministry of Power.
		Arbitrators as required for the				
		performance of their duties and				
		responsibilities				
2.	Transmission	Clause 5.5.6: For any delay in	Please note that as a general practice,		Bidder needs the	This is as per the SBD and
0	Service	commissioning any critical	the CERC considers any request for an		information for	amendments thereof, issued
	Agreement	Element(s), as identified in	extension of time post COD of the		proper estimation	by the Ministry of Power.
		Schedule 1 & Schedule 2 of this	Project. BPC is requested to clarify			
		Agreement, beyond a period of 45	that 10% of CPBG will be invoked			
		days shall lead to a sequestration of	even when such delay is caused due			
		10% of the Contract Performance	to FM events and without			
		Guarantee.	adjudication on the validity of such			
			claims?			
3.	Transmission	Clause 2.2.2: It is required that post	BPC to clarify the following:		Bidder needs the	The transfer of all project
	Service	the Expiry Date, the TSP to transfer	i) Who will be responsible for O&M		information for	assets along with substation
	Agreement	the Project to CTU within a period	of the Project post expiry date till		proper estimation	land, right of way and
		of 90 days.	the Project is transferred, as TSA			clearances shall be
			will automatically terminate on			completed at the end of 35
			Expiry Date?			years from COD of the
			ii) Whether the TSP will be paid for			Project. All the expenditure
			the O&M for the period post			till the transfer of all project
			Expiry Date till the Project is			assets along with substation
			transferred if the TSP will manage			land, right of way and
			the O&M post Expiry Date?			clearances shall be borne by
						TSP.

Additional clarifications dated 19.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process

SI.	Name of the	Clause No. and Existing provision	Clarification required	Suggested	text	Rationale for	RECPDCL Response
No	Document			for	the	Clarification/	
				amendment		Amendment	
4.	RFP	SECTION 1	Please confirm that, whether, the				The survey report has been
		Sn. 1.2	LILO point are fixed or TSP is open to				already issued to the bidders.
			take any LILO point for LILO of Navsari				Further, the successful
		LILO of Navsari (New) – Padghe (PG)	(New) – Padghe (PG) 765 kV D/c line				Bidder/TSP (Transmission
		765 KV D/C line at Boisar-II	at Boisar-II.				Service Provider) to
							coordinate with existing
							transmission line owner to
							finalize the tapping Point
X							during execution Stage.
							Bidder may visit the site and
							acquaint themselves with
							the site conditions.
5.	RFP	SECTION 1	Please confirm that, whether, the				The survey report has been
		Sn. 1.2	LILO point are fixed or TSP is open to				already issued to the bidders.
		LILO of Babbaloswar - Padghe (M)	Take any LILO point of Babhaleswar –				Further, the successful
		400 kV D/c line at Boisar-II (Sec. I)	II (Sec-I) S/s.				Bidder/TSP (Transmission
		using twin HTLS conductor with a					Service Provider) to
		minimum canacity of 1700 MVA per					coordinate with existing
		ckt at nominal voltage					transmission line owner to
							finalize the tapping Point
							during execution Stage.
							Bidder may visit the site and
							acquaint themselves with
							the site conditions.
6.	Clause 1.6.1.1	1.6.1.1 Establishment, operation	On receipt of survey report for the			For the feasibility of	The survey report has been
	of RFP	and maintenance of the Project on	subject Project, upon survey for			the Project and to	already issued to the
		build, own, operate and transfer	selection of suitable land for				bidders. Further, Boisar area
		basis and completion of all the	establishment of proposed 765/400				

Additional clarifications dated 19.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariffor based competitive bidding process

SI.	Name of the	Clause No. and Existing provision	Clarification required	Suggested	text	Rationale	for	RECPDCL Response
No	Document			for	the	Clarification/		
				amendment		Amendment		
		activities for the Project, including	kV Boisar-II GIS Substation within 3			submit	our	is mostly covered with
	and	survey, detailed project report	km radius of the location proposed in			competitive bid		protected forest and open
		formulation, arranging finance,	the survey report our observations					jungle area with patches of
		project management, necessary	are as follows:					reserved forest and the
		Consents, Clearances and Permits						same has also been taken
		(way leave, environment & forest,	Area earmarked by BPC for Boisar -					into consideration by
		civil aviation, railway/	II GIS Substation fails in the					concorned stakeholders
2		road/river/canal/power	Reserved/ Protected Forest area.					while finalizing the proposed
0		compensation design engineering	km with respect to BPC's coordinates					while finalizing the proposed
		equipment material construction	is attached herewith wherein it may					S/s land and boundary limits.
		erection testing & commissioning	be observed that maximum area					Subsequently, the matter for
	Survey Report	Further, the actual location of	within the 3.0 km boundary is under					proposed S/s land
		substations, switching stations or	Reserved/ Protected Forest. Further					acquisition for the patch
		HVDC terminal or inverter stations	there is River/River Tributary flows					falling under forest area was
		in the scope of TSP shall not b e	within the 3.0 km boundary.					also taken up with the
		beyond <b>3 Km</b> radius of the location						concerned forest authority
		proposed by the BPC in the survey	It may be further mentioned that					and it has been conveyed
		report.	there are Three 765kV lines and Two					that the forest area falling
			400kV lines emanating from this					under proposed S/s land
		Coordinates of proposed 765/400	Substation. The route of these lines					shall be handed over to the
		kV Substation at suitable location	has to be passed through forest for					solocted bidder upon
		near Boisar-II (GIS)	which clearance from MoE&F may be					selected blader upon
			difficult.					compliance of the prevailing
			In view of the shove RPC is					norms of the forest
			requested to propose new location					department. The
			for Boisar-II GIS substation					communication from the
								forest department shall be
								shared with the selected
								bidder.

Additional clarifications dated 19.02.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process

SI.	Name of the	Clause	No. and	Existing pr	ovision	Clarification required	Sugges	sted	text	Rationale	for	RECPDCL Response
No	Document						for		the	Clarification/		
							ameno	lment		Amendment		
		Ca-ordina	ates of proper	sed substation 4 Bit	1500 MVA, 765,							
												Further, bidders may also
		Village	Rev, Tulukar	Witrangarh, Di	strint: Palghar, D							visit site and acquaint
		8.80	Easting	Rothing	Latituda							themselves with site
		Cartait		stately as a	10147-0010							conditions. Please refer
		No. 1		- 41000011-40 10	the second second							Clause 2.5.7 of the RFP
6		Dater No.3	389741.03 E	2182673.82 W	104242.30%							document & Clause 5.1.4 of
0		Center No. 3	289853.47 E	2141766.23 N	19°4312.43°N							TSA document.
$\cap$		Conter 761-4	389220-66 K	2181723.90 N	1994233.229%							
		Conter No. 5	388202.06 K	2141498.05 /8	19"43 16,95"M							
		Cather No. 4	389102.43 E	2181896-10 N	19:4216.85%							
		Note The	e Substation w	hall not be beyon	d 3 km radius of r							

Amendment – III dated 27.02.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-State Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

	SI.	Clause No.	<b>Existing Provis</b>	sions	1	New / Revised	Provisions
	No.						
	1.	2.7.1 of	The Bidders s	hould submit the Bids online through the electronic	-	The Bidders s	hould submit the Bids online through the electronic
		RFP	bidding platform	before the Bid Deadline i.e., on or before 1200 hours	k	oidding platform	n before the Bid Deadline i.e., on or before 1200 hours
			(IST) on <u>27.02</u>	2024. In addition to the online submission, the Bidder	(	(IST) on <u>19.03.</u>	2024. In addition to the online submission, the Bidder
0			with lowest Fina	al Offer will be required to submit original hard copies of	1	with lowest Fina	al Offer will be required to submit original hard copies of
~ ~			Annexure 3, Ar	nexure 4 (if applicable), Annexure 6 (if applicable) and	1	Annexure 3, Ar	nnexure 4 (if applicable), Annexure 6 (if applicable) and
Z			Annexure 14 be	fore issuance of LoI.	1	Annexure 14 be	fore issuance of LoI.
	2.	2.7.2 of	Important timeli	nes are mentioned below:	1	mportant timeli	nes are mentioned below:
		RFP	-		_	-	
			Date	Event		Date	Event
			<u>27.02.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)		<u>19.03.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)
			<u>27.02.2024</u>	Opening of Technical Bid		<u>19.03.2024</u>	Opening of Technical Bid
			<u>06.03.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal		<u>27.03.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal
			<u>07.03.2024</u>	Opening of Financial Bid - Initial Offer		<u>01.04.2024</u>	Opening of Financial Bid - Initial Offer
			<u>08.03.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		<u>02.04.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.
				Submission of original hard copies of Annexure 3,			Submission of original hard copies of Annexure 3,
			<u>13.03.2024</u>	Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer		<u>05.04.2024</u>	Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer
			<u>18.03.2024</u>	Selection of Successful Bidder and issue of LOI		<u>10.04.2024</u>	Selection of Successful Bidder and issue of LOI
			<u>28.03.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited		<u>22.04.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited

3.	2.13.1 of RFP	 Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>27.02.2024</u>	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>19.03.2024</u>
			· · · · · · · ·
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>07.03.2024</u> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>01.04.2024</u> in the office of CEA.

Amendment – IV dated 07.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Interstate Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guidant under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause No	Existing Provisions	New / Revised Provisions
1.	Definitions of Bid Bond in RFP	"Bid Bond" shall mean the unconditional and irrevocable bank guarantee for <b>Rupees Thirty Seven Crore Forty</b> <b>Lakhs Only (Rs. 37.40 Crore)</b> , to be submitted along with the Technical Bid by the Bidder under Clause 2.11 of this RFP, as per the format prescribed in Annexure 14;	"Bid Bond" shall mean the unconditional and irrevocable bank guarantee for <b>Rupees Forty Five Crore Ten Lakh Only (Rs. 45.10</b> <b>Crore)</b> , to be submitted along with the Technical Bid by the Bidder under Clause 2.11 of this RFP, as per the format prescribed in Annexure 14;
2.	Clause 2.1.2 (i) of RFP	Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure of not less than <b>Rs. 1,870 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than <b>Rs. 374 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1).	Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure of not less than <b>Rs. 2,255 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than <b>Rs. 451 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1).
3.	Clause 2.1.2 (ii) of RFP	Experience in construction of project in infrastructure sector: The Technically Evaluated Entity should have received aggregate payments not less than <b>Rs. 1,870 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. However, the payment received from each project shall not be less than <b>Rs. 374 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1).	Experience in construction of project in infrastructure sector: The Technically Evaluated Entity should have received aggregate payments not less than <b>Rs. 2,255 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. However, the payment received from each project shall not be less than <b>Rs. 451 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1).
4.	Clause 2.1.3.1 (A) of RFP	<b>A. Networth:</b> Networth should be not less than <b>Rs. 748 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1) computed as the Networth based on unconsolidated audited annual accounts (refer to Note below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid	A. Networth: Networth should be not less than <b>Rs. 902 Crore</b> or equivalent USD (calculated as per provisions in Clause 3.4.1) computed as the Networth based on unconsolidated audited annual accounts (refer to Note below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the

Amendment – IV dated 07.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Interstates Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guident under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause	Existing Provisions	New / Revised Provisions
	<u>NO.</u>	Deadline. Also, the Networth of any of the last three (3) financial years should not be negative.	Networth of any of the last three (3) financial years should not be negative.
5.	Clause 2.12.1 of RFP	Within ten (10) days from the date of issue of the Letter of Intent, the Selected Bidder, on behalf of the TSP, will provide to the Nodal Agency the Contract Performance Guarantee for an amount of <b>Rs. 93.50 Crore (Rupees</b> <b>Ninety-Three Crore Fifty lakh only)</b> . The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project and thereafter shall be dealt with in accordance with the provisions of the Transmission Service Agreement. The Contract Performance Guarantee shall be issued by any of the banks listed in Annexure-17.	Within ten (10) days from the date of issue of the Letter of Intent, the Selected Bidder, on behalf of the TSP, will provide to the Nodal Agency the Contract Performance Guarantee for an amount of <b>Rs.</b> <b>112.75 Crore (Rupees One Hundred Twelve Crore Seventy-Five Lakh Only)</b> . The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project and thereafter shall be dealt with in accordance with the provisions of the Transmission Service Agreement. The Contract Performance Guarantee shall be issued by any of the banks listed in Annexure- 17.
6.	Last para of Clause 3.1.1 of TSA	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 <b>Rs. 93.50 Crore (Rupees Ninety-Three</b> <b>Crore Fifty lakh only)</b>	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 <b>Rs. 112.75</b> <b>Crore (Rupees One Hundred Twelve Crore Seventy-Five Lakh</b> <b>Only).</b>
7.	Clause 3.3.1 of TSA	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 <b>Rupees Nine Crore</b> <b>Thirty Five Lakh Only (Rs. 9.35 Crore)</b> within two (2)	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 <b>Rupees Eleven Crore and Twenty- Eight Lakh Only (Rs. 11.28 Crore)</b> within two (2) Business Days of expiry of every such Month. Such additional Contract Performance

Amendment – IV dated 07.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Interstate Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guidant under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause	Existing Provisions	New / Revised Provisions
	No.	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.	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.
8.	Clause 3.3.3 of TSA	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 <b>Rs. 93.50 Crore</b> ( <b>Rupees Ninety-Three Crore Fifty lakh Only</b> ) as liquidated damages. The Nodal Agency shall be entitled to recover this amount of damages by invoking the Contract Performance Guarantee to the extent of liquidated damages, which shall be required by the Nodal Agency, and the balance shall be returned to TSP, if any. It is clarified for removal of doubt that this Article shall survive the termination of this Agreement.	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 a mount of <b>Rs. 112.75 Crore (Rupees One Hundred Twelve Crore Seventy-Five Lakh Only)</b> as liquidated damages. The Nodal Agency shall be entitled to recover this amount of damages by invoking the Contract Performance Guarantee to the extent of liquidated damages, which shall be required by the Nodal Agency, and the balance shall be returned to TSP, if any. It is clarified for removal of doubt that this Article shall survive the termination of this Agreement.
9.	Clause 6.5.1 of TSA	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	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
Amendment – IV dated 07.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guiden Under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause		<b>Existing Provi</b>	sions		New / Revised	Provisions	
	<u>NO.</u>		Contract Perfo Nodal Agency Guarantee, if satisfactory cor regarding achie Elements of th Agency shall Performance G Article 3.3.2 t Guarantee is v <b>Crore (Rupees</b> (ii) termination mentioned und	rmance Guarantee by the Nodal Agency, shall release the Contract Performance any remaining unadjusted, after the mpletion by the TSP of all the requirements eving the Scheduled COD of the remaining he Project. It is clarified that the Noda also return / release the Contract Guarantee in the event of (i) applicability of o the extent the Contract Performance valid for an amount in excess <b>Rs. 93.50</b> <b>s Ninety-Three Crore Fifty Lakh only</b> ), or of this Agreement by the Nodal Agency as er Article 3.3.4 of this Agreement.		remaining unac of all the requir the remaining E Agency shall Guarantee in th the Contract F excess <b>Rs. 11</b> 2 <b>Seventy-Five I</b> the Nodal Ag Agreement.	ljusted, after the satisfactory completion by the TSP rements regarding achieving the Scheduled COD of Elements of the Project. It is clarified that the Nodal also return / release the Contract Performance e event of (i) applicability of Article 3.3.2 to the extent Performance Guarantee is valid for an amount in <b>2.75 Crore (Rupees One Hundred Twelve Crore</b> Lakh Only), or (ii) termination of this Agreement by ency as mentioned under Article 3.3.4 of this	
10.	Clause 14.3.1 TSA	of	A Party ("Inden the other Party for any indemn to an amount o <b>Only (Rs. 6.23</b>	nnifying Party") shall be liable to indemnify ("Indemnified Party") under this Article 14 ity claims made in a Contract Year only up of <b>Rupees Six Crore Twenty-Three Lakh</b> <b>Crore).</b>	,	A Party ("Indemnifying Party") shall be liable to indemnify the othe Party ("Indemnified Party") under this Article 14 for any indemnity claims made in a Contract Year only up to an amount of <b>Rupees</b> <b>Seven Crore Fifty-Two Lakh only (Rs. 7.52 Crore).</b>		
11.	2.7.1 RFP	of	The Bidders si electronic biddi or before 1200 the online subr will be required 3, Annexure 4 and Annexure 5	hould submit the Bids online through the ng platform before the Bid Deadline i.e., or hours (IST) on <u>19.03.2024</u> . In addition to mission, the Bidder with lowest Final Offer to submit original hard copies of Annexure (if applicable), Annexure 6 (if applicable) 14 before issuance of Lol.	;         	The Bidders sh bidding platforr hours (IST) on Bidder with low copies of Anne applicable) and	nould submit the Bids online through the electronic m before the Bid Deadline i.e., on or before 1200 <b>08.04.2024</b> . In addition to the online submission, the est Final Offer will be required to submit original hard exure 3, Annexure 4 (if applicable), Annexure 6 (if Annexure 14 before issuance of Lol.	
12.	2.7.2 RFP	of	Important timel	ines are mentioned below:	Important timelines are mentioned below:		nes are mentioned below:	
			Date	Event		Date	Event	
			<u>19.03.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)		08.04.2024	Submission of Bid (Online submission of Bid through electronic bidding portal)	

Amendment – IV dated 07.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Interstate Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guiden O under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause No.	Existing Provisions			New / Revised	Provisions
		19.03.2024	Opening of Technical Bid		08.04.2024	Opening of Technical Bid
		27.03.2024	Shortlisting and announcement of Qualified Bidders on bidding portal		16.04.2024	Shortlisting and announcement of Qualified Bidders on bidding portal
		<u>01.04.2024</u>	Opening of Financial Bid - Initial Offer		<u>18.04.2024</u>	Opening of Financial Bid - Initial Offer
	02.04.2024       Electronic reverse auction (Financial Bid         - Final Offer) for the Qualified Bidders.         Submission of original hard copies of         05.04.2024         Annexure 3, Annexure 4, Annexure 6, as         applicable and Annexure 14 by the         bidder with lowest Final Offer		<u>19.04.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		
			<u>24.04.2024</u>	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer		
			bidder with lowest Final Offer	er with lowest Final Offer <u>29.</u> etion of Successful Bidder and issue <u>09.</u>		Selection of Successful Bidder and issue of LOI
		<u>10.04.2024</u>	of LOI			
		<u>22.04.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited			
13.	2.13.1 of					
	RFP	Opening of Env <u>19.03.2024</u>	velope (Technical Bid): 1230 hours (IST) on	Dening of Envelope (Technical Bid): 1230 hours (IST) or 08.04.2024		
		Opening of Init Bid Opening C Committee at 1 of CEA.	ial Offer: Initial Offer shall be opened by the ommittee in presence of the Bid Evaluation 230 hours (IST) on <u>01.04.2024</u> in the office	()	Opening of Ini Opening Comm 1230 hours (IS	tial Offer: Initial Offer shall be opened by the Bid nittee in presence of the Bid Evaluation Committee at T) on <u><b>18.04.2024</b></u> in the office of CEA.

Addl. Clarifications dated 11.03.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation Of Power From Potential Renewable of Power From Potential Rene

SI. No	Name of	Clause No. and Existing provision	Clarification required	Suggested	Rationale	RECPDCL Response
	Document			Amendment	Clarification	
					or	
1.	SPECIFIC	A) For ±200 MVAR STATCOM:	Bidder understand that for "Option		Amenament	Requirement of RFP shall
	TECHNIC	,	6 i.e. Full STATCOM option",			be followed
	AL	Option 1: ±200MVAR STATCOM,	circuit breaker at MV-level will not			
	REQUIRE	Capacitor	fault (bus/branch) on MV side will			
2	MENTS	(MSC), 1x125MVAr Mechanically switched	trip the 400kV breaker."			
2	STATCOM	Shunt Reactor (MSR).	Piddor understand that the key			
	C.3 Scope	1x125MVAr Mechanically switched Shunt	requirements of MV-CB is based			
	of work for	Capacitor (MSC), 1x125MVAr Mechanically	on switching requirement of			
	STATCOM	switched Shunt Reactor (MSR).	MSC/MSR and hence as in case			
	A) For	1x125MVAr Mechanically switched Shunt	required. Bidder recommend to			
	±200 MVAR	Reactor (MSR).	amend the requirement of MV-CB			
	STATCOM	Option 4: ±325MVAR STATCOM,	in case of option-6 suitably.			
	:	Capacitor	Please confirm.			
		(MSC)				
		Option 5: +200/-325MVAR STATCOM,				
		Capacitor (MSC).				
		Option 6: +450/-325MVAR STATCOM				
2.	SPECIFIC	Option 6: +450/-325MVAR STATCOM	Please note, for option-6, its not			Bidder may go for other
		The TSP must guarantee the total losses of	clause of 1% at at			requirement of RFP.
	REQUIRE	STATCOM Station, be less than 1% of the	capacitive/reactive full load output.			
	MENTS	reactive power output individually at its	We take the refrence of clause			
	FOR	capacitive limit (STATCOM+MSCs) for the	10.28 of "Substation Package for			
	STATCOM	cumulative highest reactive power output of	STATCOM installations			
			associated with Eastern Region			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL Response
					Amendment	
L el	C.3 Scope of work for STATCOM A) For ±200 MVAR STATCOM : CI C. 6.7.1	STATCOM Station at PCC with worse combination of manufacturing tolerances.	Strengthening Scheme-XI (ERSS- XI). Spec. No.: CC-CS/419- ER1/STATCOM-2409/3/G8" where the "LOSSES REQUIREMENT & LOSS EVALUATION" clause was amended as: For bid evaluation purposes the losses will not be evaluated. In the bid the bidder must guarantee losses of STATCOM Station less than 1% of the reactive power output individually at inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the worst combination of STATCOM, MSR/MSCs (worst case means highest reactive power output) with 1 pu voltage on 400kV Bus. For final acceptance the contractor must meet the guaranteed 1% losses by on-site measurement. However, in case of Ranchi, Rourkela & Kishanganj where MSC is not envisaged, the losses of STATCOM station shall be guaranteed 1.0% for fully inductive mode (i.e. including MSRs) and 1.5% for STATCOM			
			in fully capacitive mode.			

SI. No	Name of	Clause No. and Existing provision	Clarification required	Suggested	Rationale	RECPDCL Response
	the			text for the	for the	
	Document			Amendment	Clarification	
					Amendment	
			In view of the above, for option 6			
			where MSC/MSR are not			
			envisaged, Bidder request to			
			amend the guaranteed loss clause			
			to 1.5% at full-load.			
			Bidder request to issue suitable			
			amendment.			
3.	SPECIFIC	Option 1: ±300MVAR STATCOM,	Bidder understand that for "Option			Requirement of RFP shall
2	TECHNIC	3x125MVAr Mechanically switched Shunt	8 i.e. Full STATCOM option",			be followed.
ļ	AL	Capacitor (MSC), 1x125MVAr Mechanically	circuit breaker at MV-level will not			
ľ	REQUIRE	switched Shunt Reactor (MSR).	be applicable and hence for "Any			
ľ	MENTS	Option 2: +425/-300MVAR STATCOM,	tault (bus/branch) on MV side Will			
ļ	FOR	Capacitor (MSC) 1x125MV(Ar Machanically	The 400kV breaker.			
ľ	STATCOM	switched Shunt Reactor (MSR)				
ļ	C 3 Scope	Option 3 +550/-300MVAR STATCOM	Bidder understand that the key			
ľ	of work for	1x125MVAr Mechanically switched Shunt	requirements of MV-CB is based			
ľ		Capacitor (MSC). 1x125MVAr Mechanically	on switching requirement of			
ľ	STATCOM	switched Shunt Reactor (MSR).	MSC/MSR and hence as in case			
ļ	B) For	Option 4: +675/-300MVAR STATCOM,	of option-8MSC/MSR are not			
ľ		1x125MVAr Mechanically switched Shunt	required bidder recommend to			
ľ		Reactor (MSR).	amend the requirement of MV-CB			
ľ	. STATCOW	Option 5: +300/-425MVAR STATCOM,	in case of option-8 suitably.			
ľ	•	3x125MVAr Mechanically switched Shunt				
		Capacitor (MSC).				
		Option 6: ± 425MVAR STATCOM,	Please confirm.			
		2x125MVAr Mechanically switched Shunt				
		Uption 7: +550/-42511VAK STATCOM,				
		Capacitor (MSC)				
		Option 8' $\pm 675/-425$ MVAR STATCOM				

SI. No	Name of	Clause No. and Existing provision	Clarification required	Suggested	Rationale	RECPDCL Response
	the Document			text for the	for the	
	Document			Amenument	or	
					Amendment	
4. L el	SPECIFIC TECHNIC AL REQUIRE MENTS FOR STATCOM C.3 Scope of work for STATCOM B) For ±300 MVAR STATCOM	Option 8: +675/-425MVAR STATCOM The bidder must guarantee the total losses of STATCOM Station, be less than 1% of the reactive power output individually at its inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the cumulative highest reactive power output of STATCOM Station at PCC with worse combination of manufacturing tolerances.	Please note, for option-8, its not feasible to meet guaranteed loss clause of 1% at at capacitive/reactive full load output. We take the reference of clause 10.28 of "Substation Package for STATCOM installations associated with Eastern Region Strengthening Scheme-XI (ERSS- XI). Spec. No.: CC-CS/419- ER1/STATCOM-2409/3/G8" where the "LOSSES REQUIREMENT & LOSS EVALUATION" clause was			Bidder may go for other options meeting all other requirement of RFP.
	: CI C. 6.7.1		amended as: For bid evaluation purposes the losses will not be evaluated. In the bid the bidder must guarantee losses of STATCOM Station less than 1% of the reactive power output individually at inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the worst combination of STATCOM, MSR/MSCs (worst case means highest reactive power output) with 1 pu voltage on 400kV Bus. For final acceptance the contractor must meet the guaranteed 1% losses by on-site			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL Response
					or Amendment	
h el			measurement. However, in case of Ranchi, Rourkela & Kishanganj where MSC is not envisaged, the losses of STATCOM station shall be guaranteed 1.0% for fully inductive mode (i.e. including MSRs) and 1.5% for STATCOM in fully capacitive mode.			
			In view of the above, for option 8 where MSC/MSR are not envisaged, Bidder request to amend the guaranteed loss clause to 1.5% at full-load. Bidder request to issue suitable amendment.			
5.	SPECIFIC TECHNIC AL REQUIRE MENTS FOR STATCOM C.3 Scope of work for STATCOM B) For ±300 MVAR	Option1:±300MVARSTATCOM,3x125MVArMechanically switchedShuntCapacitor(MSC),1x125MVArMechanically switchedShuntReactor(MSR).Option2:+425/-300MVARSTATCOM,2x125MVArMechanically switchedShuntCapacitor(MSC),1x125MVArMechanicallyswitchedShuntReactor(MSR).Option3:+550/-300MVARSTATCOM,1x125MVArMechanically switchedShuntCapacitor(MSC),1x125MVArMechanically switchedShuntReactorSwitchedShuntReactor(MSR).Option4:+675/-300MVARSTATCOM,1x125MVArMechanically switchedShuntReactor(MSR).Mechanically switched	Considering the requirement of 3nos of MSCs at Navasari along with the low-min-fault current. The design of Navsari STATCOM station posses special challenges few of them are listed below: - Due to the presence of high passive elements the rated power of the coupling transformer will be significantly higher than 675MVA. - The impedance of coupling transformer will become too high to suppress the short-circuit current at the secondary side of coupling transformer. Moreover.			The query is related to option 8. Bidder may go for other options meeting all other requirement of RFP.

SI. No	Name of	Clause No. and Existing provision	Clarification required	Suggested	Rationale	RECPDCL Response
	the		•	text for the	for the	•
	Document			Amendment	Clarification	
					or	
					Amendment	
	STATCOM	Option 5: +300/-425MVAR STATCOM,	there is a very high possibility that			
	:	3x125MVAr Mechanically switched Shunt	we may not be able to prove the			
		Capacitor (MSC).	similarity with existing type-tested			
		Option 6: ± 425MVAR STATCOM,	transformer and hence OEMs may			
		2x125MVAr Mechanically switched Shunt	have to type-test transformer.			
		Capacitor	- Above have direct impact over			
0		(MSC).	the rated current and short-circuit			
~		Option 7: +550/-425MVAR STATCOM,	currents of MV-System specially			
2		1x125MVAr Mechanically switched Shunt	over MV-Bushing or transformer,			
		Capacitor (MSC).	MV-Switchgear between coupling			
		Option 8: +675/-425MVAR STATCOM	transformer and MV-Bus which will			
			be of the range $\sim 7000-8000$ A;			
			availability of such type-tested			
			switchgear is a challenge.			
			- Selection MV circuit breaker will			
			be very challenging. There is high			
			possibility that circuit breaker			
			having short circuit rating of ~63			
			KA breaking capability may be			
			required.			
			In view of the above we have			
			following request:			
			- Revision of STATCOM losses to			
			1.5% so that Option 8 can be			
			evaluated			
			- Please de-scope requirement of			
			MV-CB			
6.	SPECIFIC	The injected harmonic current distortion by	Please note that, conventional			Requirement of RFP shall
	TECHNIC	STATCOM Station under the full operating	CVT and IVT are not in position to			be followed.
	AL	range measured at 400 kV Bus (PCC) shall	measure the harmonic voltage at			
	REQUIRE	be in accordance with IEEE-2800 standard	the secondary side of the VTs			
			because the bandwidth of the VTs			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL Response
					or Amendment	
h el	MENTS FOR STATCOM C. 6.1 j)		are not enough to measure the harmonic voltages up to 3kHz. Only RCVT or PQSensor installed in CVT can measure the power system harmonics exactly. It is recommended to specify RCT or PQ Sensor or other similar devices for the VTs used for STATCOM control.			
			It is further to mention here that as per RFP clause injected harmonics by STATCOM Station under the full operating range measured at 400 kV Bus (PCC) in accordance with IEEE-2800 Standard, however, IEEE -2800 is applicable for IBR's only We understand that clause no B.5.4 of IEEE 1052, (applicable for STATCOM) is to be followed for harmonic requirements of STATCOM. Kindly confirm the same.			
7.	Inputs required for Design	TSP shall carry out tuning of Power Oscillation damping (POD) along with an interaction study with nearby HVDC/FACTS controllers.	With reference to the requirement, please provide us the required set of frequencies which are being observed in the nearby grid, so that the same can be incorporated for designing the STATCOM controller.			The expected set of frequencies in the nearby grid w.r.t POD/interaction study shall be taken from GRID-INDIA. (system operator).

SI. No	Name of the	Clause No. and Existing provision	Clarification required	Suggested text for the	Rationale for the	RECPDCL Response
	Document			Amenument	or	
8.	General	CFA Committee Meetings	With reference to the ongoing		Amendment	Subsequent Amendment if
	Query		committee meetings, there are multiple recommendations from the CEA committee meetings which shall have positive impact on the specifications.			necessary, shall be issued separately.
her			Requesting you to kindly confirm whether the same shall be incorporated in the present packages?			
9.	RFP for Selection of Bidder as Transmissi on Service Provider	Section-1: clause no.1.6.2.1.1 The Survey Report shall include the suggested route with approximate route length, type of terrain likely to be encountered and its likely implication in terms of Right of Way (ROW), statutory clearances, location of substations or converter stations and land area to be acquired for the substation or converter station	<ul> <li>We would like to inform you that Department of energy and Petrochemicals had issued guidelines for compensation of losses of land /crop/fruit/tress for transmission towers.</li> <li>Summary of guidelines is as below:</li> <li>1. Compensation to be paid @ 85% of Land value for tower base area impacted as per government rates fixed by District Magistrate.</li> <li>2. Land rates are fixed by respective district magistrate in some of the districts for compensation in state of Gujarat to the tune of INR 2000 square meter.</li> </ul>		Bidder needs confirmation for better understandin g and proper estimation	RFP is amply clear in this regard and shall prevail. No change in Scheduled COD is envisaged. Further bidder may visit and acquaint themselves with the site conditions and relevant clearances required for successful completion of the project. Please refer 2.5.7 of RFP document.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification	RECPDCL Response
	Document			Amenament	or	
					Amendment	
hel			<ol> <li>Compensation towards diminution of land value in the width of Right of Way (RoW) corridor due to laying of transmission line.</li> <li>Additionally, cost of tree or crop to be paid at actuals. Tree rates for fruits are defined under the guideline published by that Department of energy and Petrochemicals. For example, banana has been considered as a tree and a price of 1500 per tree has to be paid.</li> </ol>			
			Considering the above, methodology for assessment of ROW for the transmission line will have major impact on the ROW cost for the project and as per our assessment may increase drastically. Also, as stated above, considering the severe RoW challenges in Gujarat, existing TSP are facing			
			the execution timelines for this project and revise the Scheduled			

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or	RECPDCL Response
					Amendment	
			COD date to 36 Months from effective date.			
10. L L	BPC Letter dated 07.02.202 4	Vide letter dated 07.02.2024, BPC has issued the requisitie PSSE Base & Dynamic File software for STATCOM FA requise hot flow the PSSE V3() exhibits the sequence date and dynamic tase the dynamic file for Solar Mas scenario Frb 28 methane (sail) wherein all the exiting at well as envitaged spacen upto 2008-09 therefore are modelled using generic parameters as per data available with CTUE. Further, the load flow flor PSSEE V3() isolared to be included under Khawda-Ph IV A V system. Accordings, the same may note be used for Stations proposed to be included under Khawda-Ph IV (Part A & Part C) & Provision of Dynamic Reactive Compensation at KPS1 and KPS3 acheme. However, these generic parameters are to be fine-funed to instability a converged dynamic case in deady state as well as the contingency cases. The fine turing of the generic parameters shall be under the topp of TSP, which shall be done in romaintation with CEA. CTUE, A Grid-Hole and the TSP shall share the final converged dynamic flow with CTUL, CEA 3 Grid-India. It may be noted that Evening peak and of-paule scenario files of 2005/29 invertance shall be shared with the TSP after SPV bander. As the acove case is of planning these wherever not available is accordingly the subject case may only be used for intended purpose. It is to mention find the enclosed file contains critical versition and STIS Notwork is with any tool party by the biddees for any purpose without prior consent/permission.	In this connection, we would like to state that PSSE Files / models are basic input for design of STATCOM System. The load flow files and associated dynamic case files include various generic models of controllers like IBR, STATCOM/SVCs, HVDC etc. The scope of fine tuning of Generic parameters in consultation with CEA, CTUIL & Grid India for entire PSS/E file will have severe time and cost implication which may affect the timeline of the project. It is requested that BPC may share the converged dynamic file for studies. Alternatively, TSP may carry out studies using PSS/E files and dynamic files provided by BPC for design of STATCOM stations meeting performance requirement in line with RFP documents. The PSS/E files including subject STATCOM generic parameters used for such STATCOM design shall be shared before FTC.		Bidder needs information for proper estimation.	As already mentioned, generic parameters considered in the file are to be fine-tuned to establish a converged dynamic case for design of STATCOM System. The fine tuning of the generic parameters shall be under the scope of successful bidder, which shall be done in consultation with CEA, CTUIL & Grid-India.
11.	RFP	SECTION 1	Please confirm that, whether, in			RFP to be complied for
		Sn. 1.2	specific area, TSP can use			tower requirement.

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage	combination of Multi-circuit / Narrow base / Monopole towers for LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I)			

Amendment – V dated 22.03.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-Seto R Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Guian B under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause No.	Existing Provisions	New/Revised Provisions
1.	REQUEST FOR PROPOSAL NOTIFICATION	1.       2.         9. Issue of RFP document: The detailed terms and conditions for qualification and selection of the Transmission Service Provider for the Project and for submission of Bid are indicated in the RFP document. All those interested in purchasing the RFP document may respond in writing to Chief Executive Officer, pshariharan@recpdcl.in & tbcb@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 via electronic transfer to the following Bank Account:         Mank       Name, Address & Branch         IDFC       First Bank Limited Birla Towers, 4th Floor East Tower & LGF West Tower, Barakhamba Road, New Delhi – 110001         Bank       Account         REC Power Development & Consultancy Limited Bank Account No       10000697415         Bank IFSC Code       IDFB0020101	1.       2.         9. Issue of RFP document: The detailed terms and conditions for qualification and selection of the Transmission Service Provider for the Project and for submission of Bid are indicated in the RFP document. All those interested in purchasing the RFP document may respond in writing to Chief Executive Officer, pshariharan@recpdcl.in & tbcb@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
2.	Clause 2.10.2 of RFP	The cost of this RFP is Rupees Five Lakh Only (Rs. 5,00,000) or U.S. Dollar Seven Thousand Only (US\$ 7,000) plus GST as per applicable rate, which shall be non-refundable. This amount shall be paid via electronic transfer to the following Bank Account:	The cost of this RFP is Rupees Five Lakh Only (Rs. 5,00,000) or U.S. Dollar Seven Thousand Only (US\$ 7,000) plus GST as per applicable rate, which shall be non-refundable. This amount shall be paid via electronic transfer to the following Bank Account:

SI. No.	Clause No.	Existing Provisions		New/Revised Provisions	699
		BankName, AddressIDFC First Bank Limited Birla Towers, 4th Floor East Tower & LGF West Tower, Barakhamba Road, New Delhi – 110001BankAccount NameREC Power Development & Consultancy LimitedBank Account No10000697415Bank IFSC Code NoIDFB0020101		BankName, Address & BranchICICI Bank 9A, Phelps Building, Inner Circle, Connaught Place, New Delhi-110001BankAccount NameREC Power Development & Consultancy LimitedBank Account No000705041275Bank IFSC Code NoICIC0000007	
3.	Definitions of Availability of Article 1.1.1 of TSA	"Availability" in relation to the Project or in relation any Element of the Project, for a given period s mean the time in hours during that period the Project capable to transmit electricity at its Rated Voltage a shall be expressed in percentage of total hours in given period and shall be calculated as per procedure contained in <u>Appendix –II to Cen</u> <u>Electricity Regulatory Commission (Terms a</u> <u>Conditions of Tariff) Regulations, 2019,</u> attact herewith in Schedule 6;	n to hall tt is and the the tral ned	"Availability" in relation to the Project or in relation to Element of the Project, for a given period shall mean the in hours during that period the Project is capable to tra electricity at its Rated Voltage and shall be express percentage of total hours in the given period and sha calculated as per the procedure contained in <u>Appendi</u> to <u>Central Electricity Regulatory Commission (T</u> <u>and Conditions of Tariff) Regulations, 2024,</u> atta herewith in Schedule 6;	to any e time ansmit sed in all be <u>ix –IV</u> Ferms ached
4.	Article 8.1 of TSA	Calculation of Availability of the Project: Calculation of Availability for the Elements and for Project, as the case may be, shall be as per <u>Appen</u> <u>–II to Central Electricity Regulatory Commiss</u> (Terms and Conditions of Tariff) Regulations, 20 as applicable on the Bid Deadline and as appended Schedule 6 of this Agreement.	the <u>dix</u> ion 19, d in	Calculation of Availability of the Project: Calculation of Availability for the Elements and for the Pr as the case may be, shall be as per <u>Appendix –IV to Ce</u> <u>Electricity Regulatory Commission (Terms</u> <u>Conditions of Tariff) Regulations, 2024</u> , as applicate the Bid Deadline and as appended in Schedule 6 co Agreement.	roject, <u>entral</u> <u>and</u> ble on of this
5.	Article 11.7 (c) of TSA	For the avoidance of doubt, it is clarified that computation of Availability of the Element(s) un outage due to Force Majeure Event, as per Article 1 affecting the TSP shall be as per <u>Appendix –II</u> <u>Central Electricity Regulatory Commission (Ter</u> <u>and Conditions of Tariff) Regulations, 2019</u> as Bid Deadline. For the event(s) for which the Element is/are deemed to be available as per <u>Appendix –I</u>	the der 1.3 <u>to</u> ms on t(s) to	For the avoidance of doubt, it is clarified that the compu of Availability of the Element(s) under outage due to Majeure Event, as per Article 11.3 affecting the TSP sh as per <u>Appendix –IV to Central Electricity Regul</u> <u>Commission (Terms and Conditions of T</u> <u>Regulations, 2024</u> as on Bid Deadline. For the event which the Element(s) is/are deemed to be available a <u>Appendix –IV to Central Electricity Regul</u>	Itation Force hall be latory Tariff) (s) for as per latory

her

SI. No.	Clause No.	Existing Provisions	New/Revised Provisions 70
			/ / / /
		Central Electricity Regulatory Commission (Terms	Commission (Terms and Conditions of Tariff)
		and Conditions of Tariff) Regulations, 2019, then the	Regulations, 2024, then the Transmission Charges, as
		Transmission Charges, as applicable to such	applicable to such Element(s), shall be payable as per
		Element(s), shall be payable as per Schedule 4, for the	Schedule 4, for the duration of such event(s).
		duration of such event(s).	
6.	Schedule: 6 of	Existing Schedule 6 of TSA	New/Revised Schedule 6
	TSA		(Annexure – 1 enclosed herewith)

Annexure – 1

#### Schedule: 6

## Appendix –IV to Central Electricity Regulatory Commission (Terms and Conditions of <u>Tariff) Regulations, 2024</u>

## Procedure for Calculation of Transmission System Availability Factor for a Month

- Transmission system availability factor for nth calendar month ("TAFPn") 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 ("TAFPn") 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.
- 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:

#### TAFPn (in %) for AC system:

$$= \frac{(o X A V o) + (p X A V p) + (q X A V q) + (r X A V r) + (u X A V u)}{x100}$$

(0 + p + q + r+a)

#### Where,

10	-	Total number of AC lines.
AVo	-	Availability of a number of AC lines
p	-	Total number of hus reactors/switchable line reactors
AVp		Availability of p number of bus reactors/switchable line reactors
ц <b>1</b>	-	Total number of ICTs
AVq	1000	Availability of q number of ICTs
r	-	Total number of SVCs
AVI	-	Availability of a number of SVCs
ш.	-	Total number of STATCOM
AVu	=	Availability of a number of STATCOM

# TAFMn (in %) for HVDC System:

$$\sum_{x=1}^{x} Cxbp (act) X AVxbp + \sum_{y=1}^{t} Cy (act) btb X AVybtb - x100$$

$$\sum\nolimits_{i=1}^{t} Gubp + \sum\nolimits_{p=1}^{t} G_{p} hup$$

Where

Cubpiact)		Total actual operated equacity of x <sup>th</sup> HVDC pole
Cubp		Total rated capacity of x* HVDC pole
AVxbp	-	Availability of x <sup>th</sup> HVDC pole
Cybtb(act)	-	Tistal actual operated capacity of $\mathbf{y}^{ti}$ HVDC back-to-back station block
Cybth	+	Total rated capacity of y <sup>th</sup> HVDC back-to-back station block
AVybib		Availability of y* HVDC back-to-back station block
5		Total no of HVDC poles
3	-	Total no of HVDC Back to Back blocks

Page **5** of **9** 

Gel

- 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 NHAI, 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.

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;

Page **6** of **9** 

Col

- 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:
  - Submission of outage data along with documentary proof (if any) and TAFPn calculation by Transmission Licensees to RLDC/ constituents

     By the 5<sup>th</sup> of the following month;
  - Review of the outage data by RLDC / constituents and forward the same to respective RPC – by 20<sup>th</sup> of the month;
  - Issue of availability certificate by respective RPC by the 3<sup>rd</sup> of the next month.

Page **7** of **9** 

Col

## Appendix-V

# FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

#### For AC transmission system

AVo(Availability of a no. of AC lines) = 
$$\frac{\sum_{j=1}^{n} W_{ij}(T_{j} - T_{j} A_{ij}) T_{j}}{\sum_{j=1}^{n} w_{ij}}$$

$$AVq(Availability of q no. of ICTs) = \frac{\Sigma_{k=1}^{S} Wk(Tk - TNAk)Tk}{\Sigma_{k=1}^{S} wk}$$

AVr(Availability of r no. of SVCa) = 
$$\frac{\sum_{i=1}^{n=1} w_{i}(r_{i} - r_{i}) a_{i}/r_{i}}{\sum_{i=1}^{n} w_{i}}$$

$$AVp(Availability of p no. of Switched Bus reactors) = \underbrace{\frac{p}{1 \text{ Wm}(Tm \cdot ThAm) Tm}}_{\text{met}}$$

$$\begin{array}{l} AVu(Availability of u no. of STATCOMs) &= \frac{\sum_{n=0}^{n} Wn(Tn - TNAn)/Tn}{\prod_{n=1}^{n} Wn} \\ AV_{sbp}(Availability of an individual HVDC pole) &= \frac{(Tn - TN)}{Tn} \\ AV_{ybm}(Availability of an individual HVDC pole) &= \frac{(Tn - TN)}{Tn} \end{array}$$

Page **8** of **9** 

Gel

# 706

# For the HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months: [(AVstep or AVsteb)x95%/85%], subject to a ceiling of 95%.

Where,		
0	-	Total number of AC lines;
AVo	=	Availability of o number of AC lines;
P	-	Total number of bus reactors/switchable line reactors;
AVp	=	Availability of p number of bus reactors/switchable line reactors;
q	=	Total number of ICTs:
AVq	=	Availability of q number of ICTs;
r	$\sim$	Total number of SVCs,
AVI	-	Availability of r number of SVCs,
U	-	Total number of STATCOM
AVu	=	Availability of u number of STATCOMs;
Wi	-	Weightage factor for ith transmission line;
Wł	=	Weightage factor for kth ICT;
W7	-	Weightage factors for inductive & capacitive operation of hth SVC;
Wm	=	Weightage factor for mth bus reactor;
Wn	-	Weightage factor for nth STATCOM
Tt., Tk. Tl.	11	The total hours of i* AC line, k* ICT, I* SVC, m* Switched Bus Reactor
Tm, Tn, Tx, Ty T <sub>NA</sub> t, T <sub>NA</sub> k		& n <sup>#</sup> STATCOM, x <sup>#</sup> HVDC pole, y <sup>#</sup> 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) The non-availability hours (excluding the time period for outages not TNAI, TNAM, attributable to transmission licensee taken as deemed availability as TNAM, TNAM, TNAM, TNAM per Para 5 of the procedure) for i <sup>#</sup> AC line, k <sup>#</sup> ICT, l <sup>#</sup> SVC, m <sup>#</sup> Switched But Reactor, n <sup>#</sup> STATCOM, x <sup>#</sup> HVDC pole and y <sup>#</sup> HVDC back-to-back block.
		~~ > >~~ 2 · · · · · · · · · · · · · · · · · ·

Page **9** of **9** 

Gel

SI.	Clause No.	Existing Provis	sions	Ne	ew / Revised P	rovisions
No.						
1.	2.7.1 of	The Bidders s	hould submit the Bids online through the electronic	٦	The Bidders s	hould submit the Bids online through the electronic
	RFP	bidding platform	h before the Bid Deadline i.e., on or before 1200 hours	k	oidding platform	before the Bid Deadline i.e., on or before 1200 hours
		(IST) on <u>08.04.2024</u> . In addition to the online submission, the Bidder			(IST) on <u>22.04</u> .	2024. In addition to the online submission, the Bidder
		with lowest Fina	al Offer will be required to submit original hard copies of	V	with lowest Fina	al Offer will be required to submit original hard copies of
5		Annexure 3, Ar	nexure 4 (if applicable), Annexure 6 (if applicable) and	A	Annexure 3, An	nexure 4 (if applicable), Annexure 6 (if applicable) and
K	~	Annexure 14 be	fore issuance of Lol.	4	Annexure 14 be	fore issuance of Lol.
2.	2.7.2 of	Important timeli	nes are mentioned below:		mportant timeli	nes are mentioned below:
	RFP					
		Date	Event		Date	Event
		<u>08.04.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)		<u>22.04.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)
		<u>08.04.2024</u>	Opening of Technical Bid		<u>22.04.2024</u>	Opening of Technical Bid
		<u>16.04.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal		<u>30.04.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal
		<u>18.04.2024</u>	Opening of Financial Bid - Initial Offer		<u>01.05.2024</u>	Opening of Financial Bid - Initial Offer
		<u>19.04.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		02.05.2024	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.
		<u>24.04.2024</u>	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer		<u>07.05.2024</u>	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer
		29.04.2024	Selection of Successful Bidder and issue of LOI		10.05.2024	Selection of Successful Bidder and issue of LOI
		<u>09.05.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited		<u>20.05.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited

3.	2.13.1 of		
	RFP	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>08.04.2024</u>	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>22.04.2024</u>
		······	······
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <b><u>18.04.2024</u></b> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>01.05.2024</u> in the office of CEA.

hel

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
Lel	1	RFP Specific Technical Requirements for STATCOM Clause no. C.8.9	<b>C.8.9 Coupling Transformer</b> The TSP shall provide single phase coupling transformers to operate as 3- phase bank with one unit as a common spare for stepping down the voltage from 400kV system to a suitable medium voltage value as required. <u>Common</u> <u>spare transformer unit shall be provided with necessary</u> <u>auxiliary arrangements</u> for replacing any one of the faulty phase units without physically shifting the transformer.	<b>C.8.9 Coupling Transformer</b> The TSP shall provide single phase coupling transformers to operate as 3- phase bank with one unit as a common spare (cold <b>spare</b> ) with necessary auxiliary arrangements for stepping down the voltage from 400 kV system to a suitable medium voltage value as required for replacing any one of the faulty phase units without physically shifting the transformer.
	2	RFP Specific Technical Requirements for STATCOM Clause no. C.3	C.3 Scope of work for STATCOM  The scope of work with regard to the works associated with the STATCOM at Navsari (new) GIS shall comprise ±1X300MVAR Modular Multi- level Voltage Source Converter (MMC-VSC) based STATCOM along with 3x125 MVAR MSC (Mechanically Switched Capacitors) and 1x12 5MVAR MSR (Mechanically Switched Reactors). The TSP shall be responsible for the complete installation of STATCOM station along with the substation works as specified in the complete scope of work. 	C.3 Scope of work for STATCOM 

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
2				OEMs. The TSP shall be responsible for the complete installation of STATCOM station along with the substation works as specified in the complete scope of work.
2	3	RFP	C.6.2.1.6 Damping of Power Oscillations	C.6.2.1.6 Damping of Power Oscillations
		Specific Technical Requirements for STATCOM Clause no. <b>C.6.2.1.6</b>	The STATCOM shall provide necessary damping to power oscillations by modulating its output in its entire range based on the measured rate of change of power/frequency at the 400kV bus. The damping controller would track local area oscillations as well as wide area oscillations and control would include several loops each focused on different frequencies.	The STATCOM shall provide necessary damping to power oscillations by modulating its output in its entire range based on the measured rate of change of power/frequency at the 400 kV bus. The damping controller would track local area oscillations as well as wide area oscillations and control would include several loops each focused on different frequencies. <u>TSP shall ensure the damping of oscillation during the entire license period including the pre –commissioning period as per relevant standards. (e.g. IEEE 1052).</u>
	4	RFP	C.3 Scope of work for STATCOM	C.3 Scope of work for STATCOM
		Specific Technical Requirements for STATCOM Clause no. C.3	TSP shall carry out a detailed study on prevailing system conditions before interconnection of the STATCOM to assess the performance of the STATCOM. Parameters tuning to avoid any adverse impact on the grid with integration of the	TSP shall carry out a detailed study on prevailing system conditions before interconnection of the STATCOM to assess the performance of the STATCOM. Parameters tuning to avoid any adverse impact on the grid with integration of the STATCOM shall also be identified and

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
6 02			STATCOM shall also be identified and implemented at this stage. TSP shall carry out tuning of Power Oscillation damping (POD) along with an interaction study with nearby HVDC/FACTS controllers.	<ul> <li>implemented at this stage. TSP shall carry out tuning of Power Oscillation damping (POD) along with an interaction study with nearby HVDC/FACTS controllers.</li> <li><u>TSP shall ensure interconnection study at the time of commissioning and shall also be responsible for tuning the POD during the license period as per relevant standards (e.g. IEEE 1052).</u></li> </ul>
	5	RFP Specific Technical Requirements for STATCOM Clause no. C.8.4	<b>C.8.4 STATCOM Station Fault Recording System</b> An integrated Transient Fault Recording (TFR) System shall be supplied, installed and commissioned. This shall include trigger level settings for analog signal, etc subject to review and comment. Disturbance and event recording facilities are required for local monitoring of the STATCOM following a disturbance on the power system or the STATCOM System. The following inputs are required:	<b>C.8.4 STATCOM Station Fault Recording System</b> An integrated Transient Fault Recording (TFR) System shall be supplied, installed and commissioned. This shall include trigger level settings for analog signal, etc subject to review and comment. Disturbance and event recording facilities are required for local monitoring of the STATCOM following a disturbance on the power system or the STATCOM System. The TFR shall be GPS synchronized.
			<ul> <li>All analog signals (output signals) including 3-ph &amp; sequence values of voltage, current.</li> <li>All digital signals (control outputs, status indications, commands, alarms, and trip indications). Internal STATCOM Station control signals/variables to be selectable.</li> <li>The accuracy of the TFR for event inputs shall be at least 100 µs (sampling rate of minimum 10 kHz).</li> </ul>	<ul> <li>The following inputs are required:</li> <li>All analog signals (output signals) including 3-ph and sequence values of voltage, current.</li> <li>All digital signals (control outputs, status indications, commands, alarms, and trip indications). Internal STATCOM Station control signals/variables to be selectable.</li> <li>The accuracy of the TFR for event inputs shall be at least 100 µs (sampling rate of minimum 10 kHz).</li> </ul>

SI. No.	Clause No.	Existing Clause	New/Revised Clause			
6 el		<ul> <li>The TFR shall have provision for remote access and retrieval of recorded information onto a PC. For this purpose, a communication link to the substation LAN shall be implemented.</li> <li>The remote software application for data retrieval shall be included.</li> <li><u>TFR file shall be able to open in open software</u>.</li> </ul>	<ul> <li>The TFR shall have provision for remote access and retrieval of recorded information onto a PC. For this purpose, a communication link to the substation LAN shall be implemented.</li> <li>The remote software application for data retrieval shall be included.</li> <li><u>TFR file shall be viewable in any open source software.</u></li> <li><u>There shall be multiple channels to view 3-ph and sequence values of voltage, current.</u></li> </ul>			
6	Specific Technical Requirements for Communicatio n Specific Requirement for Phasor Measurement Units (PMUs) Clause no. D.8.0	D.8.0 Specific Requirement for Phasor Measurement Units (PMUs)ementsunicatio <t< td=""><td><ul> <li>D.8.0 Specific Requirement for Phasor Measurement Units (PMUs)</li> <li>TSP shall supply, install and commission required no. of Phasor Measurement Units (PMUs) at all the locations under the scope of TSP under this RFP as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 (along with all amendments if any), and all the applicable Regulations, Standards, Guidelines issued time to time.</li> <li>TSP shall also supply, install and commission required no. of Phasor Measurement Units (PMUs) on HV side of coupling transformer at each STATCOM station and integrate with PDC.</li> <li>These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room of respective substations/ generating stations with Fibre Optic cable. These PMUs shall be connected with the FOTE at Substation/ generating stations for onwards data transmission to the PDC (Phasor Data</li> </ul></td></t<>	<ul> <li>D.8.0 Specific Requirement for Phasor Measurement Units (PMUs)</li> <li>TSP shall supply, install and commission required no. of Phasor Measurement Units (PMUs) at all the locations under the scope of TSP under this RFP as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 (along with all amendments if any), and all the applicable Regulations, Standards, Guidelines issued time to time.</li> <li>TSP shall also supply, install and commission required no. of Phasor Measurement Units (PMUs) on HV side of coupling transformer at each STATCOM station and integrate with PDC.</li> <li>These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room of respective substations/ generating stations with Fibre Optic cable. These PMUs shall be connected with the FOTE at Substation/ generating stations for onwards data transmission to the PDC (Phasor Data</li> </ul>			
		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	substations/ generating stations with Fibre Op PMUs shall be connected with the FOTE at Subs stations for onwards data transmission to the F Concentrator) located at respective RLDC. Cor existing PDC at RLDC for new PMU integration			

	SI. No.	Clause No.	Existing Clause	New/Revised Clause			
			TSP.	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.			
hel	7	7 Power System Characteristic of STATCOM The STATCOMs shall remain connected to the grid and shall be able to operate at rated reactive power capability when voltage at the interconnection point, on any or all phases dips up to the level depicted by the thick lines in the following curve (for specified time): VT : Actual Voltage; Vn: Nominal Voltage 0.135		For STATCOMs near RE complex: The STATCOMs shall remain connected to the grid and shall be able to operate at rated reactive power capability when voltage at the interconnection point, on any or all phases dips up to the level depicted by the thick lines in the following curve (for specified time): VT : Actual Voltage; Vn: Nominal Voltage VT : Actual Voltage; Vn: Nominal Voltage Time (mS) 10000			
-	8	C.6.1 STATCOM	······	······			

SI. No.	Clause No.	Existing Clause	New/Revised Clause				
	Station Ratings	d) The STATCOM Station should continue to inject reactive power during temporary under voltage down to <u>54kV (0.135pu)</u> (considering margin of 10% below 0.15p.u. which is the <u>LVRT limit specified for RE generating stations</u> ) for the duration 0.3sec (Point C) and STATCOM behavior for voltages above <u>0.135 pu</u> shall be as specified under section C.5 above, which also specifies operation at under voltage down to 120kV (0.3pu) for the duration 5sec; the STATCOM system may be tripped (or blocked) if the under voltage persists for time beyond limits specified under section C.5 above.	d) The STATCOM Stations <u>near RE Complex shall</u> continue to inject reactive power during temporary under voltage down to <u>60 kV (0.15</u> <u>pu)</u> for the duration 0.3 sec (Point C) and STATCOM behavior for voltages above <u>0.15 pu</u> shall be as specified under section C.5 above, which also specifies operation at under voltage down to 120 kV (0.3 pu) for the duration 5 sec; the STATCOM system may be tripped (or blocked) if the under voltage persists for time beyond limits specified under section C.5 above. <u>The STATCOM Stations (other than RE Complex) shall continue</u> to inject reactive power during temporary under voltage down to 120 kV (0.3 pu) (Point-C) for the duration 5 sec; the STATCOM system may be tripped (or blocked) if the under voltage persists for time beyond limits specified under section C.5 above.				
9	C.6.1 STATCOM Station Ratings	e) The STATCOM <u>should</u> continue to absorb reactive power during <u>temporary over voltages</u> in a controlled manner as per the following. <u>Temporary Overvoltage Duration</u> <u>up to 600 kV (1.5 pu) 10 seconds</u>					
		up to 704 kV (1.76 pu) <u>100 milli sec</u> up to 800 kV (2.0 pu) 50 milli sec	1.50 ≥ V > 1.30         100 milli seconds           1.30 ≥ V > 1.10         10 seconds				
	<b>SI.</b> No.	Sl. No.Clause No.Station Ratings9C.6.1 STATCOM Station Ratings	SI. No.       Clause No.       Existing Clause         Station Ratings       d) The STATCOM Station should continue to inject reactive power during temporary under voltage down to 54kV (0.135pu) (considering margin of 10% below 0.15p.u. which is the LVRT limit specified for RE generating stations) for the duration 0.3sec (Point C) and STATCOM behavior for voltages above 0.135 pu shall be as specified under section C.5 above, which also specifies operation at under voltage down to 120kV (0.3pu) for the duration 5sec; the STATCOM system may be tripped (or blocked) if the under voltage persists for time beyond limits specified under section C.5 above.         9       C.6.1         STATCOM Station Ratings				

	SI. No.	Clause No.	Existing Clause	New/Revised Clause					
6 e			STATCOM Station may be tripped if the respective temporary over voltages as mentioned above persists for more than its respective mentioned duration.	V≤1.10       Continuous         STATCOM Station may be tripped if the respective temporary over voltages as mentioned above persists for more than its respective mentioned duration.					
	10	C.6.2.1 STATCOM Station Functions and Applications	<b>C.6.2.1.1 Voltage Control mode (Automatic and Manual)</b> Control of the positive sequence component of the fundamental frequency voltage in steady state <u>and dynamic</u> <u>operation</u> , with slope in the range as specified at clause 6.1 c) above.	<ul> <li>C.6.2.1.1 Voltage Control mode (Automatic and Manual)</li> <li>Control of the positive sequence component of the fundamental frequency voltage in steady state <u>at POI</u>, with slope in the range as specified at clause 6.1 c) above.</li> <li><u>There shall be following provisions in STATCOM System to operate in Voltage Control Mode:</u> <ul> <li><u>a) To adjust the reference voltage for changes by Grid operator.</u></li> <li><u>b) To adjust the value of reactive power droop in pu to provide a stable, coordinated and dynamic response.</u></li> <li><u>c) To adjust the voltage dead band with a minimum magnitude of ±0.05 pu</u></li> </ul> </li> </ul>					
	11	С.6.2.1	C.6.2.1.2 Fixed Reactive Power Mode	C.6.2.1.2 Fixed Reactive Power Mode					
			In this mode, the reactive power output of the	In this mode, the STATCOM system shall maintain a specified					

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
		Station Functions and Applications	STATCOM as well as switching of MSRs and MSCs, should be manually controlled, by direct operator action. This feature is normally utilized for testing purpose.	constant reactive power output at the POI under continuous / steady state operating region. The target reactive power level and mode (injection or absorption) shall be specified by the Grid operator. There shall be a provision to adjust the reactive power set point. The dynamic response of the STATCOM system to any changes in reactive power shall be positively damped with a damping ratio of 0.3 or better.
h el	12	C.9.6		
		Software simulation models	<b>b) Transients model</b> . TSP should provide a detailed STATCOM transients model for use in PSCAD. The model detail should be appropriate and complete for the transient response calculation of the STATCOM system. All appropriate control features for such analysis will be modeled, and necessary documentation on the theory and use of model should be provided. Further, a generic model, benchmarked to detailed STATCOM transient model, shall also be furnished for distribution.	<b>b) Transients model</b> . TSP should provide a detailed STATCOM transients model for use in PSCAD. The model detail should be appropriate and complete for the transient response calculation of the STATCOM system. All appropriate control features for such analysis will be modeled, and necessary documentation on the theory and use of model should be provided. Further, a generic model, benchmarked to detailed STATCOM transient model, shall also be furnished for distribution.
			PSS/E files may be used for developing RTDS files/ models. For simulation of STATCOM in PSS/E file (load flow & dynamic) and PSCAD/EMTP-RV (Transient) model for STATCOM is required for study. TSP will share STATCOM models with CEA, CTU & Grid-India along with detailed documentation for above study purposes and simulations. For PSS/E, both Generic & User-defined models shall be shared by the TSP with the CEA, CTU & Grid-India. Generic model	PSS/E files may be used for developing RTDS files/ models. For simulation of STATCOM in PSS/E file (load flow and dynamic) and PSCAD (Transient) model for STATCOM is required for study. TSP will share STATCOM models with CEA, CTU and Grid-India along with detailed documentation for above study purposes and simulations. For PSS/E, both Generic and User-defined models shall be shared by the TSP with the CEA, CTU and Grid-India. Generic model (PSS/E) response shall be benchmarked with user-defined model (PSS/E and PSCAD) to the extent possible by the

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
Lel			response shall be benchmarked with user-defined model to the extent possible by the TSP. Generic models can be shared by the CEA, CTU & Grid-India with the concerned stakeholders e.g. STUs etc. For User Defined model, confidentiality shall be maintained by the CEA, CTU & Grid-India. For PSCAD/EMTP- RV, User Defined model shall be provided by the TSP for which confidentiality shall be maintained by the CEA, CTU & Grid- India.	TSP. Generic models can be shared by the CEA, CTU and Grid- India with the concerned stakeholders/ <u>external party(ies)</u> e. g. STUs etc. <u>on need basis</u> . For User Defined model, confidentiality shall be maintained by the CEA, CTU and Grid-India. For PSCAD, User Defined model shall be provided by the TSP for which confidentiality shall be maintained by the CEA, CTU and Grid-India. <u>Both UDM (PSCAD and PSS/E) and Generic model (PSSE)</u> <u>shall be provided by OEMs to CEA/CTU/GRID-INDIA without</u> any NDA (Non-Disclosure Agreement)
	13	STATCOM Contingency Cases		To be added at the end of contingency list STATCOM Station shall be capable of ride through for multiple voltage dips within pre-defined time window as per following curve: $1.1 \\ 1.0 \\ 0.8 \\ 0.7 \\ 0.6 \\ 0.8 \\ 0.7 \\ 0.6 \\ 0.5 \\ 0.4 \\ 0.2 \\ 0.1 \\ 0.1 \\ 0.0 \\ 0.1 \\ 0.0 \\ 0.1 \\ 0.0 \\ 0.1 \\ 0.0 \\ 0.1 \\ 0.0 \\ 0$

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
	14	C.9.7	· ·····	
6 02		Factory tests of controls	a) The TSP should perform factory simulator system tests for integrated control and protection system to ensure the proper operation of the same. The control system should be connected to a digital simulator with adequate representation of the electrical network for various conditions. The STATCOM system controller needs to be representative of control functions, including basic controllers but inclusive of supplementary controls, firing controls, and protective functions integrated into the controllers.	a) The TSP should perform factory simulator system tests for integrated control and protection system to ensure the proper operation of the same. The control system should be connected to a digital simulator with adequate representation of the electrical network for various conditions. The STATCOM system controller needs to be representative of control functions, including basic controllers but inclusive of supplementary controls, firing controls, and protective functions integrated into the controllers. <u>TSP shall</u> <u>submit the FAT (factory acceptance test) reports of STATCOM controls to CTU/RLDC.</u>
	15	C.6.7.1	The TSP must guarantee the total losses of STATCOM Station, be less than 1% of the reactive power output individually at its inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the cumulative highest reactive power output of STATCOM Station at PCC with the worse combination of manufacturing tolerances. For the purpose of total loss measurements, it should be assumed that the ambient temperature is 20 °C, the PCC voltage is 1 per unit, and the slope setting is 1%. The STATCOM system may not operate under these conditions, but they provide a common base.	The TSP must guarantee the total losses of STATCOM Station <u>will</u> be less than 1% of the reactive power output individually at its inductive limit (STATCOM+MSRs) and capacitive limit (STATCOM+MSCs) for the cumulative <u>maximum</u> reactive power output of STATCOM Station at PCC with the worse combination of manufacturing tolerances for the Option-1 to 5 for ±200 MVAr STATCOM and Option-1 to 6 for ±300 MVAr STATCOM as provided in clause C.3. In case of Option-6 for ±200 MVAr STATCOM i.e. +450/-325 MVAr STATCOM without MSC and MSR and Option-7 for ±300 MVAr STATCOM i.e. +675/-425 MVAr STATCOM without MSC and MSR as provided in clause C.3, the

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from power from power from power from the second se

	SI. No.	Clause No.	Existing Clause	New/Revised Clause		
het				TSP must guarantee the total losses of STATCOM Station will beless than 1.5% of the reactive power output individually at itsinductive limit and capacitive limit for the cumulative maximumreactive power output of STATCOM Station at PCC with theworse combination of manufacturing tolerances.For the purposeof total loss measurements, it should be assumed that the ambienttemperature is 20 °C, the PCC voltage is 1 per unit, and the slopesetting is 1%. The STATCOM system may not operate under theseconditions, but they provide a common base.		
16	16.	RFP Clause C.6.8.5 of Specific Technical Requiremen ts for STATCOM.	C.6.8.5 Leakage distances The Creepage /leakage distance across insulation shall be determined by the TSP and shall be adequate to ensure that under condition of heavy pollution, the probability of a flash over of an insulator does not exceed one in 15 years. However, the leakage distance for all AC insulators for outdoor installation shall not be less than 25 mm/kV of the maximum operating phase to earth rms voltage at the insulator. The leakage distance of equipment connected to 400 kV systems shall not be less than 10500 mm. Specific creepage distance for outdoor bushings, insulator strings and long rod insulators shall be minimum 31mm/kV.	<ul> <li>C.6.8.5 Leakage distances</li> <li>The Creepage/leakage distance across insulation shall be determined by the TSP and shall be adequate to ensure that under condition of heavy pollution, the probability of a flash over of an insulator does not exceed one in 15 years. However, the leakage distance for all AC insulators for outdoor installation shall not be less than <u>31 mm/kV</u> of the maximum operating phase to earth rms voltage at the insulator. The leakage distance of equipment connected to 400 kV systems shall not be less than <u>13020 mm</u>.</li> <li>Specific creepage distance for outdoor bushings, insulator strings and long rod insulators shall be minimum 31 mm/kV.</li> </ul>		
		Clause 2.6 of	2.6.1. All Elements of the Project are required to be commissioned progressively as per the schedule given in the	2.6.1. All Elements of the Project are required to be commissioned progressively as per the schedule given in the following table;		

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process."

	SI. No.	Clause No.		Exist	ing Clause	9			New/Revi	ised Claus	9	
-		RFP	follo	wing table;							Percentage	Element(s)
h h			S. No.	Name of the Transmission Element	Schedule d COD in months from Effective Date	Percentage of Quoted Transmissi on Charges recoverable on Scheduled COD of the Element of	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective	S. No.	Name of the Transmission Element	Schedule d COD in months from Effective Date	of Quoted Transmissi on Charges recoverable on Scheduled COD of the Element of the Project	which are pre-required for declaring the commercial operation (COD) of the respective Element
			1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus	24 months from date of SPV acquisiti on	the Project 84.19%	Element Elements at sl. (1) to (9) are required to be commissio ned simultaneo usly as their utilization is dependent on commissio ning of each other.		Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition)	24 months from date of SPV acquisiti on	<u>26.83%</u>	Elements at sl. (1) to (9) are required to be commission ed simultaneou sly as their utilization is dependent on commissioni ng of each other.
Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from patential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Clause			
L el			reactor is placed         on each 400 kV         bus section. 400         kV       Bus         Sectionaliser to be         kept       under         normally       OPEN         condition)       2.         South       Olpad         (GIS)       – Boisar-II         (GIS)       765 kV D/c         line       3.         3.       2 Nos. of 765 kV         line bays at South         Olpad       (GIS) for         termination       of         South       Olpad         (GIS)       – Boisar-II	2.       South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line         3.       2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line         4.       240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)			
			<ul> <li>(GIS) 765 kV D/c line</li> <li>4. 240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar- II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>5. LILO of Navsari (New) – Padghe</li> </ul>	5.       LILO of Navsari (New)         – Padghe (PG) 765 kV         D/c line at Boisar-II         6.       Boisar-II (Sec-II) –         Velgaon (MH) 400 kV         D/c       (Quad         ACSR/AAAC/AL59         moose equivalent) line         7.       2 Nos. of 400 kV line         bays at Velgaon (MH)         for termination of         Boisar-II       – Velgaon         (MH) 400 kV D/c (Quad         ACSR/AAAC/AL59         moose equivalent) line			

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Claus	se	
L el			<ul> <li>(PG) 765 kV D/c line at Boisar-II</li> <li>6. Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL5 9 moose equivalent) line</li> <li>7. 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL5</li> </ul>	8.       LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec- I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage         9.       80 MVAR switchable line reactors at Boisar- II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO	<u>10.06%</u>	
			9       moose equivalent) line         8.       LILO       of         Babhaleswar       -         Padghe       (M)       400         kV       D/c       line       at         Boisar-II       (Sec-I)       using twin HTLS       conductor with a         minimum capacity       of       1700 MVA per       ckt       at         voltage       9.       80       MVAR         switchable       line       switchable       line	10 ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar- II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II	<u>5.50%</u>	Elements at sl. no. (1) and (10) are required to be commission ed simultaneou sly as their utilization is dependent on commissioni ng of each other.
			reactors at Boisar- II end of Boisar-II –	11     ±     300     MVAR       ·     STATCOM with 3x125	<u>4.08%</u>	Element at sl. 11 may be

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Exist	ing Clause	New/Revised Clause				
L el			Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO1±2001±2001±200MVAR0.STATCOM with 2x125MVARMSC, 1x125MVARMSR at 	Elements at sl. no. (1) and (10) are required to be commissio ned simultaneo usly as their utilization is dependent on commissio ning of each other.	MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)				
			1±300MVAR1.STATCOMwith3x125MVARMSC,1x125MVARMSRat400kVlevelNavsari(New)(PG)S/swith1No.of400kVbay(GIS)	6.87% Element at sl. 11 may be commissio ned independe ntly.					

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from 24 ential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.		Exist	ing Clause	9		New/Revised Clause				
	Format     1     of     Format 1: Bidders' Undertakings     F       Annexure     8     of     RFP     F				Forr	nat 1: Bidders' Undertakiı	ngs					
402			1.					1.				
		<ul> <li>2.</li> <li>8. We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:</li> </ul>				2.  8. W Elen	<ol> <li>We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:</li> </ol>					
			S. No.	Name of the Transmission Element	Schedule d COD in months from Effective Date	Percentage of Quoted Transmissi on 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	S. No.	Name of the Transmission Element	Schedule d COD in months from Effective Date	Percentage of Quoted Transmissi on Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre- required for declaring the commercial operation (COD) of the respective Element
			1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and	24 months from date of SPV acquisiti on	<u>84.19%</u>	Elements at sl. (1) to (9) are required to be commissio ned simultaneo usly as their	1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors.	24 months from date of SPV acquisiti on	<u>26.83%</u>	Elements at sl. (1) to (9) are required to be commissione d simultaneou sly as their utilization is

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process."

	SI. No.	Clause No.	Existing	g Clause		New/Rev	vised Claus	e	
6 el			<ul> <li>2x125 MVAR, 420</li> <li>kV bus reactors.</li> <li>(2x1500 MVA, 765/400 kV ICTs</li> <li>shall be on each</li> <li>400 kV section</li> <li>and 2x500 MVA,</li> <li>400/220 kV ICTs</li> <li>shall be on 400 kV</li> <li>Bus Section-II.</li> <li>2x125 MVAR Bus</li> <li>reactors shall be</li> <li>such that one bus</li> <li>reactor is placed</li> <li>on each 400 kV</li> <li>bus section. 400</li> <li>kV Bus</li> <li>sectionaliser to be</li> <li>kept under</li> <li>normally OPEN</li> <li>condition)</li> <li>2. South Olpad</li> <li>(GIS) – Boisar-II</li> <li>(GIS) 765 kV D/c</li> <li>line</li> <li>3. 2 Nos. of 765 kV</li> <li>line bays at South</li> <li>Olpad (GIS) for</li> <li>termination of</li> <li>South Olpad</li> <li>(GIS) – Boisar-II</li> <li>(GIS) 765 kV D/c</li> </ul>	utilization is dependent on commissio ning of each other.	2. 3. 4.	<ul> <li>(2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV bus sectionaliser to be kept under normally OPEN condition)</li> <li>South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> <li>2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> <li>240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) – Boisar- II (GIS) 765 kV D/c line (with NGR bypass</li> </ul>		<u>45.94%</u>	dependent on commissioni ng of each other.

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from the process of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
L el			4. 240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar- II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)	arrangement)         5.       LILO of Navsari (New)         -       Padghe (PG) 765         kV D/c line at Boisar-II         6.       Boisar-II (Sec-II) -         Velgaon (MH) 400 kV         D/c       (Quad         ACSR/AAAC/AL59         moose       equivalent)         line         7.       2 Nos, of 400 kV line
			<ul> <li>5. LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II</li> <li>6. Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL5</li> </ul>	bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line
			9       moose         equivalent) line         7.       2 Nos. of 400 kV         line       bays         velgaon (MH) for         termination       of         Boisar-II       -         Velgaon (MH) 400         kV       D/c         kV       D/c         9       moose         equivalent) line       8.         LILO       of         Babhaleswar       -	<ul> <li>8. LILO of Babhaleswar <ul> <li>Padghe (M) 400 kV</li> <li>D/c line at Boisar-II</li> <li>(Sec-I) using twin</li> <li>HTLS conductor with a minimum capacity of</li> <li>1700 MVA per ckt at nominal voltage</li> </ul> </li> <li>9. 80 MVAR switchable line reactors at Boisar-II end of Boisar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR</li> </ul>

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Claus	e	New/Revised Clause
Let			Padghe (M) 400         kV D/c line at         Boisar-II (Sec-I)         using twin HTLS         conductor with a         minimum capacity         of 1700 MVA per         ckt at nominal         voltage         9.       80 MVAR         switchable       line         reactors at Boisar-II         Babhaleswar 400         kV D/c line (with         NGR       bypass         arrangement)         formed       after		bypass arrangement) formed after above LILO 10 ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar-II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of Boisar-II S.50% 5.50% 5.50% Simultaneou sly as their utilization is dependent on commissioni ng of each other.
			above LILO1±200MVAR0.STATCOM with 2x125MVARMSC,1x125MVARMSR at 400kV bus section-I of Boisar- II and ±200 MVAR STATCOM with 2x125MVAR MSC,1x125MVAR MSC,1x125 MVAR MSC,MVAR at 400MVARMSR at 400kV bus section-II	8.94% B.94% B.94% B.94% B.94% B.94% B.94% B.94% B.94% B.94% Commissio ned Simultaneo usly as their utilization is dependent on commissio	11       ±       300       MVAR         STATCOM       with       3x125       MVAR       MSC,         1x125       MVAR       MSR at       4.08%       d         400       kV       level       of       d         Navsari       (New)(PG)       S/s with 1 No. of 400       y.       y.

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.		Exist	ing Clause	9			New/Rev	vised Claus	se	
Lel		Sabadula	1	Boisar-II ± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS)		<u>6.87%</u>	ning of each other. Element at sl. 11 may be commissio ned independen tly.					
		2 of TSA	S. No.	Name of the Transmission Element	Schedule d COD in months from Effective Date	Percentage of Quoted Transmissi on 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	S. No	Name of the Transmission Element	Schedule d COD in months from Effective Date	Percentage of Quoted Transmissi on Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
			1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420	24 months from date of SPV acquisiti on	<u>84.19%</u>	Elements at sl. (1) to (9) are required to be commissio ned simultaneo usly as their utilization is	1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV	24 months from date of SPV acquisiti on	<u>26.83%</u>	Elements at sl. (1) to (9) are required to be commission ed simultaneou sly as their utilization is dependent

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

SI. No.	Clause No.	Existing Clause		New/Revised Clause
2 el		kV bus reactors.         (2x1500 MVA,         765/400 kV ICTs         shall be on each         400 kV section         and 2x500 MVA,         400/220 kV ICTs         shall be on 400 kV         Bus Section-II.         2x125 MVAR Bus         reactors shall be         such that one bus         reactor is placed         on each 400 kV         bus section. 400         kV         Bus Sectionaliser to be         kept       under         normally OPEN         condition)         2.       South Olpad         (GIS) – Boisar-II         (GIS) for         termination of         South Olpad         (GIS) – Boisar-II         (GIS) – Boisar-II         (GIS) 765 kV D/c         line         4       240	dependent on commissio ning of each other.	ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus sectionaliser to be kept under normally OPEN condition)       on commissioni ng of each other.         2. South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from generation of the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from generation of the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from generation of the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from generation of the process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from generation of the process."

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
L el			<ul> <li>switchable line reactors on each ckt at South Olpad (GIS) and Boisar- II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)</li> <li>5. LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II</li> <li>6. Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad</li> </ul>	<ul> <li>Padghe (PG) 765 kV D/c line at Boisar-II</li> <li>Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> <li>2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line</li> </ul>
			ACSR/AAAC/AL5 9 moose equivalent) line 7. 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL5 9 moose equivalent) line 8. LILO of Babhaleswar – Padghe (M) 400	<ul> <li>8. LILO of Babhaleswar <ul> <li>Padghe (M) 400 kV</li> <li>D/c line at Boisar-II</li> <li>(Sec-I) using twin</li> <li>HTLS conductor with <ul> <li>a minimum capacity of</li> <li>1700 MVA per ckt at</li> <li>nominal voltage</li> </ul> </li> <li>9. 80 MVAR switchable <ul> <li>line reactors at</li> <li>Boisar-II end of</li> <li>Boisar-II end of</li> <li>Boisar-II – <ul> <li>Babhaleswar 400 kV</li> <li>D/c line (with NGR</li> <li>bypass arrangement)</li> <li>formed after above</li> </ul> </li> </ul></li></ul></li></ul>

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from grant entited renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existin	ng Clause	New/Revised Clause
L el			<ul> <li>kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage</li> <li>80 MVAR switchable line reactors at Boisar- II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement)</li> </ul>		LILOElements at sl. no. (1) and (10) are required to be commission ed10±200MVAR with 2x125STATCOM with 2x125WVAR MSC, and (10) are required to be commission ed1x125MVAR MVAR WVAR With 2x125STATCOM WVAR MSC, 1x1255.50%5.50%simultaneou sly as their utilization is dependent on commissioni ng of each other.
			formed after above LILO 1 ±200 MVAR 0. STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-I of Boisar-II and ±200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-II of	Elements at sl. no. (1) and (10) are required to be commissio ned simultaneo usly as their utilization is dependent on commissio	11±300MVAR·STATCOMwith3x125MVARMSC,1x125MVARMSR at400kVlevelNavsari(New)(PG)S/s with 1No. of 400kV bay (GIS)V

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI.   Clause   Existing Clause     No.   No.								New/Revised	d Clause	
her		Schedule	1 1. Quo	± 300 MVAR STATCOM with 3x125 MVAR MSC, 1x125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV bay (GIS) ted Transmission Charg	<u>6.8</u> jes	<u>37%</u>	each other. Element at sl. 11 may be commissio ned independen tly.	Quo	ted Transmission Charges		
		5 of TSA	S. No.	Name of the Transmission Element	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Eleme are for d comm opera of the Eleme	ent(s) which pre-required eclaring the nercial tion (COD) e respective ent	 S. 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.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA,	<u>84.19%</u>	Elem (1) requi comr simu as th is de comr each	ents at sl. to (9) are red to be missioned ltaneously eir utilization ependent on missioning of other.	1.	Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500	<u>26.83%</u>	Elements at sl. (1) to (9) are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
her			765/400kVICTsshall be on each 400kV section and 2x500MVA, 400/220kVICTs shall be on 400kVBusSection-II.2x125MVARBusreactorsshallbesuch that one busreactor is placed oneach400kVbus	MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition) 2. South Olpad (GIS) –
			section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition) 2. South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line	Boisar-II (GIS) 765 kV D/c line 3. 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line 45 94%
			<ul> <li>3. 2 Nos. of 765 kV line bays at South Olpad (GIS) for termination of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line</li> <li>4. 240 MVAR switchable line</li> </ul>	4. 240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)
			reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS)	5. LILO of Navsari (New) – Padghe (PG) 765 kV D/c <u>5.21%</u> line at Boisar-II
			end of South Olpad (GIS) – Boisar-II (GIS) 765 kV D/c line (with NGR bypass	6. Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
L el			arrangement)         5.       LILO of Navsari (New) – Padghe (PG)         765 kV D/c line at Boisar-II         6.       Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line         7.       2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59         maasa       arrivelent)	7.       2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line         8.       LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I) using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage         9.       80 MVAR switchable line reactors at Boisar-II end of Boisar-II – Babhaleswar 400 kV D/c line (with NGR bypass arrangement) farmed after chave LILO
			line         8.       LILO of Babhaleswar         - Padghe (M) 400 kV         D/c line at Boisar-II         (Sec-I) using twin         HTLS conductor with         a minimum capacity         of 1700 MVA per ckt         at nominal voltage         9.       80 MVAR switchable         line reactors at         Boisar-II       -         Babhaleswar 400 kV	10±200MVARSTATCOM·with 2x125MVARMSC, 1x125(1)and (10)are required to be commissionedIIand±200MVAR5.50%simultaneously as their utilization is dependent on commissioning of each other.11±300MVAR5.50%Elements at sl. no. (1)and (10)11±300MVAR5.50%simultaneously as their utilization is dependent on commissioning of each other.11±300MVARSTATCOM kV level of Navsari (New)(PG)4.08%Element at sl. 11 may independently.

Amendment-VII dated 18.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider Through Tariff Based Competitive Bidding Process to establish Inter-State Transmission System for "Transmission System for Evacuation of power from general renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process.

	SI. No.	Clause No.	Existing Clause	New/Revised Clause
L el			D/c line (with NGR bypass arrangement) formed after above LILOElements at sl. no. (1) and (10) are required to be commissioned 	of 400 kV bay (GIS)

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1. L eL	RFP for Selection of Bidder as Transmission Service Provider ANNEXURE-C SPECIFIC TECHNICAL REQUIREMENTS FOR STATCOM	Clause No. A.8.9	Bidder understands that provision of spare switching in HV side shall be done by disconnectors. However in MV side it can be done by jumpers.		Bidder needs the information for proper estimation	Refer <b>Amendment VII</b> dated 18.04.2024. Provision of spare switching in HV side by disconnectors is not compulsory as cold spare without physically shifting the Transformer has been considered.
2.	RFP for Selection of Bidder as Transmission Service Provider ANNEXURE-C SPECIFIC TECHNICAL REQUIREMENTS FOR STATCOM	Clause A.5 BIL = 1550kVp	The BIL adopted for the component on HV side is 1425kVp. Please note that this value is in line with the chapter A.6.8.1 of the same specification. In Clause A.8.9.1 O transformer HV winding LIWV and PFWV values mismatch with Clause A.6.8.1 and will be adopted to LIWV=1425kVp, PFWV=630kVrms. Please confirm.		Bidder needs the information for proper estimation	For transformers, LIWV=1425 kVp, PFWV=630 kVrms shall be in line with clause C.8.9.1 (o) of RfP.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
3. Gel	Annexure-C (Specific Technical requirements of STATCOM)	Clause A.6.2.3.3.c The TSP shall evolve the insulation co-ordination of the components of the STATCOM Station after studies have been conducted to determine the overvoltage profile with the STATCOM connected to the system.	The insulation coordination of the Basic Design considers the overvoltage profile and insulation levels according the specifications from CEA. The used station insulation coordination is based on recommended practice defined in IEC 60071 especially in IEC 60071 – 2 Annex E as well as IEC 60076 – 3 Annex B. No futher studies are planned. Please confirm our understanding.		Bidder needs the information for proper estimation	Insulation co-ordination studies shall be done as per the provisions of RfP by the TSP.
4.	Annexure-C (Specific Technical requirements of STATCOM)	Chapter A.8.6 The MSC Components shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. And Clause A.8.5	The bidder clarifies that the dynamic performance requirements of the STATCOM station shall be met using STATCOM Branches only where as steady state performances shall be met using MSCs & MSRs. In this way the overall performance requirements of the		Bidder needs the information for proper estimation	Bidder shall follow the provisions of RfP. Further, Overall performance requirements shall cover all the requirements specified in various clauses of RfP including the amendments issued.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
L el		The MSR Components shall be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station.	STATCOM STATION are met. Kindly confirm this understanding. Alternatively please elaborate "Overall performance Requirements" with respect to individual elements (e.g. MSCs. MSRs & STATCOM)			
5.	Annexure-C (Specific Technical requirements of STATCOM)	Clause A.6.1.d STATCOM Station must continue to operate when AC system Voltage on any or all phases dips down to 0.135 pu voltage as per the characteristic given below. The STATCOM Station should continue to inject reactive power during temporary under voltage down to 54kV (0.135pu) (considering margin of 10% below 0.15p.u. which is the LVRT limit	Current STATCOM solution of Bidder confirms driving through an undervoltage of 0.135pu for single-pole and three-pole faults for 300ms. However, this requirement is not confirmed for double pole faults (very rare in the HV system). Since RFP document does not specifically ask for double-phase faults, our		Bidder needs the information for proper estimation	LVRT requirements shall be applicable for Three phase, two phase and single-phase voltage dip conditions at POI/PCC. Further please refer the <b>Amendment VII</b> dated 18.04.2024.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
40		specified for RE generating stations) for the duration 0.3sec.	understanding is that the RFP requirement is fulfilled. Please confirm our understanding.			
<i>б</i> .	Annexure-C (Specific Technical requirements of STATCOM)	Seismic Test	As STATCOM area equipment are rated with less than 400kV, no seismic test are considered. Please confirm.		Bidder needs the information for proper estimation	Seismic test requirement as mentioned in RfP shall be followed.
7.	Annexure-C (Specific Technical requirements of STATCOM)	Clause No. A.8.2.1 The control system design shall be based on single fail criterion i.e. failure of any one component in the system should not result in to outage of the complete system	Kindly confirm that the below equipment shall be considered for single fail criterion. - BCU(bay control unit) for control of switchgears. - DC CT for measuring the valve current.		Bidder needs the information for proper estimation	BCU and DC CT shall be provided as per RfP.
8.	Annexure-C (Specific Technical requirements of STATCOM)	Clause No. B.2.5.a Necessary gateway & modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement. Any augmentation work at RLDC/SLDC is	Bidder requests that details of Substation Disturbance Record Server will be provided during detailed engineering. Please confirm.		Bidder needs the information for proper estimation	RfP is amply clear.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
20		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>\$</b> .	Annexure-C (Specific Technical requirements of STATCOM)	Clause No. A.8.2.2.f f) It is proposed to connect STATCOM Station SCADA with SAS through a Gateway and the database, configuration etc. of existing SAS shall be upgraded to incorporate STATCOM Station events, alarms, Controls (both switchgear and control functions of STATCOM Station like setting of parameters etc.) so that STATCOM Station can be effectively monitored and controlled from SAS.	We are providing Remote HMI at Substation control room as per requirement. Statcom station control and monitoring can be done via the same Remote HMI. Additionally the data (alarm & events) shall be made available in main substation SAS through Gateway. We understand this fulfils specification requirements. Please confirm.		Bidder needs the information for proper estimation	Remote HMI at substation control room is acceptable. Further, all other works as mentioned in the RfP including necessary co- ordination for integration with RLDC/SLDC shall also be in the present scope.
10.	Annexure-C (Specific Technical requirements of STATCOM)	Clause No. A.6.2.3.3.d The TSP shall demonstrate to the satisfaction of the Employer that STATCOM Station will not excite ferro-resonance and sub-	Bidder STATCOM will not excite ferro-resonance and sub-synchronous oscillations in the AC system, therefore these two		Bidder needs the information for proper estimation	Bidder shall follow the provisions of RfP.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		synchronous oscillation in the AC	studies are not applicable for			
		system	STATCOM technology.			
11.	Annexure-C	Clause No.A.9.7 b	In case the simulator model		Bidder needs	Network files i.e PSSE
S	(Specific Technical		should have an accurate		the information	load flow(.raw) and
0	requirements of	The simulator should provide an	representation, the		for proper	dynamic(.sav/snp) files
$\sim$	STATCOM)	accurate network representation	necessary models in the		estimation	has already been provided
		including network harmonic	corresponding software			to bidders. The above files
		behavior, as well as synchronous	(RSCAD) should be			may be used for
		condensers, power stations,	submitted by the customer.			developing RSCAD files/
		generators (with AVRs), and	In case this is not available,			model
		pump storage schemes, existing	a generic representation of			
		HVDC, SVCs and STATCOMS,	these elements (HVDC,			
		Little SVCs and STATCOMS,	SVC, FSC, Tulure SVCS,			
		FSC (lixed series capacitors), and	Solar parks, windiarm parks,			
		The hidders and vender should	user defined models etc.)			
		provide information on the	to the result mismatch or			
		simulator studies to the client prior	system instability owing to			
		to the tests being undertaken	deneric models/dynamic			
			narameters The			
			conclusions resulting from			
			such assumptions are not			
			technically viable			
10	Appoyuro C	A.8.1.5 STATCOM Valve Cooling	1. We understand that		Piddor poodo	1 Piddor to docido
12.	Annexule-C	system	bidder can decide between		the information	between LIMD and
			UMD and UPS based on his			LIPS as per the
						oro as per lite

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel	(Specific Technical requirements of STATCOM)	The Valve cooling system shall have black start capability and necessary UPS/UMD shall be provided separately for each STATCOM Unit.	<ul> <li>design. In case Employer have specific requirement please specify.</li> <li>2. UPS will be provided for ride-through application (5 min back-up) for Valve Cooling Skid Motors. Other essential loads including outdoor fan operation, HVAC operation and motor starting will be through DG set during blackout. Starting of the Valve Cooling motor is not envisaged on UPS.</li> <li>3. Inline with previously executed projects in India, Balck-start capability is provided with combination of Diesel Generator Set and UPS/UMD.</li> </ul>		for proper estimation	requirement of STATCOM following the provisions of RfP. 2. It is clarified that the black start capability shall be done with adequate UPS/UMD capacity. 3. TSP shall ensure adequate sizing of UPS/UMD for proper functioning during Black-start process.
13.	RFP for Selection of Bidder as	Survey Report: Section-5	Please note that during our site visit assessment and also as per Parivesh Portal it is found that BPC proposed		Bidder needs information for	The tapping point provided in the survey report is indicative in nature.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
Lel	Transmission Service Provider & Survey Report	LILO of Babhaleswar – Padghe (M) 400kV D/c line at Boisar- II(Sec-I)	<ul> <li>"LOOP IN and LOOP Out tower locations" are falling under "Affordable Housing Project - JV under PMAY on Private land bearing S. No 42/1 at Titwala, Tal. Kalyan, Dist Thane, State-Maharashtra".</li> <li>Snap shot of the same is provided below.</li> <li>Snap shot of the same is provided below.</li> <li>As these proposed tower locations are already approved for above mentioned housing project Hence permission for</li> </ul>		proper estimation.	Further, the successful Bidder/TSP to coordinate with existing transmission line owner to finalize the tapping Point during execution Stage. Bidder may also visit the site and acquaint themselves with the site conditions. Please also refer Clause 2.5.7 of the RFP document.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel			tapping on these locations shall not be granted. In view of the above, BPC is requested to change the Loop IN and Loop Out tower location for LILO of Babhaleswar – Padghe (M) 400kV D/c line at Boisar-			
14.	RFP for Selection of Bidder as Transmission Service Provider & Survey Report	Survey Report: Section-5 LILO of Babhaleswar – Padghe (M) 400kV D/c line at Boisar- II(Sec-I)	Please note that during our site visit assessment, multiple crossing and congestion of transmission lines are found along the proposed route of LILO of Babhaleswar – Padghe (M) 400kV D/c line at Boisar- II(Sec-I). As there is very limited corridor for construction of LILO of Babhaleswar – Padghe (M) 400kV D/c line at Boisar-II(Sec-I) due to multiple crossing and congestion of transmission		Bidder needs information for proper estimation	RFP to be complied for tower requirement.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
2 tol	RFP for Selection of Bidder as Transmission Service Provider and Survey Report & Additional clarifications dated 12.02.2024	Survey Report: Section-6: Boisar- II(Sec-II) – Velgaon (MH) 400kV D/c & Additional clarifications dated 12.02.2024 sr. no. 98, BPC Response: The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process.	lines, we understand that TSP can use Mult circuit towers / Monopole for the same. Kindly confirm. As per the clarification the land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. We would like to inform you that during our site visit assessment we have found that two transmission line of 220 kV D/C and 220 kV M/C passes over this proposed land.		Bidder needs information for proper estimation	The coordinate of location of the substation is only for the purpose of facilitating Bidders to locate the sub- station and the same should not be considered as the point of termination of transmission line. For exact point of termination of transmission line, the Bidder shall have to coordinate with the agency responsible for construction of sub-station / switchyard who shall provide the inter- connection facility. Bidder may also visit site and acquaint themselves with site conditions.

Sr. No.	Name of the Document	Clause No. and Existing provision		Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
her				BPC is requested to clarify that the proposed Velgaon SS land is fixed for line termination under present scope of work, and it may not change during execution stage.			Please also refer Clause 2.5.7 of the RFP document.
16.	RFP for Selection of Bidder as Transmission Service Provider & Survey Report P	Survey Report, Chapter: 2 CO-ORDINATES PROPOSED SUBSTATION	OF	Please note that as per the site visit assessment, we have observed that the coordinates provided in BPC survey report for the Establishment of 4x1500MVA (765/400kV) Sub-Station Boisar-II (GIS) S/s having various constraints as well as identification of a suitable			Boisar area is mostly covered with protected forest and open jungle area with patches of reserved forest and the same has also been taken into consideration by concerned stakeholders while finalizing the

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
L el			<ul> <li>substation location within a 3 km radius is not feasible. Following are the main constraints are observed:</li> <li>1. Challenges in getting required amount of land in respect to the size (~160 acre) and dimensions, due to RFP design requirement.</li> <li>2. Most of the land parcel proposed by BPC are falling under forest land.</li> <li>3. Most of the proposed land is private (tribal (ST) land holdings) which is not suitable as per the design requirement. Owner list &amp; Survey map attached for your ready refer as Annexure-I &amp; Annexure-II.</li> </ul>			proposed S/s land and boundary limits. Subsequently, the matter for proposed S/s land acquisition for the patch falling under forest area was also taken up with the concerned forest authority and it has been conveyed that the forest area falling under proposed S/s land shall be handed over to the selected bidder upon compliance of the prevailing norms of the forest department. The communication from the forest department shall be shared with the selected bidder. Further, Palghar district area is mostly occupied with Scheduled Tribes

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel			<ul> <li>4. Some portion of land from BPC proposed radius land is falling under land allotted for livelihood for freedom fighters. Owner list &amp; Survey map attached for your ready refer as Annexure-I</li> <li>BPC is requested to provide some other alternative co- ordinates <b>OR</b> 10 Km radius from the location proposed by the BPC in the Survey Report to be fixed. Kindly accept the same. Please note that the land identification is very crucial for SCOD of the Package</li> </ul>			landowners and the matter for proposed S/s land acquisition of Scheduled tribes was also taken up with the concerned authorities and it has been conveyed that the land shall be made available upon compliance of the prevailing norms of the concerned department. The communication in this regard shall be shared with the selected bidder. Further, bidders may also visit site and acquaint themselves with site conditions. Please also refer Clause 2.5.7 of the RFP document & Clause 5.1.4 of TSA document.
17.	Survey Report		1. Land for Boisar- II Substation: Upon receipt			Boisar area is mostly covered with protected

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
70 V			of survey report from BPC for the subject Project, survey has been carried out by us for selection of suitable land for establishment of proposed 765/400 kV Boisar-II GIS Substation within 3 km radius of the location proposed in the survey report. Following are our observations- a. The land identified by BPC falls under tahsil Vikramgad of Palghar district. Vikramgad tehsil has over 30-40 percent of its area under forest cover. As acquisition of land for substation is non-linear in nature, getting forest clearance for diversion of land within stimulated timeline is not feasible and will			forest and open jungle area with patches of reserved forest and the same has also been taken into consideration by concerned stakeholders while finalizing the proposed S/s land and boundary limits. Subsequently, the matter for proposed S/s land acquisition for the patch falling under forest area was also taken up with the concerned forest authority and it has been conveyed that the forest area falling under proposed S/s land shall be handed over to the selected bidder upon compliance of the prevailing norms of the forest department. The communication from the

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
l el			also increase the environmental impact of the project. Additionally, the subject tehsil is majorly occupied by ST landowners (92% of total population). Maharashtra Tenancy and Agricultural Lands Act, 1948 provides following: "Provided also that, where the land being sold is owned by a person belonging, to the Scheduled Tribe, such sale of land shall be subject to the provisions of sections 36 and 36A of the Maharashtra Land Revenue Code, 1966 and of the Maharashtra			forest department shall be shared with the selected bidder. Further, Palghar district area is mostly occupied with Scheduled Tribes landowners and the matter for proposed S/s land acquisition of Scheduled tribes was also taken up with the concerned authorities and it has been conveyed that the land shall be made available upon compliance of the prevailing norms of the concerned department. The communication in this regard shall be shared with the selected bidder. Further, bidders may also visit site and acquaint

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
2			Restoration of Lands to Scheduled Tribes Act, 1974. "			themselves with site conditions. Please also refer Clause
2 OL			<ul> <li>The subject provisions impose restrictions on transfer of ST land to non-ST, including prior sanctions from appropriate government, which again is subject to project fulfilling multiple conditionalities.</li> <li>b. Additionally, the proposed land for Boisar-II Substation is also in Schedule V, thus adding an additional layer of conditionalities i.e. approval of Gram Sabha. RFCTLARR Act, 20 I 3 also provides for a list of</li> </ul>			2.5.7 of the RFP document & Clause 5.1.4 of TSA document.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
G el			safeguards and additional benefits while securing land in these areas. As these stringent safeguards are to protect vulnerable populations residing in these areas, acquiring land in the area might undermine the very spirit of these legislations. Additionally, stiff resistance from local population is also expected, as seen in the case of other transmission line projects and land acquisition for Bullet Train Project. In view of multiple restrictions (ST land-owners, scheduled areas and forest land) and associated			

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
Lel			vulnerability of inhabiting population, identification of suitable land for establishment of proposed 765/400 kV Boisar-11 GIS Substation within 3 km radius of the location proposed in the survey report is extremely difficult, which will jeopardize the feasibility of the subject project itself within given timelines.			
			Considering the above, the land location of Boisar- II GIS substation may be reviewed by BPC and alternate land coordinate may be provided for establishment of			

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel			Boisar-II Substation in non- schedule area and non-forest area. Severe RoW Issues in Palghar District:- we had faced several RoW issues in the vicinity of Palghar district during construction of Transmission Lines in our past projects. Similar severe Ro W issues are also expected for various transmission lines emanating from the proposed 765/400kV Boisar- II Substation. Considering the same, it may not be feasible to complete the project within the given timelines.			
18.	Annexure-C (Specific Technical requirements of STATCOM)	A.8.1.5 Statcom Valve Cooling System	please clarify if this clause shall be applicable for UPS also. Please confirm.		Bidder needs the information for proper estimation	RfP is amply clear in this regard. The referred clause is related to UMD.

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
۲ <i>و</i> ر 19.	Annexure-C (Specific Technical requirements of STATCOM)	<ul> <li>h) Each cooling system shall be provided with independent/dedicated UMD supply however common battery for both UMD power supply may be accepted. A UMD system will provide an extended capability of the STATCOM Station to deliver reactive power without any interruption, adding a buffer against the system faults or during events such as delayed voltage recovery or TOV.</li> <li>A.8.1.5 Statcom Valve Cooling System</li> <li>i) The secondary cooling system shall be redundant type such that it shall be possible to take out 10% (minimum one number) of the cooler module (fan unit) of secondary cooling system without affecting the rated performance of</li> </ul>	We understand, in this clause, cooler module refers to single fan unit only. Please confirm.		Bidder needs the information for proper estimation	RfP provision is amply clear.
20.	Annexure-C	STAFCOM). Fire fighting System	(1). We understand that main station FFPH system		Bidder needs the information	Fire fighting system shall cover the requirement of

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
h el	(Specific Technical requirements of STATCOM)		<ul> <li>shall already have necessary provision for STATCOM STATION and there shall not be any requirement of further augmentation under this contract.</li> <li>Bidder shall provide inputs related to STATCOM Station for sizing of main station firefighting system. Please confirm.</li> <li>(2). We understand that employer shall arrange 250 NB main header (with 6-7 kg/cm2 pressure) with end flange with isolation valve near STATCOM STATION for taking taping for HVWS / Hydrant systems. Please confirm.</li> <li>(3) Employer shall provide ncessory (Maximum 16 Nos.</li> </ul>		for proper estimation	STATCOM and also comply the Safety regulation. Further, bidder is also advised to visit the site regarding existing fire- fighting system.
Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based constitutive bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
h el			ateachlocation)announciatorwindowsinmain station FFPH & Controlroom announciator panel toHookupSTATCOMSTATIONfirefightingsystem.(4)Kindlyprovidethetentative location/distance ofexistingfirehydrantforSTATCOMBuildingsothatwecancalculatepressuredropaccordingly.			
21.	Annexure-C (Specific Technical requirements of STATCOM)	<ul><li>A.8.10.1 STATCOM Station MV Circuit breaker</li><li>The Circuit Breaker offered should be of SF6 type and of class C2, M2 as per IEC</li></ul>	Please confirm that MV disconnectors in STATCOM shall comply endurance class M1 and MV earthswitches in STATCOM shall comply endurance class M0.		Bidder needs the information for proper estimation	The referred clause is for MV circuit breaker. Refer clause C.8.10.2 of RfP for MV disconnector/Isolator.
22.	Annexure-C	Clause A.10.0 Visual Monitoring System for watch and ward of STATCOM Station	Please clarify following:- 1. It is not clear that the term "entire switchyard" refers to STATCOM Station		Bidder needs the information	This clause refers to STATCOM station

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based control bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
h el	(Specific Technical requirements of STATCOM)	Visual monitoring system (VMS) for effective watch and ward of STATCOM station premises covering the areas of entire switchyard, Statcom Building, Coupling Transformer, cooling Towers and Main Gate, shall be provided.	switchyard only or associated 400 kV bays and interconnection area also. Please clarify.		for proper estimation	switchyard under present scope.
23.	Annexure-C (Specific Technical requirements of STATCOM)	Annexure-I Page:188 Contingency Cases for KPS1 (Bus Sections 1 & 2) & KPS3 (Bus Section 1) STATCOM	In order to perform contingency studies, Hitachi Energy requires complete model information (+ve, - ve and zero sequence) of all equipment/devices connected to the network; and also, other associated 3rd party vendor model details need to be provided.		Bidder needs the information for proper estimation	Network file already forwarded to bidders which inter-alia include +ve, -ve and zero sequence information of applicable power system components. Bidder may do the studies based on generic models embedded in dynamic file.
24.	Annexure-C (Specific Technical requirements of STATCOM)	TSP shall carry out tuning of Power Oscillation damping (POD) and control would include several loops each focused on different frequencies.	Tuning of POD controller will be possible only if the list of contingencies or other scenarios in which power oscillations are exists are provided. Please confirm that the information will be		Bidder needs the information for proper estimation	RfP provisions are amply clear. Bidders shall follow IEEE Std 1052-2018 in this context.

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based control bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
L L 25.	Annexure-C (Specific Technical	A.8.1.5 t) Replacement of certain cooling	provided in early project stage. Moreover, please confirm in the tender stage only about number of inputs (frequency or power) and control loops to be taken to STATCOM control. The replacement of redundant fans is not		Bidder needs the information	Bidder to follow the requirements of RfP.
	requirements of STATCOM)	equipment (e.g., pumps, fans, cooler unit etc.), if defective, should be possible while the cooling system still operates.	advised while the cooling system in operation due to safety reasons. Please confirm acceptance.		for proper estimation	
26.	Annexure-C (Specific Technical requirements of STATCOM)	A.6.8.5 The Creepage/leakage distance across insulation shall be determined by the TSP and shall be adequate to ensure that under conditions of heavy pollution, the probability of a flashover of an insulator does not exceed one in 15 years. However, the leakage distance for all AC insulators for outdoor installation shall not be	The bidder understands that all equipment bushings, except Power Transformer shall be of creepage "25mm/kVph-ph" corresponding to "Heavy" pollution. Power Transformer bushings, string insulators, long rod etc, shall be of minimum "31 mm/kVph-ph" creepage		Bidder needs the information for proper estimation	Refer <b>Amendment VII</b> dated 18.04.2024. As per amendment, 31 mm/kV creepage is mentioned.

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based conditions bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
27.	Annexure-C (Specific Technical requirements of STATCOM)	less than 25 mm/kV of the maximum operating phase to earth rms voltage at the insulator. The leakage distance of equipment connected to 400 kV systems shall not be less than 10500 mm. Specific creepage distance for outdoor bushings, insulator strings and long rod insulators shall be a minimum 31 mm/kV. Relevant Standards: STATCOM station shall comply with following standards (latest version)	distance corresponding to "Very Heavy" pollution. Please confirm. Please note that the aforesaid standard IEC 60354 has been withdrawn by IEC and has been replaced by IEC 60076. We understand that the same shall be considered. Please clarify our understanding		Bidder needs the information for proper estimation	Latest standards/ IEC shall be applicable.
28.	Annexure-C (Specific Technical requirements of STATCOM)	A.8.11 The auxiliary supply system of each STATCOM Station shall consist of two main incomers and one emergency incomer from DG set. The two main incomers shall	Please confirm which transformer will be used for tapping the main auxiliary supply, 765/400/33 kV or 400/220/33 kV and the distance between the		Bidder needs the information for proper estimation	Any of the ICTs can be used in co-ordination with the substation owner and as per site conditions.

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based conditions bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel		be required to be paired to act redundantly to help ensure a certain degree of reliability and availability. One of the main incomers shall be supplied from 33 kV tertiary winding of 765/400/33 kV or 400/220/33 kV ICT at the main substation.	tapping and the STATCOM station.			
29.	Annexure-C (Specific Technical requirements of STATCOM)	A.6.2.1.13 During STATCOM operations, any flow of direct current to the transformer's MV side must be less than 25% of the transformer magnetizing current.	Please advise why 25% of magnetizing current limit is specified. Bidder suggests modifying it as below to be a realistic implementation: "During STATCOM operations, any flow of direct current to transformer MV side must be minimized so that transformer saturation will not occur. "			Bidder shall follow the requirements of RfP.
30.	Annexure-C (Specific Technical requirements of STATCOM)	A.5 Maximum short-term ac system voltage 448 kV, duration 10 s. A.6.1 e) Temporary Overvoltage upto 600 kV (1.5 pu), duration 10 s.	Please clarify if the 10s duration OV is 600 kV or 448 kV?		Bidder needs the information for proper estimation	Provisions of RfP w.r.t Annexure-C (Specific Technical requirements of STATCOM)

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based condition bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel						C.5: Maximum short-term ac system voltage are amply clear. Whereas C.6.1 e) i.e HVRT requirements has been modified in line with MoM held at CEA on 27.10.2023 to discuss w.r.t new STATCOMs proposed to be installed at ISTS sub- stations, which is being notified as a separate amendment to the RfP. Refer <b>Amendment VII</b> dated 18.04.2024 in this regard.
31.	Annexure-C (Specific Technical requirements of STATCOM)	A.8.1: The charging resistor for DC capacitor of the STATCOM Sub module should be designed for three charges per hour followed by the appropriate cooling time.	Please clarify the time duration to be considered in between the two consecutive charging cycles. The text in IEEE 1052-2018 8.1 i) also says "repeating temporary operation everymin".		Bidder needs the information for proper estimation	Bidder shall follow the requirements of RfP w.r.t charges per hour for DC capacitor. Time duration in between the two consecutive charging cycles may be as

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based conditions bidding process

Sr. No.	Name of the Document	Name of the Document     Clause No. and Existing provision     Clarification needed on te am     Su		Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
hel			Due to lack of information, Bidder assumes that the duration between two consecutive cycles is approximately 19 minutes. (3 cycles in 60mins). Kindly confirm.			relevant standards/best practice.
32.	Annexure-C (Specific Technical requirements of STATCOM)	A.8.9 Coupling Transformer	We understand that the isolators for changeover on the HV side is envisaged to be GIS type. Please clarify.		Bidder needs the information for proper estimation	Refer <b>Amendment VII</b> dated 18.04.2024. Provision of spare switching in HV side by disconnectors is not compulsory as cold spare without physically movement has been considered as per amendment.
33.	RFP for Selection of Bidder as Transmission Service Provider	A.8.9.1 Technical parameters Table of Transformers	Kindly confirm which LIWV rating should be considered.		Bidder needs the information for proper estimation	For transformers, LIWV=1425 kVp, PFWV=630 kVrms shall be in line with clause C.8.9.1 (o) of RfP.

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based constant bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
34. L	RFP for Selection of Bidder as Transmission Service Provider	B.2.2.1 CSD Requirement for KPS-3	we understand that STATCOM OEM shall provide 2 nos CSD under present scope which can be mounted in the existing Main bay & tie bay CBR panel in KPS-3. Please clarify our understanding		Bidder needs the information for proper estimation	Supply of CSD shall be provided by the successful bidder.
35.	RFP for Selection of Bidder as Transmission Service Provider	General	We understand that RTV coating needs to be considered only for Porcelain type Bus Post Insulators in the STATCOM station yard and RTV coating shall not be applicable for polymer type insulators. Please confirm our understanding.		Bidder needs the information for proper estimation	Creepage as per RFP shall be maintained. RTV is not mentioned in the RfP.
36.	RFP for Selection of Bidder as Transmission Service Provider	General	We request you to kindly confirm the thickness of the coating corresponding to the min wt of zinc coating of 900gm/sq-mtr.		Bidder needs the information for proper estimation	Zinc coating of 900 gm/sq- mtr shall be provided as per clause B.4.0 (d) of RfP and accordingly thickness shall be maintained.
37.	General		Vide letter 12/X/STD(CONN)/GM/2023 /44 dated 20.02.2024, Chief		Bidder needs information	Refer <b>Amendment VII</b> dated 18.04.2024.

Additional clarifications dated 18.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based control bidding process

Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
L el			Engineer (Grid Management), CEA has issued the Minutes of Meeting held on 27.10.2023 to discuss the requirement w.r.t. new STATCOMs proposed to be installed at ISTS sub-stations (Copy Attached). We understand that resolution agreed during the subject meeting have to be adopted by the bidder for ongoing various STATCOM project, which are under bidding. BPC to confirm our understanding and issue the amendment under respective clauses viz. LVRT, HVRT, HOT/Cold Standby Transformer, UDM model's, MSC MSR Switching logics etc.		for proper estimation.	

Amendment – VIII dated 20.04.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-State Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

	SI.	Clause No.	<b>Existing Provis</b>	sions	1	New / Revised Provisions		
	No.							
	1.	2.7.1 of	The Bidders s	hould submit the Bids online through the electronic	٦	The Bidders s	should submit the Bids online through the electronic	
		RFP	bidding platform	h before the Bid Deadline i.e., on or before 1200 hours	k	oidding platforr	n before the Bid Deadline i.e., on or before 1200 hours	
			(IST) on <u>22.04.</u>	2024. In addition to the online submission, the Bidder	(	(IST) on <u><b>29.04</b></u>	<b>.2024</b> . In addition to the online submission, the Bidder	
0			with lowest Fina	al Offer will be required to submit original hard copies of	1	with lowest Fin	al Offer will be required to submit original hard copies of	
~			Annexure 3, An	re 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and			nnexure 4 (if applicable), Annexure 6 (if applicable) and	
2			Annexure 14 before issuance of LoI.		Annexure 14 before issuance of Lol.			
	2.	2.7.2 of	Important timelines are mentioned below:		1	mportant timel	ines are mentioned below:	
		RFP						
			Date	Event		Date	Event	
			<u>22.04.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)		<u>29.04.2024</u>	Submission of Bid (Online submission of Bid through electronic bidding portal)	
			<u>22.04.2024</u>	Opening of Technical Bid		<u>29.04.2024</u>	Opening of Technical Bid	
			<u>30.04.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal		<u>07.05.2024</u>	Shortlisting and announcement of Qualified Bidders on bidding portal	
			<u>01.05.2024</u>	Opening of Financial Bid - Initial Offer		<u>08.05.2024</u>	Opening of Financial Bid - Initial Offer	
			<u>02.05.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.		<u>09.05.2024</u>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	
				Submission of original hard copies of Annexure 3,			Submission of original hard copies of Annexure 3,	
			07.05.2024	Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer		<u>14.05.2024</u>	Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer	
			<u>10.05.2024</u>	Selection of Successful Bidder and issue of LOI		<u>17.05.2024</u>	Selection of Successful Bidder and issue of LOI	
			<u>20.05.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited		<u>27.05.2024</u>	Signing of RFP Project Documents and transfer of Khavda IV C Power Transmission Limited	

3.	2.13.1 of RFP	 Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>22.04.2024</u>	Opening of Envelope (Technical Bid): 1230 hours (IST) on <u>29.04.2024</u>
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <u>01.05.2024</u> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1230 hours (IST) on <b><u>08.05.2024</u></b> in the office of CEA.

Additional clarifications dated 23.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission Service Provider for

	Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
7 02	1.	Additional clarifications dated 12.02.2024	Query BPC is requested to confirm the existence of OPGW in the existing Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II and also share the make and model of OPGW equipment <b>BPC Reply:</b> The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.	Existence of OPGW in the Babhleswar- Padghe line is not related to Velgaon Land acquisition. BPC is requested to provide the OPGW details and make for the existing line.		Bidder needs the information for proper estimation	OPGW commissioned on Babhleshwar – Padghe line on <b>31.03.2024.</b> Make and model of OPGW equipment: TJ1400 , Tejas Network
	2.	Additional clarifications dated 12.02.2024	Query: BPC is requested to provide following data/documents for extension work at Velgaon GIS S/S: 1. Availability of CU and PU for bays under present scope of work.	We understand that Availability of CU PU and sufficiency of fire hydrant at the Velgaon extension is already considered in Velgaon SS		Bidder needs the information for proper estimation	Availability of CU and PU for the bays under present scope of work will be ensured by MSETCL. TSP shall provide sufficient fire hydrant for the present scope of work.

Additional clarifications dated 23.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission Service Provider for

	Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
50			<ul> <li>2. Sufficiency of fire hydrant system for extension work/ fire hydrant layout</li> <li>Please confirm availability of optical direction existing SDH equipment for present project link.</li> <li>BPC Reply:</li> <li>The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.</li> </ul>	execution and hence same need not be considered in Khavda-4 Part-B scope of work. Please confirm.			Further, successful bidder/ TSP to coordinate with MSETCL during execution stage.
	3.	Additional clarifications dated 12.02.2024	Query: We understand that space in the existing control room at Velgaon GIS S/S is available for the extension work under the present scope. Please confirm. BPC Reply:	BPC is requested to confirm the availability of space in control room for the current scope of work.		Bidder needs the information for proper estimation	Land acquisition for Velgaon S/s is under finalization by MSETCL. MSETCL shall ensure availability of space for extension works covered under present scope of work. Further, successful bidder/ TSP to

Additional clarifications dated 23.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission Service Provider for

	Sr. No.	Name of the Document	Clause No. and Existing provision	Clarification needed on	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
L el			The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information.				coordinate with MSETCL during execution stage.
	4.	Additional clarifications dated 12.02.2024	Query: We understand that at Velgaon GIS S/S, there is space along with spare feeders available in existing ACDB and DCDB panels for present scope of work. Please confirm. <b>BPC Reply:</b> The land acquisition process for the proposed 400/220 kV Velgaon (M) S/s is under process. Hence, the clarifications envisaged cannot be provided at this stage. Successful Bidder/TSP to coordinate with MSETCL during execution stage for requisite information	BPC is requested to confirm that the ACDB and DCDB panels envisaged under Velgaon will have provision for the extension work under current Bid. Please confirm.		Bidder needs the information for proper estimation	Land acquisition for Velgaon S/s is under finalization by MSETCL. MSETCL shall ensure availability of space for extension works covered under present scope of work. Further, successful bidder/ TSP to coordinate with MSETCL during execution stage.

Additional clarifications dated 23.04.2024 to RFP documents for Selection of Bidder as Transmission Service Provider for "Transmission Service Provider for "Transmission" System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process

Sr. No	Name of the	Clause No. and Existing	Clarification	Suggested text	Rationale for the	RECPDCL Response
	Document			amendment	Amendment	
5.	RFP for Selection of Bidder as Transmission Service Provider	Section-1, Clause 1.2, Scope of work Sr. No. 7 2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59	We understand that at Velgaon GIS S/S, the existing Firefighting system, battery and battery charger have sufficient capacity to cater the extension works under present scope. Please confirm.		Bidder needs the information for proper estimation	Land acquisition for Velgaon S/s is under finalization by MSETCL. MSETCL shall ensure availability of space for extension works covered under present scope of work. Further, successful bidder/ TSP to coordinate with MSETCL during execution stage.

Amendment – IX dated 24.04.2024 to RFP documents for selection of bidder as Transmission Service Provider to establish Inter-State Transmission system for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

	SI.	Clause No.	Existing Provis	sions		New / Revised	Provisions
	No.						
	1.	2.7.1 of	The Bidders s	hould submit the Bids online through the electronic	-	The Bidders s	hould submit the Bids online through the electronic
		RFP	bidding platform	before the Bid Deadline i.e., on or before <b>1200</b> hours	k	bidding platforn	n before the Bid Deadline i.e., on or before <b>1500</b> hours
			(IST) on <b>29.04</b> .	2024. In addition to the online submission, the Bidder		(IST) on <b>03.05</b> .	2024. In addition to the online submission, the Bidder
~			with lowest Fina	Offer will be required to submit original hard copies of		with lowest Fina	al Offer will be required to submit original hard copies of
20			Annexure 3 Ar	inexure 4 (if applicable) Annexure 6 (if applicable) and		Annexure 3. Ar	nexure 4 (if applicable) Annexure 6 (if applicable) and
2			Annexure 14 be	fore issuance of Lol		Annexure 14 be	fore issuance of LoL
					1		
	2.	2.7.2 of	Important timeli	nes are mentioned below:		Important timeli	nes are mentioned below:
		RFP					
			Date	Event		Date	Event
			29 04 2024	Submission of Bid (Online submission of Bid through		03 05 2024	Submission of Bid (Online submission of Bid through
			<u></u>	electronic bidding portal)		00,00,2024	electronic bidding portal)
			<u>29.04.2024</u>	Opening of Technical Bid		<u>03.05.2024</u>	Opening of Technical Bid
			07.05.2024	Shortlisting and announcement of Qualified Bidders		13.05.2024	Shortlisting and announcement of Qualified Bidders
			<u></u>	on bidding portal		44.00.0004	on bidding portal
			08.05.2024	Opening of Financial Bid - Initial Offer		<u>14.05.2024</u>	Opening of Financial Bid - Initial Offer
			09.05.2024	Electronic reverse auction (Financial Bid – Final		<u>15.05.2024</u>	Electronic reverse auction (Financial Bid – Final)
				Otter) for the Qualified Bidders.			Oner) for the Qualified Bloders.
			14 05 2024	Appevure 4 Appevure 6 as applicable and Appevure		20 05 2024	Appevure 4 Appevure 6 as applicable and Appevure
			14.03.2024	14 by the bidder with lowest Final Offer		20.03.2024	14 by the bidder with lowest Final Offer
			17 05 2024	Selection of Successful Bidder and issue of LOL		24 05 2024	Selection of Successful Bidder and issue of LOL
			17.05.2024			24.03.2024	
			27.05.2024	Signing of RFP Project Documents and transfer of		03.06.2024	Signing of RFP Project Documents and transfer of
				Mavua IV C Power Transmission Limited			

3.	2.13.1 of RFP	 Opening of Envelope (Technical Bid): <u>1230</u> hours (IST) on <u>29.04.2024</u>	 Opening of Envelope (Technical Bid): <u>1530</u> hours (IST) on <u>03.05.2024</u>
			······
		Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at <u>1230</u> hours (IST) on <u>08.05.2024</u> in the office of CEA.	Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at <u>1530</u> hours (IST) on <u>14.05.2024</u> in the office of CEA.

Additional Clarifications dated 26.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda are of Gujarat under Phase-IV (7GW): Part C" through tariff based competitive bidding process

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1	Amendment- VII (dated:18.04. 2024)	Sn.4 of Amendment- VII (RFP Specific Technical Requirement s for STATCOM Clause no.C.3)	As input for the design of a power oscillation damping function, information (amplitude, frequency and damping) of the expected and already known power oscillation modes is required. Furthermore, for the design and validation of the damping controller, a dynamic model of the AC network shall be provided by BPC/CTU in the software PSSE (both the load flow and the dynamic files), where the above-mentioned oscillations which are observable or expected can be simulated in the software. In case the necessary input data cannot be provided, a POD structure will be implemented. It may also be noted that, the results obtained from Interconnection study shall be based on the characteristics of the Transmission elements already modelled in the files provided by CTU through BPC and the TSP shall not be changing the parameters of the existing models in the PSS/E File. As per discussion with OEMs, OEM shall be providing only suitable guidelines and procedure for tuning the POD Controllers however post commissioning i.e. during the license period after addition of network elements (if any) studies are proposed to be carried out by CTU/CEA and shall communicate the revised POD parameters such as amplitude, frequency and damping ratio to be incorporated in the POD controller of respective STATCOM.			Provisions of RfP are amply clear in this context.

Additional Clarifications dated 26.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7GW): Part C" through tariff based competitive bidding process

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			Considering the license period of 35 years it would be difficult to consider cost, efforts and complexity required for the future studies and therefore guidelines and procedures for tuning the POD is considered under the present scope.			
2	Amendment- VII (dated:18.04. 2024)	Sn. 13 of Amendment- VII (STATCOM Contingency Cases)	With reference to the subject, a new contingency has been introduced via this amendment, which needs to be verified with the STATCOM solution being proposed by OEM. As the requirement is quite stringent, multiple aspects like STATCOM Rating, IGBT and DC Cap stresses need to be verified again for which multiple simulations need to be performed in this regard. Considering above activities, OEMs to carry out required studies with new design parameters and validate whether the proposed STATCOM rating will meet the new requirements. Hence, OEMs are not in a position to confirm the subject clause on or before bid submission as its due in a week.			Provisions of RfP are amply clear in this context.
3	Amendment- VII (dated:18.04. 2024)	Sn.8 of Amendment- VII (C.6.1 STATCOM Station Ratings)	The revised requirements provided through Curve in section C.5 above and the text description here in point- d) have a discrepancy i.e., according to Red line curve(as per revised C.5), STATCOM can trip if voltage is at 0.3 pu beyond 1s while the text description here require to withstand for 5sec as indicated with black line curve below. It is requested to customer to clarify the bidder with the curve to follow in design. Further it is also requested to look into the amended point-13) for Multiple fault ride through for 0.25 pu level.			The curve provided at S. No7 of Amendment-VII dated 18.04.2024 shall be followed for the proposed STATCOM. The value mentioned at the S. No6 and 7 of the table in section C.5 (Power System

Additional Clarifications dated 26.04.2024 on the RFP Documents for Selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7GW): Part C" through tariff based competitive bidding process

SI. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			Variation of the second			Characteristic) of the RfP and the words "operation at under voltage down to 120 kV (0.3 pu) for the duration 5 sec" at S. No8 of Amendment-VII dated 18.04.2024 have been written inadvertently and shall be ignored by the TSP. The requirement of S. No6 and 7 of section C.5 (Power System Characteristic) as well as duration of voltage at 120 kV (0.3 p.u.) shall be aligned with the curve provided at S. No7 of Amendment-VII dated 18.04.2024.

# Annexure- 6 (Colly.)

#### **REC Power Development and Consultancy Limited**

(Formerly known as REC Power Distribution Company Limited, A wholly owned subsidiary of REC ∟ mited, a 'Maharatha CPSE' under Ministry of Power, Govt. of 'ndia)

Ref. No.: RECPDCL/ISTS/TBCB/2023-24/ 2 894

#### The Secretary,

Central Electricity Regulatory Commission, 3<sup>rd</sup> Floor, Chandralok Building, 36, Janpath, New Delhi – 110 001

**Subject:** Global Invitation for selection of Transmission Service Provider for Inter-State transmission project allocated to RECPDCL to act as Bid Process Coordinator (BPC) to be implemented through Tariff Based Competitive Bidding (TBCB) process – **RFP document thereof.** 

Dear Sir,

As you may kindly be aware that REC Power Development and Consultancy Limited has been appointed as Bid Process Coordinator by Ministry of Power, GoI for selection of transmission service provider on Build, Own, Operate & Transfer (BOOT) basis for following Inter-State transmission project: -

- Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-TV (7GW): Part A.
- Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-TV (7GW): Part C.

Accordingly, in accordance with the provision of Clause 4.2 of "Tariff Based Competitive Bidding Guidelines for Transmission Service" Issued by Ministry of Power, GoI, we would like to intimate that the RFP process for the above-mentioned project has been initiated by way of global invitation for selection of bidder as Transmission Service Provider and NIT has been published in National/International newspapers on 28.11.2023. The important timelines in this regard are as below.

NO.	Name of the Project	Enal detector REFE FINITASE	Loss det- de submission of ins porse
1.	Transmission System for Evacuation of Power from outential renewable energy zone in Khavda area of Gujarat under Phase-IV (ZGW): Part A.	29.01.2024	30.01.2024 up to 1100 Hrs. (IST)
2.	2. Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7GW): Part C.	29.01.2024	30.01.2024up to 1200 Hrs. (1ST)

The RfP notification and RfP documents for the above project have also been posted on our websites www.recindia.n.c.in and www.recpdcl.in.

In this regard, we are forwarding one copy of Request for Proposal (RfP) document of the above transmission project for your kind information and reference please.

Thanking you,

Yours faithfully,

(PS Hariharan) Chief General Manager-Tech

Encl: As above

\$

# 5- Moch. REC Providuation (Full Paul 14, Seconda), Conseguer, (Paryang) 452001, end Confrequent al & Fourthaux 44413001 (Investigation 11) IN NRTREE-LAMINED 2007606165775 + EST No. 0664DCR/19941201

Gel



Date: 28.11.2023

कपासेयों के लिए आंश्वेक दृष्टिकोण आशाजनक दिख रहा है और इम्प्टवेस कॉसिंग इस वादे को साकार करने में उन्द्रेरक की भूमिका निभाएगी

प्रदेश 📲 🛛

778

हिस्सेदारी करीब 12 से 14 प्रतिशत होने का अनुमान है।

लेयन डॉलर थानी 4100 करोड़ के निवेश का प्रस्ताव दिया था।

# मामले में रिफ्तार 1,12 दिन में वार्जशीट

मैडिकल शाने में दर्ज किया। और समाचार प्रकाशित किया था। 1 और कार्यवाई का आदेश दिया। 1पी गिरक्तार किए है। 12 दिन में लेख अधिकारियों ने आरोपियों का श दिया है। इस मुकदम के आधार गर्यवाई के लिए आदेश दिया गया है।

# बिहार की बेतिया जेल से जुड़ा टेरर फंडिंग कनेक्शन

लखनऊ। पाकिस्तानी खुफिया एजेंसी 'आईएसआई' के लिए जासूसी और उसके टेरर फेडिंग नेटवर्क के तार बिहार को जेतिया जिले से जुड़ रहे हैं। यूपी एटीएस के मुकदम में नामजद एक अभियुक्त इजहारुल इस समय बेतिया जेल में ही बंद है। वह बेर्तिय से ही गाजियाबाद में खुला रियाजुद्दीन का बैक खाना संचालित कर रहा था।

एटीएस वारंट- बी दाखिल करके इज्हारुल को लखनऊ लाने क कोशिश में है, ताकि उससे टेग्र फंडिंग के स्रोतो के संबध में पूछताछ करके नेटवर्क से जुड़े अन्य एजेंटों की पहचान हो सके। इजहारुल के साथ मुकदमें मे नामजद रियाजुद्दीन को भी रविजार को गिरफ्तार कर लिया गया था।

तरह लारेब को

पाकिस्तान कनेक्शन तलाश जा

रहा है। सोरांव के बीटेक छात्र लारेब

हारामी ने गोरखपुर में हुई घटना की

ल्गह ही नैनी में ई-बस के कंडक्टर

हरिकेश विश्वकर्मा पर चापड़ से

उसकी गर्दन धड़ से अलग करने

को कोशिश की थी। न केवल

सनसनाखेज वारदात से कोहराम

मचाया बल्कि वारदात के बाद उसने

अपना वीडियो बन'कर सोशल

ज्ञानसत्त्वाची राणञ्च शाह

प्राज सांपेगा रिपोर्ट

हमला किया था।

#### जुड़ा टेरर कनेक्शन कनेक्शन मदा युवक का मौत संधीमपुर-खीरी। छीरी में गले के खेत की ओर गए युवक राजेश कुमार पर सोमदार सुबह बंघ ने हमला कर दिया। बंघ के हमले में युवक की जान दली मई। युवक का शव नहर और गल्म के खेन के बीध मिता। वन विभाग की टीम ने

तानी खुफिया एजेंसी ताव के हमले की पुष्टि की है। वन विभाग ने गढ के धारी तरफ कार्थिंग की है। ताव के हमले में युदक की मौत से प्रात्मीणों में जबरदरत आठोश है। तेटवर्क के लार बिहार से जुड़ रहे हैं। यूपी दम में नामजद एक इन्न इस समय बेतिया है। वह बे'तेया से ही बुला रियाजुद्दीन का कुठी है। इस्पेक्टर रामानवास यादद और डेकेदार शमीन की हत्या स्था

#### अनुषम के खिलाफ 63 रूगोन मुकदमें दर्ज हैं। क ह ट्रस्पीच मामले में अब्बास अंसारी की पोशी मऊ हेट स्पीच मामले में अब्दा दिधायक अबास असारी की गोमवार को मऊ हेट स्पीच मामले में सदर विधायक अबास असारी की गोमवार को मज होरे स्पीच मामले में अदर विधायक अबास असारी की गोमवार को क जरिये पेश किया गया। प्रभारी मजिस्ट्रेट प्रियका शमा न २ यत र आरोप तय करने के लिए 12 दिसंबर की तारीख मुकर्रर की है। वर्ष 2022 में यहनाया

चुनाव के दौरान शहर कोतवाली क्षेत्र में असारी पर हेत स्वीध देने का अरोप है अपरईसी आधार डेवलायने टाए वा कहालरे सी लिगिरेड

र स्तः अवर्थ प्रायम् का का का गणी, रेथिक जानजण (इसेक्ट्रॉनिक बोली के माध्यम से)

टैरिफ के जरिये प्रतियोगिता बोली प्रक्रिया (टी बी.सी.बी.) के अंतर्गत 'दो (2) अतर राज्जीय पारेषण परियोजनाओं' के निर्माण, स्वामित्व, प्रवालन जरिर स्थानांतरण (बूट) आधारित पारेषण सेवा प्रदाता के चयन हेतु

আইইৰা ঘৰৰ ভাৰবাঁও পুত্ত সন্দেইনী উপনিতৃত্ত প্ৰাই উল্লেখ নাগে আৰম্ভনি দৈনিটাত ক'তে 'ও নি'ও হাঁ সনায়ক কৰেনি তৃত্ত 'মাহাৰণ বাঁই যি না। বিকি ওখেলে। গাঁও চলিবাঁউৰ নামৰা জনিয়া বনা চাঁ কোমানা গুৰু গৈ ধাঁ নি হাঁ প্ৰদাৰ 'নৈনাজ ম্যানিক, চৰাৰেল আৰ কেনা গণা 'বুৰু। উ এজনা যে মনায় হাঁৰ উদুৰ্ঘট আগতে ক' পুতা ধাঁ নি হাঁ বিক ক' এইা আইবা ক' লছত আৰোৰ আগতে ক'ৰ' হৈ উল্লেখ্য আৰোক হোঁৰ উদুৰ্ঘট আগতে ক' পুঁজ ফ'ৰ' বিক ক' এইা আইবা ক' লছত আৰোৰ আগতি কৰা হৈ বিৰুজ ক'ৰ' হৈ উল্লেখ্য আগতে ক' পুঁজ ক'ৰে বি আৰম্ভ কেনা আৰম্ভ কি'লছত কৰোৰ আগতি কৰা হ'ব হৈ বিৰুজ ক'ৰ' হৈ উল্লেখ্য আগতে কৈ পুঁজ ক'ৰে বি আৰম্ভ কেনা আগতে কি লছত আগবে আগতে বিৰুজ কেনা হ'ব হৈ বিৰুজ ক'ৰে বিৰুজ কেনা হ'ব ক'ৰে বিৰুজ ক'ৰে ক'ৰ অগতে কাৰ্য ক'ল কোঁ বিৰুক্তিৰ কাৰ্য জনাৰ কৰা হ'ব ক'ৰে বিৰুক্তি ক'ৰে বিৰুক্তি ক'ৰে বিৰুক্ত কৰা ক'ৰে ক'ৰে ক'ৰ ক'ৰে আগতে কাৰ্য প্ৰথম বিৰুক্তিৰ কাৰ্য জনা ক'ৰে বিৰুক্তি ক'ৰে বিৰুক্তি কৰে বিৰুক্তি কৰে বিৰুক্ত কৰা ক'ৰে ক'ৰ ক'ৰ ক'ৰ ক

बेलेडील भारतका देवलोड सभी कार्य किल्म में 10 का की मास साथ 00 वहीं भागा सुध बेथ 28 11 20 से उत्तरक परियोजनाओं के प्रसाय जागा ठारने की लिये से एक दिगा रहते तक इसारी दस्माइट www.recind.a.nic.in और <u>www.recpdciin</u> गरा प्रसंध सबाधेन परियां नाओं के अपराधी दस्मावेज मंदिए गरा विदयल के अनुसार 24 विंग परेषक परियोजनाओं के जित् आपनेदवा गैर-नायणे साथ सुरक्त (\$5.00 0007) ाच जावर साथ कवल या \$7.000 यूएम डालर सा। इजार केवले न18% जीगामडी, के मगरान पर पाल नेर सकती है

अन्तरुपी दरूपाउन इमरी वेदगाइट्स <u>www.recindia.nic.in</u> तथा <u>www.recpdci.in</u> से भी ७ ७००<sup>3</sup>ड फेंच ज भवता है (तथारी) दुर मसल में इस्टुक पाटी संबोधन आर/फंगे दलगउंज में पेर गए विराज के अन्सर इन्से ७ पोथण ग्रियोजन्म के तरा आपतिया गैन-वायरों गिंथ शुल्स (85,00,000- जाव सरह का करता थे इस्टि) इत्यर सर हजर के दल) +18% जीवसीरी व्या अत्य रा भुवत न स्टेगर ही अत्यापन व उत्तर में प्रसार प्रभा कर सरुरा है। रहे रिपोर्ट एव अत्यापी दरमहज के प्राइन्डिया एवं बोर्ट्य के बाह के बीच प्राणा जित्या में सरुरा है। रहे रिपोर्ट एव अत्यापी दरमहज के प्राइन्डिया एवं बोर्ट्य प्राई के जानी देखा प्राणा जिल्ह अर्जी हो प्रा

H.	officiary as as	uPn RR	जना की करीम हिन्द	Subset 1 Secret
	प्रसार स्वापन इ.स.स.स.स विपालि इ.स.सिम्म			11-10
	T	12372.0	5.6	
10 1 1 1 1	्रम्बित असे हार्यकर्ण विदेशीलय राजीप दुनि		ta su a construction de la construcción de la construcción de la construcción de la construcción de la constru Construcción de la construcción de l Construcción de la construcción de	Territolida
	REC.			Ar I
	anaich lathta A dho dhoire a	- 31	Give index for the ISBN 2791534-11	nin nin nin dalar nasir plan has
e Y	akh gar	28/11	1-13-00	

रैल 2022 को गोरखनाथ मंदिर मे रे मुरक्षाकर्मा पर बांका से हमला रन वाले इंजीनियर मुर्तजा को पुलिस फांसी की सजा दिलाई है। उसी तर्ज प्रयागराज में भी वींटेक छात्र लारेख शर्मा को कड़ी से कडी सजा दिलाने लिए पुलिस साक्ष्य संकलन कर रे है। सजा दिल्गने के लिए पुलिस डीटेक छात्र के कबूलनामे वाले डियो को साक्ष्य के रूप में

गगगज, वरिष्ठ मंवाददाता। तीन

त्स सम्लाइकरन वाले बोह्र का पदाफाश

डा कर जिस् ता गर्मा प्रत्यवं लयो जो करने के जन्म प्राष्ट्रान (वा) करने के जन्म प्राष्ट्रान (वा) करमालय के जन्म वारो का स्थाप करमालय के जन्म वारो का स्थाप करमालय के जन्म वारो का स्थाप

ताम को जिस्तर संग स्व प्रमुरोध पर अदाला न नियार सोम-ल मन के स्व सालव के सिन ने नियार ने कि सालव के सिन ने किस्ता के सिन तीरी साल के किस्ता के जिस्ता अदारत के किस्ता कि का प्रसार की के के स्वा

Gel

नवलग का मनदान होगा। आचार संहिता के उल्लंधन बतायाः चुनाव आवीग ने राज्य के मुख्य निर्वाचन अधिकारा ( सोई ओ ) को भेजे गए निर्देश में कहा कि तेलंगाना सरकार

क वित्त और स्वास्थ्य एवं परिवार कल्याण मंत्री टी हरीश राव ने न सिर्फ आदर्श आचार संहिता के प्रावधानों का उल्लंघन किया बल्कि इसका प्रचार कर उपरोक्त शर्तों को भी तोडा।

**b**15 हजार करोड अटकाए



#### वर्ष 2018-19 2019-20 2020-21

कुल बकाया रकम

2022-23 15.000 (रशि करोड रुपये में)

क्षेत्रीय ईपीएफओ कार्यालय में संपर्क कर कपनी के खिलाफ लिखित में 'शेकायत दर्ज व ा। सकती है इसम अपन और नियोक्ता के पूरे विवरण के साथ प्रीएफ खाते का ब्योरा देना होगा।

अकउंट मबर (युएनए) होना जरूरी है।

उमग (UMANG) एप पर भी उपलब्ध है। इंपीएफओ सर्विसेज का चयन करना होगा। वहा, शिकायत दर्ज कराने का टिकल्प मिलेग । दर्ज होने की पुष्टि एसएमएस ईमेल से की जाएगी।

# फॉक्सकॉन 1.6 अरब डॉलर का निवेश करेग

# योजना

नई दिल्ली, एजेंसी। एप्पल आईफोन बनाने वाली ताइवान की कपनी फॉक्सकॉन भागत में विस्तार योजना के तहत 1.6 अरब डॉलर निवेश करने जा रही है। ब्लूमबर्ग के अनुसार, कंपनी ने की ताइवा, में एक्सचेंज काइलिंग के तहत यह जानकारी माझा की है।

रिपोर्ट के अनुसार, कंपनी ने हालांकि इस निवेश का विस्तन विवरण अभी नहीं दिया है। लेकिनयह निवेश निमांण परियोजनाओं और परिचालन आवश्यकताओं की पूर्ति के लिए होगा। फॉक्सकॉन कं हॉन हाई प्रीसिजन इडस्ट्री कपनी के नाम से भी जाना जाता है। रिपोर्ट के मताबिक हॉन हाई और दूसरी ताइवानी इलक्ट्रॉनिक्स कपनियां चीन और अमेरिका के बीच जारी तनाव के चलते चीन के बाहर निवेश बढाना चाहती हैं और फॉक्सकॉन के भारत में निवेश के इस फैसले को इसी कडी

....

#### भारत में सबसे ज्यादा हिस्सेदारी बढ़ेगी

फॉक्सकॉन ताइवान की कंपनी है और एप्पल के लिए आईफोन का निर्माण करती है। उसकी आईफोन निर्माण में सबसे ज्यादा हिस्सेदारी है। फॉक्सकॉन मौजुदा दक्त में भारत में 75 से ८० प्रतिशत तक आईफोन का उत्पादन करती है। वहीं, चीन में फॉक्सकॉन्स्का उत्पादन 35 से 85 प्रतिशत तक कम होने का अनुमान है। वर्ष 2023 तक वैश्विक आईफोन शिएमेंट मे भारत की हिस्सेदारी करीब 12 से 14% होने का अनुमान है।

के साथ देखा जा रहा है। हालाँक. कंपनी ने फिलहाल यह बताने से इंकार कर दिया है कि इस निवेश के जरिए कंपनी नया प्लांट लगाएगी या फिर पुराने प्लांट में ही निवेश करेगी।

## चुनाव आयोग ने विज्ञापन पर स्पष्टीकरण मांगा

नई दिल्ली। चुनाव आयोग ने सोमवार को कर्नाटक की कांग्रेस सरकार से चुनावी राज्य तेलगाना के अखबारों में अपनी उपलब्धियों का प्रचार करने वाते विज्ञापना पर स्पष्टीकरण मांग । आयोग ने इसे आचार शहिता का उल्लंघन बताया। आयोग ने कनाटक के मुख्य सदिव को लिखे पत्र में कहा कि राज्य सरकार ने विज्ञापन प्रकाशित करने के लिए उससे मजूरी नहीं ली। आयोग ने कहा कि कर्नाटक सरकार द्वारा तेलंगाना में ऐसे किसी भी दिज्ञापन का प्रकाशन त्म्काल प्रभाद से तब तक रोका जाना चाहिए जब तक कि राज्य सरकार आयोग से आवश्यक मंज़ुरी नहीं ते लेती। इस मामले में कर्नाटक सरकार को मंगलवार शाम पांच बजे तक स्पष्टीकरण देने को कहा गया।

# सुरंग निर्माण से हमारा संबंध नहीं: अडानी समुह

नई दिल्ली। उद्योगपति गौतम अडानी की अगुवाई वाले समूह ने सोमदार को कद' के उत्तराखड की सिलक्यारा सुरंग के निर्माण से हमारा कोई संबंध नहीं है इस सुरग का एक हिस्सा ढहने के बाद से 41 मजदूर इसने दो सप्ताह से भी अधिक समय से करे हुए हैं। कुछ सोशल मीडिया पोस्ट में सिलक्यारा सरग के न्मिण में अंडानी समूह के शामिल होने की आराका जतई गई ' अंडानी समूह के प्रवक्ता ने कहा कि इस सुरग के निर्माण ने किसी भी प्रकार की प्रत्यक्ष या परोक्ष भागीदारी नहीं है। रगध ही सुरग के निर्माण में शामिल कंपनी ने इमारी कोई हि रसेदारी नहीं है । इस सूरंग का निर्माण हैदराबाद स्थित नवयुग इजीनियरिंग कपनी लिमिटेड कर रही है



बालीदाता, अन्तपपत्री दत्त्रादेज सभी कार्य देवसां म 10.30 बजे (मा मा स) से 16.00 बजे (मा मा स) के बीव (28.11.2023 में प्रत्येक परियोजनाओं के प्रसाय जम्म करने की तिथि राएक दिन एहले तक) इनारी वेबसाइट www.recindia.nic.in और <u>www.recpdcl.in</u> पर उपलब्ध संबंधित परियाजनाओं के आरण्फनी दल्लाहेज में दिए गए ग्रेषण परिधेपनाओं के लिए अप्रतिदय रेर–वागमां प्रोप्य शुध्क (₹5.00,000)न पान नाख श्पर केवल) व \$7000 (यर से डालर लात हजार केवज़) +18% जीएमण) के भूगतान पर पाल कर सफते है

भाराष्ट्रमें वरतपण्ट हमारी देवताउट से www.recindia.nic in तथा <u>www.recpdel.in</u> में श्री डाउननेत किया जा सरुता है। तथारि उसे में सन्ते में इन्हुंक पार्टी संबधित जारहशी दरमाउंज में दिए 19 दिवरण के अनुसार संचक्र बरेषण गरिदोजनजी के निभ उप्रतिश्व मेरे जायमी सामय शुरू (25,00,000+ % ज ताख ठण्ट केवज, या \$7000 ५ूएन डालर सात इतार केवल +18% तीएसटी का जनग में मराटान करने पर ही आरएकण के तल- में प्रस्ताद जमा कर सकते है। सबै रिपोर्ट एव आरएफनी वन्तादेजी वो स्पष्टीवरणी उन्ही बोलेग्दानाओं का जारी किया जाएगा। फिन्होंन अपेक्षित शुल्क का मुगतान करके जरएकदी दस्यादेज पाप्त किया या खरीदा है। इस सन्द्रम में महत्वप्रण समय सीमा इम प्रकार है

े घर के उ र र र र र र र र र र र र र र र र र र	१ (४ (१ गोगात) के नहत गुजनत खा का क्षेत्र में समादित तवकरतीय १ क्षेत्र हे बिजनों के जिवामी के लिए प्रिणा हिल्लम भग र भागा के लगादी के तकत गुजना के तावडा क्षेत्र में बेतन्त्री के निक मी के लिए गंडान में सत्यन भाग नी मंग्रे में बिन्त् जी की निक मी के लिए गंडान में सत्यन भाग नी मंग्रे पुष्टिमच अनुषक राजाका के न इमीपी डोसाएल के चास किंत्र को प्रदेशका	18 12 2023 18:12 2023 बढाना जादि हमार्थ ये वर हमारी वेब साइट व गरण बराग, नाया विन महर्ष है	30 31 2024, 1100 बजे नक का बा से, 100 बजे नक का बा से, 1200 बजे तक मा मा स 1200 बजे तक मा मा स 1 वियमित का मा अदल्वेक द 1 कियो मा स्थाप के बोली प्रक्रिय मुख्य द	30 01 2024, को • 130 बज (भाषा स) 30 0 2024 को 1230 बजे (भाषा स) गरेबा <b>स्वाप्त स्वराध</b> स्ते रहे। गा को एह या सहाफ़- कारायालक अधिकारी
२ चरण के उन्ज हार बोली में पर होस्ट नोट. आग करणों का	ग-17 (? गोगावल्) के तहत गुजरात सादछा क्षेत्र में तस दिंग व्येकरणेश हाइज मिल्ली की निक में के लिए निश्चन मेंस्टम भाग में गरि पुष्टिपंत्र अनुश्च रुझायम, समय किए जाएगी। रचेनतम जानकार के ग दर्शमीयीडीसाएल के प्रस्त केई पश्चकश	18.12 2023 बढाना जादि हमारी के नर हमारी के साइट क गरण बतगए नावा कि नहीं है	30 3* 2324 1200 बजे तरु माधा छ। बसाइटरा www.recindra.aic. <u>u</u> bi निर्यामर रूप में अटल्डेक व ा किसी बाइयरा के बोली प्रक्रिय मुख्य द	30.0.2024 को 1230 बजे (भासा स' 1.ज्या <b>भरत, 1969dci Jin</b> रही रहे। गा को पह या महाफिल कारायालक अधिकारी
बोली में पर होस्ट तोट, आ करने का	गर्भ शुद्धिपत्र अनुशृष्ठ संशाधन, लगप किए जाएगे। तर्वनत्वम जानकारी के " "इसीपीडीसीएल व' च ल बिना कोड व अधेवाच सुरम्भित है। गढ़ कोई पशकश	बढाना अदि हम्परी ये नेए हमारी वेबस इट व गरण बलगर लागा विन महर्ष है आ	बंसाइटर' www.recindra nic iii हो नियमित रूप से प्रदल्वेकन व ा किसो बाज्यता के बोली प्रक्रिय मुख्य द	। उद्या <b>भूभूम (geoderin</b> उत्ते रहे। " या को ऋ या संशोधन कार्यपालक अधिकारी
		700	10 1 11	
		अर तोक गांका ४ प्रति	रईसी पावर डेवलपमेंट एड	कसल्टेंसी लिमिटेड
	बोली प्रक्रिया समन्दयक	पह	त्तकनां वहल्य हलकनां वहल	त्ला—110003, भारत कर्ता भागीदारी
	airt Fasir la rinna	т ;		by
1	भागा पावर डेवलपमेट एंड स्वर्धन जिम्मेरेड	'वेदुत मान	त भग्रालय केंदीय	विगुत पाधिकरण
	and the for some		Gree All result and re-	had the straiger



Gel



# APPEAL FOR IDENTIFICATION

General Public is hereby informed that inidentified dead body of a male Namely Unknown S/o Unknown R/o Unknown Age: 50-55 years, Height: 5'6", Complexion: Wheatish ID: Tattoo mark on his right hand (Suresh MD. Memo Devi) Wearing: White & purple coloured T-shirt and Black coloured lower, was found dead on

DP/13588/N/2023

38



24.11.2023 at 3:18 PM from in front of Paranthe Wali Gali main Road. Chandni Chowk, Delhi. In this regard a DD No.40A, dated 24.11.2023 has been lodged at P.S. Kotwali, Delhi.

If any one having any clue about deceased male may kindly inform the undersigned and contact on following numbers.

Gel

SHO P.S. Kotwali, Delhi Ph : 011-23977100, 23921740 Mob.. 8750870121, 8750870181

19

Seven Thousarid Only + 19% GST for each transmission project as per details provided in the RFP document available on the website <u>www.recindia.nic in</u> The Request for Proposal (RFP) documents can also be downloaded from our website <u>www.recindia.nic in</u> however in such cases interested parties can subnitt Response to RFP only on submission of nor -refundable fee of Rs. 5.00,000/(Rucees Five Lakh Only) or US\$ 7000 (US Dolars Sever Thousand Only) + 18% GST for each transmission project as per details provided in the respective RFP document the survey report & danfications to RFP documents shall be ssued to those bioders, who have obtained/burchased RFP document by paying requisite fee. The important timelines in this regard are as follows.

Sr. No.	Name of Project	Last Date for seeking clarifications	Last Date for submission of Response to RFP	Details of Opening of Response to REP
1	Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area or Gujarat under Phase-IV (7GW) PartA	18 12 2023	30.01 2024 up to 1100 Hrs (IST)	30 01 2024 at 1130 Hrs (.ST)
2.	Transmission System for Evacuation of Power from potential renewable energy zone in Knavda area of Gujarat under Phase IV (7GW)	18 12 2023	30 C1 2024 up to * 200 Hrs (IST)	30 01 2024 at 1230 clrs (IST)
All c web kee:	Parto xomgenda, addenda, amendments, tin sites <u>www.recpdcf.im</u> & <u>www.rec.ndl.</u> o themselves updated	ne extensions a.nic.in. Sidder	etc. to the RFP will is should regularly vi	be hosted on our isit our websites to
All c web kee: Note and	Parto porngenca, addenida, eimendments, tir stors <u>www.recpdci.m &amp; www.recindi.</u> themselves updated + REOPDCL reserves the right to canol without any liability. This is not an offer	re extensions aunic in. Sidder er or modify the REC Power I	etc. to the RFP will is should regularly vi process without ass Chief Development and C	be hosted on our isitiour websites to igning any reason Executive Officer consultancy Ltd.
All c web kee: Note	Internet compenda, addenida, amendments, tir sides <u>mov.recpdc/in 8 www.rec.nd</u> i. premiselves updated RE-OPDCL reserves the right to canol without any liability. This is not an offer Core 4, SOOPE Bid Process Coordinator	në extensions a <u>uniquin</u> , Bidder ei or modify the <b>REC Power [</b> Complex, 7 L Ar linitat	etc. to the RFP will is should regularly vi process without ass Dhief Development and C Lodhi Road. New Do ve of	be hosted on our isit our websites to igning any reason Executive Officer consultancy Ltd. althi-110003 india initiative Partner
All c web kee: Note and	IPanto borngenda, addenida, amendments, tir stors <u>www.rec.ndt</u> of emiselves updated REOPDCL reserves the right to canol without any liability. This is not an offer Core 4, SCOPE Bid Process Coordinator	ne extensions aunic in Sidder er or modify the REC Power D Complex, 7 L Ar Initiat Minist Sove	etc. to the RFP will s should regularly vi process without as Dhief Development and C Lodhi Road New Do ve of Ce	be hosted on our isit our weostes to igning any reason Executive Officer consultancy Ltd. alth-110003 india initiative Partner

181 NUTATION, NAME 71 Bridge and Related works Replacement of filts Born Valves of Compositive against Soverment. The sover ne Prible sector institutions and Enterorities Logical conalmost contractors who are used & Admn. UCI and will be opened on the Date: 27/12/2023 at 16 00 hrs. QCI's Boards and Divisions if possible. SPADD OPPID THE OZED TM. 10/WS/961/2023-24 SD/-. .... Dt.24.11 2023 City Engineer, E. pls visit our official web-site Thane Municipal Corporation www.thanecity.gov.in KEC FOMER DEVELOPMENT AND CONSULTANON UM TEC GLOBAL INVITATION bidd FDE -----THEY BREAM THEY PROCEED ON THE , OFFICATE AS RANSFER THE TATE WIRDINGSTON PROJECTE REC Power Development and Consultancy Limited, New Deihi, India (a wholly owned subsidiary of REC Limited a Maharatha Central Public Sector Undertaking Inivites proposal for setting up of the below mentioned transmission projects through TBCB process on Build, Own. Operate and Transfer (BOOT) basis following single stage two envelope pricess of "Request for Proposal (RFP)" Interested bidders may refer to the Pequest for Proposal (RFP) indifications and RFP for unnersia available on our website www.reconfect in & www Thane Municipal Corporation, Thank PUBLIC WORKS DEPARTMENT TENDER NOTICE (NPP) interseted onders may reach of the request of measurements and nem-documents available on our website www.recodd.in & www.recondia.mc.in w ef.26.11.2023 The bidders may obtain the RFP documents on all working days between 10.30 hours (IST, to 1600 hours (IST) from 28,11.2023 to one day prior to birl submission date for each project on payment of non-retundable fee df\$ 5.00,000/Rubees inve Lakh Only in rUS\$ 7000 (US Doltars Seven Thousand Only) + 10% GST for each transmission onierd as per details provided in the BEP document subside on the underfit www.record.in & sware lotting in the On line tender is invited by Thane Municipal corporation for the work Under Special Govt. Fund 1)Under Special Govt Fund Providing and Laying Drainage Line For Seven Housand Omy From Oct Horeach rensmission order as a doubter as an obtains provided in the RFP document available or the website <u>www.recpdcl.n8</u> www.recindia.nic.in The Request for Proposal (RFP) accuments can also be downloaded from our website <u>www.recpdcl.n8</u> www.recindia.nic.in however in such cases interested parties can submit. Response to RFP only or submission of non-refundable fee of Rs. 5.00,000 -/Ruppees Five Lakh Savarkarnagar. Davale Nagar. Lokamnya Nagar in Thane Municipal Corporation Ward No 14(D) of 147- Lopin Response to KEP only or submission of hon-refundable tee of KS, 5,00,000+H Nuples = We Lake Only, or US\$ 7000 (US Dottars Seven Thousand Only) + 18% GST for each transmission project as particitation provided in the respective REP occument. This survey report & danforations to REP documents shall be issued to those bidders, who have obtained burchased REP document by paying requisite fee. The important timelines in this regard are as follows: Panchpakhadi Assembly Area. 2) Under Special Govt Fund meretization of UTWT Road, Footpath and Beautification of Shahid Bhagatsingh Marg In Thane Last Date Last Date for seeking submission of Municipal Corporation Ward No.14(D) of 147-Kopri Sr. No. Details of Name of Project for seeking submission of Opening of clarifications Response to RFP Response to RFP PAnchpakhadi Assembly Area.in this tenders will be Transmission System for Evacuation 18 12 2023 prohibited for those tenderer against whom penal action 30.01 2024 30 01,2024 at of Power from potential renewable up to 1130 Hrs ('ST) of de-registration has been taken or initiated by any energy zone in Khavda arsa o 1100 Hrs (IST) Gujarat under Phase-IV (7GW) Government, semi government, public section under PartA taking, urban local body, Municipal corporation etc. The 2. Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of 30 01 2024 30 01.2024 at details are available in the tender Document. Tender JD to 1230 Hrs (IS D Notice & Tender Document will be available on website 1200 Hrs ( ST) Gujarat under Phase-IV (7GW). PartC https://mahatenders.gov.in on or before date.28 11.2023 All comgenda, addendal amendments, time extensions, etc. to the REP will be hosted on our to 05.12.2023 up to 16.00 Hrs Online tender shall be websites www.recpdcl.in & www rectndia.nic.in. Bidders should regularly visit our websites lo keep themselves updated Note: RECPDCL reserves the right to rancel or modify the process without assigning any reason accepted on Website https://mahatenders .gov.in on or before dt.05.12.2023 upto 16.00 hrs.The tender shall be and without any liability. This is not an offer. Chief Executive Officer opened after dt 08.12.2023 at 16.00 Hrs in front of REC Power Development and Consultancy Ltd. Core-4, SCOPE Complex, 7 Lodhi Road New Delhi-110003 India tenderer or their authorized representative Bic Process Coordinator Ar Initiative of Initiative Partner TMC/PRO/PWD-HQ/958/2023-24 SD/-创 Dt 24.11.2023 City Fngineer, REC Power Development and Consultancy Limited pls visit our official web-site Thane Municipal Corporation Ministry of Power **Central Electricity** overnment of India www.thanecity.gov.in Authority Gel Mumphan 1811



# Annexure- 7

Date: 05.08.2024

#### CERTIFICATE BY BID EVALUATION COMMITTEE

Subject: Selection of Successful Bidder as Transmission Service Provider to establish "Transmission System for Evacuation of Power from Potential Renewable Bnergy Zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process.

It is certified that:

- a. The entire bid process has been carried out in accordance with the "Tariff based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for encouraging competition in development of the Transmission Projects" issued by Ministry of Power, Govt. of India under Section 63 of the Electricity Act, 2003 as amended from time to time.
- b. M/s Sterlite Grid 38 Limited, with the lowest annual transmission charges of Rs. 13,148.08 million, emerged as the successful Bidder after the conclusion of electronic reverse auction.
- c. The transmission charges of Rs. 13,14B.08 Million discovered after electronic reverse auction is acceptable.

(Rajesh Kumar Singh) General Manager, CCGRO-II, SBI, Chairman, BEC

10

(P. D. Lone) SE, WRPC Member, BEC (Bhagwail Sahay Bairwa) Chief Engmeer (I/C) -PSPA-II, CEA Member, BEC

Quesau

(S. M. Soni) SE, GETCO Member, BEC (Bhanwar Singh Meena) Director, PSETD Division, CEA, Member, BEC

Harrat-C

with

(Ajay Mathur) Chairman – Khavda IV C Power Transmission Limited (SPV) Convener – Member, BEC

Col



Ref No : RECPDCL/TBCB/Khavda Ph-IV Part C/2024-25/1647

Date: 19 08.2024

To, M/s Sterilta Grid 38 Limited, DLF Cyber Park Tower-B 9<sup>n</sup> Floor, Udyog Vihar Phase-1, Sector-20, Gurugram-122008

#### Kind Attention: Sh. Chandan Dutt, AVP (Bidding)

Subject: Establishment of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C' through Tariff Based Competitive Bidding Process (TBCB) – Letter of Intent.

Dear Sil,

We refer to:

- The Request for Proposal (RfP) dated 28.11 2023 comprising RfP, Draft Transmission Service Agreement, Share Purchase Agreement and Survey Report dated 28 12 2023 & 19.01.2024 issued to M/s Sterlite Grid 38 Limited, as regards participation in the Global Invitation for Bids for establishment of "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through Tariff Based Competitive Bidding process including all correspondence/clarifications/amendments/errata/corrigendum issued by REC Power Development and Consultancy Limited in regard thereto (hereinafter collectively referred to as the 'Final RFP') till the submission of Bid Deadline and as listed below:
- (i) Amendment-I and Clarifications dated 30.01.2024.
- (ii) Amendment-II and Additional Clarifications dated 12.02.2024.
- (iii) Additional Clarifications dated 19.02.2024
- (iv) Amendment-III dated 27 02.2024,
- (v) Amendment-IV dated 07.03.2024,
- (vi) Additional Clarifications dated 11.03.2024
- (vii) Amendment-V dated 22.03.2024,
- (viii) Amendment-VI dated 08.04.2024,
- (ix) Amendment-VII and Additional Clarifications dated 18.04.2024,
- (x) Amendment-VIII dated 20.04.2024,
- (xi) Additional Clarifications dated 23.04.2024.
- (xii) Amendment-IX dated 24.04.2024,
- (xiii) Additional Clarifications dated 26.04.2024.
- The offer of M/s Sterifte Grid 38 Limited by way of a Technical Bid pursuant to (1) above submitted on 03.05 2024 in response to the Final RFP.
- The Initial Price Offer of M/s Sterlite Grid 38 Limited as submitted on 03 05.2024 in response to the Final RFP.
- The final offer of M/s Sterlite Grid 38 Limited, discovered during e-Reverse Auction, conducted on 16.05,2024 in response to the Final RFP
- 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 Sterlite Grid 38 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 'Lol') is being issued in 2 copies. One original plus One copy.

This Lot is based on the Final RFP and is further contingent upon you satisfying the following conditions:

- (a) Acknowledging its issuance and unconditionally accepting its contents and recording 'Accepted unconditionally' under the signature and stamp of your authorized signatory on each page of the duplicate copy of this letter attached herewith and returning the same to REC Power Development and Consultancy Limited within 7 (Seven) days from the date of issuance of Lol
- (b) Completion of vanous 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 fimelines as prescribed therein.
- (c) Provide the Contract Performance Guarantee of Rs. 112.75 Crore (Rupees One Hundred Twelve Crore Seventy-Five Lakh Only) within 10 (Ten) days from issue of this Lot 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 REP 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 REP is enclosed herewith as Schedule-A and incorporated herein by way of reference.

Further, please note that relationship of M/s Sterlite Grid 38 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 REP.

You are requested to unconditionally accept the Lot, and record on one copy of the Lot, '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 Lot.

Yours faithfully

(Satyaban Sahoo General Manager – Tech

#### Enclosures:

1. Schedule A: Quoted Transmission Charges and the scheduled COD of transmission element submitted in your Bid, as per Annexure 21 and Format-1 of Annexure-8 respectively of the Final RfP.

Gel

Copy for kind information to:

- The Secretary, Central Electricity Regulatory Commission, 3 & 4 Floor, Chandra Lok Building, Janpath, New Delhi-110001;
- The Chairperson, Central Electricity Authority Sewa Bhawan, R K Puram, New Delhi-110086
- The Joint Secretary (Transmission), Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi- 110 004.
- The Director (Transmission), Ministry of Power, Gov), of India, Shram Shakti Bhawan, Raft Marg, New Delhi 110001
- The Chief Engineer (PSP & PA -I) Central Electricity Authority, Sewa Bhawan, R.K. Puram. New Delhi – 110056.
- The Chief Operating Officer Central Transmission Utility of India Limited. Power Grid Corporation of India Ltd "Saudamini", Plot No 2 Sector – 29, Gurgaon – 122001.

Gel

### ANNEXURE 21 - FORMAT FOR FINANCIAL BID

#### Quoted Annual Transmission Charges: Rs. 13148.08 Million

#### Notes:

- The Bidders are required to ensure compliance with the provisions or Clause 2.5.3 of this REP.
- 2. Quotes to be in Rupees Millions and shall be up to two (2) decimal points
- The contents of this format shall be clearly typed
- The Financial Bid shall be digitally signed by the authorized signatory in whose name power of altomey 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.



Gel

Sayalan gits

#### ANNEXURE 8 -UNDERTAKING AND DETAILS OF EQUITY INVESTMENT

Format 1: Bidders' Undertakings

Date:

Τo,

Chief Executive Officer, REC Power Development and Consultancy Limited (formerly REC Power Distribution Company Limited) (A wholly owned subsidiary of REC Limited) REC Corporate Head Quarter, D Block, Plot No. 1 - 4, Sec - 29 Gurugram - 122 001

Dear Sir,

Sub: Bidders' Undertakings in respect of Bid for selection of Bidder as TSP to establish later-State transmission system for "Transmission System for Evacuation of Power from Potential Renewable Energy Zone in Khavda Area of Gujarat under Phase-IV (7GW): Part C<sup>o</sup>.

We hereby undertake on our own behalf and on behalf of the TSP, that if selected as the Successful Bidder for the Project:

- 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.
- 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 Mediumterm Open Access in inter-state Transmission and related matters Open Access) Regulations. 2009.
- 3. We give our unconditional acceptance to the RFP dated 28.11.2023 issued by the BPC and the RFP Project Documents, as amended, and undertake to ensure that the TSP shall execute all the RFP Project Documents, as per the provisions of this RFP.
- 4. We have submitted the Bid on the terms and conditions contained in the RFP and the RFP Project Documents. Further, the Financial Bid submitted by us is strictly as per the format provided in Annexure 21 of the RFP, without mentioning any deviations, conditions, assumptions or notes in the said Annexure.
- 5. Our Bid is valid up to the period required under Clause 2.8 of the RFP.

Gola

Registered Office: DLF Cyber Park Tower-B, 9th Floor, Udyog Vihar, Phase-III, Sector-20, GurLgram 122008, Haryana India +91 0124 4562 000 CIN: U40106HR2022PLC105370

n

Sterlite Grid 38 Limited, DLF Cyber Park Tower-B, 9º Floor, Udyog Vibar, Phase-III, Sector-20, Gurugram 122008, Haryana India +91 0124 4562 000

- 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.
- We have assumed that if we are velocied as the Supressful Hidder, the provisions of the Consortium Agreement, to the extent and only in relation to equily lock in and our liability thereof shall get modified to give officer to the provisions of Clause 2.5.8 of this RFP and Article 18.2 of the FSA. (Note: This is applicable only in case of a Bidding Consortium)
- We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below

S/N	Name of the Transmission Element	Scheduled COD in months from Effective Date	Percentage of Quoted Transmission Charge recoverable on Scheduled COD of the Element of the project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective element.
1	Establishment of 4x1500 MVA. 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s with 2x330 MVAR, 765 kV bus reactors and 2x125 MVAR, 420 kV bus reactors. (2x1500 MVA, 765/400 kV ICTs shall be on each 400 kV section and 2x500 MVA, 400/220 kV ICTs shall be on 400 kV Bus Section-II. 2x125 MVAR Bus reactors shall be such that one bus reactor is placed on each 400 kV bus section. 400 kV Bus Sectionaliser to be kept under normally OPEN condition)	24 months from date of SPV acquisition	26.83%	Elements at sl. (1) to (9) are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2	South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line		45.94%	
3	2 Nos. of 765 kV line bays at South Olpad (GIS) for termination		1	

Registered Office: DLF Cyber Park Tower-B, 9th Floor, Udyog Vihar, Physe-III, Scetter-20, Gurugram 722008, Haryana India +91 0124 4562 000 CIN: U40106HR2022PLC105370, https://doi.org/10.1016/j.com/10.1016/j.com/10.1016/j.com/10.1016

13812

Geli

791

Sterlite Grid 38 Limited, DLF Cyber Park Tower-B, 9<sup>th</sup> Floor, Udyog Vihar, Phase-III, Sector-20, Gurugram 122008, Haryana India +91 0124 4562 000

# I ///Sterlite Power

	of South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line		
4	240 MVAR switchable line reactors on each ckt at South Olpad (GIS) and Boisar-II (GIS) end of South Olpad (GIS) - Boisar-II (GIS) 765 kV D/c line (with NGR bypass arrangement)		
5	LILO of Navsari (New) - Padghe (PG) 765 kV D/c line at Boisar-II	5.21%	1
6	Boisar-II (Sec-II) - Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line		
7	2 Nos. of 400 kV line bays at Velgaon (MH) for termination of Boisar-II - Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	2.38%	
8	LILO of Babhaleswar - Padghe (M) 400 kV D/c line at Boisar-II (Sec-I)using twin HTLS conductor with a minimum capacity of 1700 MVA per ckt at nominal voltage	10.06%	
9	80 MVAR switchable line reactors at Boisar-II end of Boisar-II - Babhaleswar 400 kV D/c line (with NGR bypass arrangement) formed after above LILO		
10	+ 200 MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-1 of Boisar-II and $\pm 200$ MVAR STATCOM with 2x125 MVAR MSC, 1x125 MVAR MSR at 400 kV bus section-11 of Boisar- II	5.50%	Elements at sl. no. (1) and (10) are required to be commissioned simultaneously as their utilization is dependent on commissioning of cach other.
1	⊤ 300 MVAR STATCOM with 3xt25 MVAR MSC, bd125 MVAR MSR at 400 kV level of Navsari (New)(PG) S/s with 1 No. of 400 kV hav (GIS)	4.08%	Element at sl +1 may be commissioned independently.

Registered Office: DLP Cyner runk Tower-B, 5th Floor, Udyog Vour, Phase-III, Sector-20, Gungrum 122008. Harvane India \*91 III.24 4562 020 CIN: U401061IR2022PLC1053701 www.sterliteProver.com Sterlite Grid 38 Lumited, DLF Cyber Park Tower-B. 9<sup>th</sup> Floor, Udyog Vihar, Phase-III, Sector-20, Gurugram 122008, Haryana India +91 0124 4562 000



We agree that the payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after the successful commissioning of Element(s) which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project: 24 months from the date of SPV Transfer.

- 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.
  - Financial Bid is unconditional.
  - Only one Financial Bid has been submitted.
- 10. We have neither made any statement nor provided any information in this Bid, which to the best of our knowledge is materially macourate 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 Khavda IV C 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.
- We confirm that there are no litigations or other disputes against us which materially affect our ability to fulfill our obligations with regard to the Project as per the terms of RFP Project Documents.
- 12. Power of attorney/ Board resolution as per Clause 2.5.2 is enclosed.





Signature and name of authorized signatory of the Company and stamp of Building Company. Name : Mahendra Kumar Sahu

Registered Office: DLF Cyber Fark Tower-B, 9th Flow, Udyog Villar, Physic-III, Sector-20, Gurugram 122008, Haryunn India +91-0124-4562-000 CIN: U40106HR28227FLC105370[ asymmetric/interesting and interesting and interestin
### Annexure- 9

Studite Grid 38 Lundted, DLF Cyber Park TowersB, 9<sup>e</sup> Floer, Udyog Viliat, Phase-III, Sector-20, Gurugram 122008, Huryana India 191 0124 4562 000



Ref: SGL-38/2024-25/BA/Khayda Ph-IV Part C/RA/02

Date: 23.08.2024

To. General Manager. REC Power Development and Consultancy Limiteo (A wholly owned subsidiary of REC Limited) REC Corporate Head Quarter, D Block, Plot No. 1 = 4, Sec = 29 Gurugram = 122 001

Kind attention: Mr. Satyaban Sahou, General Manager (Tech).

Sub: Acceptance of Letter of Intent (LOI) for "Transmission System for Evacuation of Power from Potential Renewable Energy Zone In Khavda Area of Gujarat under Phase-IV (7GW): Part C".

Dear Sir.

We write in reference to Letter of Intent ref no: RECPDCI/TBCB/Khavda Ph-IV Part C/2024-25/1647 dated 19.08,2024 issued by REC Power Development and Consultancy Limited.

We hereby acknowledge and unconditionally accept its Contents.

Thanking You, Yours Faithfully.

For Sterlite Grid 38 Limited. Mahendra Kumar Salia Authorized Signatory

Euci; 1. Signed copy of LOL

Registered Office: DLF Cyber Park Tower-B. 9th Flore, Udyog Vibar, Phase-10, Switer-20, Gorogram (22008, Harvana India -91 01 24 4562 000 UTN: U40: 661 (R2)(22)PLC 105370 www.storlifegrover.com : secretaria).01 the sterute com

Gel



## Ref No.: REC PDCL/Fin/KIVCPTL/2024/ 1747

Dated: 28.08.2024

To,

#### M/s. Sterlite Grid 38 Limited

DLF Cyber Park, Tower-B, 9 th Floor,

Udyog Vihar, Phase III, Sector-20,

Gurugram, Haryana, India - 122008.

### Kind Attention: Mr. Chandan Dutt (AVP)

### Subject: Payment of Revised Acquisition Price towards handing over of M/s. KHAVDA IV C POWER TRANSMISSION LIMITED.

Sir,

This is to inform that the revised acquisition price of M/s. Khavda IV C Power Transmission Limited is Rs 18,68,73,583/- (Rupees Eighteen Crore Sixty-Eight Lakh Seventy-Three Thousand Five Hundred Eighty-Three Only) as per the breakup given below:

S No	Particulars	Amount ( INR)
- 1,	Professional Fee of BPC #	17,70,00,000
2	Reimbursement of cost incurred by BPC #	93,73,583
3	Share Capital of Khavda IV C Power Transmission Ltd	5,00,000
	Acquisition Value/ Net Amount Payable by Bidder	18,68,73,583

# including GST

Kindly credit the above total amount i.e., Rs. 18,68,73,583/- 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 Khavda IV C Power Transmission Limited.

al

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

# 795

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

Lakshmana Charyylu) HoD (F&A) (Ch



## Annexure- 10

Ref No.: REC PDCL/Fin/KIVCPTL/2024/ 1747

Dated: 28.08.2024

To,

#### M/s. Sterlite Grid 38 Limited

DLF Cyber Park, Tower-B, 9 th Floor,

Udyog Vihar, Phase III, Sector-20,

Gurugram, Haryana, India - 122008.

### Kind Attention: Mr. Chandan Dutt (AVP)

### Subject: Payment of Revised Acquisition Price towards handing over of M/s. KHAVDA IV C POWER TRANSMISSION LIMITED.

Sir,

This is to inform that the revised acquisition price of M/s. Khavda IV C Power Transmission Limited is Rs 18,68,73,583/- (Rupees Eighteen Crore Sixty-Eight Lakh Seventy-Three Thousand Five Hundred Eighty-Three Only) as per the breakup given below:

S No	Particulars	Amount ( INR)
1	Professional Fee of BPC #	17,70,00,000
2	Reimbursement of cost incurred by BPC #	93,73,583
3	Share Capital of Khavda IV C Power Transmission Ltd	5,00,000
	Acquisition Value/ Net Amount Payable by Bidder	18,68,73,583

# including GST

Kindly credit the above total amount i.e., Rs. 18,68,73,583/- 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 Khavda IV C Power Transmission Limited.

al

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

797

Lakshmana Charyylu) HoD (F&A) (Ch

## Annexure- 11 (Colly.)

Sterlite Grid 38 Limited, DLF Cyber Park Tower-B, 9th Floor, Udyog Vihar, Phase-III, Sector-20, Gurugram 122008, Haryana India +91 0124 4552 000



Date: 30.08,2024

#### Ref: SGL-38/2024-25/BA/Khavda Ph-IV Part C/CPBG/02

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. 1 – 4, Sec – 29 Gurugram – 122001

Sub: Submission of Contract Performance Bank Guarantee (CPBG) in favor of CTUIL for "Khavda IV C Power Transmission Limited".

Ref: Letter of Intent (LOI) no. RECPDOL/TBCB/Khavda Ph-IV Part C/2024-25/1647 dated 19.08.2024.

Dear Sir,

This is in reference to your above-referred letters regarding transfer of "Khavda IV C Power Transmission Limited". In this regard, please find enclosed the original CPBG in favor of CTUIL for Khavda IV C Power Transmission Limited. The details of CPBG's are as under:

BG No.	0005NDLG00117025
Date of Issue	29.08.2024
Amount of BG	Rs 1,12,75,00,000/- (Rupees One Hundred Twelve Crore and Seventy Five Lakhs Only)
Expiry Date	31,12,2026
Claim Expiry	31.12.2027

We are submitting the above-mentioned original copy of CPBG to RECPDCL for the acquisition of the Khavda IV C Power Transmission Limited due to non-signing of TSA between Khavda IV C Power Transmission Limited and CTUIL. We understand that the same shall be handed over to CTUIL by RECPDCL on the date of TSA signing.

Kindly acknowledge the receipt of original copy of the CPBG as per details mentioned above

Thanking You,

Yours Faithfully,

For Sterlite Grid 38 Limited

Mahendra Kumar Sahu (Authorized Signatory) Copy to: ED (BCD & Regulatory). Central Transmission Utility of India Limited (CTUL) Saudamini. Plot No.2. Sector 29, Gurgaon (Haryana) - 122001, INDIA Saudamini. Plot No.2. Sector 29, Gurgaon (Haryana) - 122001, INDIA Received August

Registered Office. DLF Cyber Park Tower-B. 9th Floor, Udyog Vihar, Phase-III, Sector-20, Gunagram 122008, Haryana India +91 0124 4562 000 CIN: U40106HR2022PLC105370[ www.scorthepawer.com | secretarial.gridus.terlite.com

Col



Date: 29-08-2024 Ref. 0005NDLG00117025

To

ED (BCD AND REGULATORY) CENTRAL TRANSMISSION UTILITY OF INDIA UMITED. SAUDAMINI, PLOT NO.2, SECTOR 29, GURGAON (HARYANA) - 122001

GURGAON HARVANA INDIA 122001

Sub: Issuance of Bank Guarantee

#### Dear Sir/Madam,

Please find enclosed Bank Guarantee issued by ICICI Bank Limited ("ICICI Bank") favoring yourself on behalf of: STERLITE POWER TRANSMISSION LTD, DLF CYBER PARK TOWER-B.9TH FLOOR UDYOG VIHAR, PHASE-III, SECTOR-20, , GURUGRAM, HARYANA, INDIA. 122008 ("Bank Guarantee") with the tenar and claim period as requested by you. For ease of reference the details have been reproduced as below:

Bank Guarantee No. & Date of Issue	Expiry Date	Claim Expiry Date	Currency	Amount of Bonk Guarantée
0005NDLG00117025 29-08-2024	31-12-2026	31-12-2027	INR	1,12,75,00,000,00

We confirm that the afficials who have signed the above Bank Guarantse are authorized to sign such documents on behalf of ICICI Bank, You may verify genuineness of the Bank Guarantee by writing to us at bgconfirmation@icicibank.com for receiving the confirmation over email.

Alternatively, you may also write to the following address to verify the genuineness of the BG .

ICICI Bank Limited, Trade Finance Operations Group,

ICICI Bank Towers, Survey No.115/27, Tower 3. South Wing. 6th Floor, Plot No. 12. Nanakramguda, Serilingampally, Hyderabad - 500032, Telangana

In the event of invocation, we request you to please ensure compliance with the terms and conditions of the Bank Guarantee in order to ensure timely payment. You are requested to ensure special care inter alia with respect to the following in the invocation claim letter -

- Bank Guorantee Number
- + Expiry/Claim Expiry date
- Claim Amount.
- Designated Bank branch for submission of invocation claim.
- . Any declaration / certification that may be required as part of the guarantee text.
- Any other requisite document including the original Bank Guarantee.

Please note that ICICI Bank shall not be liable under the Bank Guarantee post expiry of the claim period as requested by you.

Thanking you,

Yours feithfully.

Shruth

For ICICI Bank Limited Authorized Signatory



**ICICI Bank Limited** Transaction Banking, 362/6, 2nd Floor, Satguru House, C.T.S No. 30, Bund Gorden Road. Pune - 411 001. Maharashtra, India. Gel

Website www.icicibonk.com CIN :L65190GJ1994PLC021012

Regd. Office : ICICI Bank Tawer, Near Chakli Circle, Old Padra Road, Vadadara 390 007, India Corp. Office ICICI Bank Towers, Bandra-Kurla

799

Complex, Mumbai 400051, India,



### Sr.No. 1799987

#### BANK GUARANTEE ICICI Bank Limited (Incorporated in India)

#### BG Number: 0005NDLG00117025 Issuance Date: 29 August 2024



801

In consideration of the M/s Sterlite Grid 38 Limited (Registered Office: DLF Cyber Park, Tower-B. 1 9th Floor Udyog Vihar, Phase III, Sector-20. Gurgaon, Haryana, India, 122008 agreeing to 2 undertake the obligations under the Transmission Service Agreement dated 30-Aug-2024 and the other RFP Project Documents and the Nodal Agency and REC Power Development and ۷ ÷, Consultancy Limited, agreeing to execute the RFP Project Documents with the Selected Bidder. 6 regarding setting up the Project, the ICICI Bank Ltd. having its registered office at ICICI Bank 7 Tower, Near Chakli 21 Circle,Old Padra Road, Vadodara-390 007, India and having a branch 8 office at ICICI Bank Ltd. 22 Satguru House 362/6, CTS. No. 30, Ground Floor, Bund Gorden Road. Pune, 411001 (hereinafter referred to as "Guarantar Bank") hereby agrees unequivocally. Ð 10 irrevocably and unconditionally to pay to Central Transmission Utility of India Limited (being the Nodal Agency) at Saudamini, Plot No.2, Sector 29, Gurgaon (Haryana) - 122001, INDIA forthwith 11 12 on demand in writing from the Nodal Agency or any Officer authorized by it in this behalf, any 13 amount up to and not exceeding Rs 1.12,75,00,000 (Rupees One Hundred Twelve Crore and 14 Seventy Five Lakhs Only) on behalf of M/s Sterlite Grid 38 Limited.

15 This guarantee shall be valid and binding on the Guarantor Bank up to and including 31st 16 December 2026 and shall not be terminable by notice or any change in the constitution of the 17 Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever 18 and our liability hereunder shall not be impaired or discharged by any extension of time or 19 variations or alternations made, given, or agreed with or without our knowledge or consect, by

20 or between parties to the respective agreement.

21 Our liability under this Guarantee is restricted to Rs 1,12,75,00,000 (Bupees One Hundred 22 Twelve Crore and Seventy-Five Lokhs Only) . Our Sugrentie shall remain in force until 31st December 2026. The Nodal Agency shall be antitled for to bke this Guarantee up to three 21

hundred sixty five (365) days of the last date of the valuety of this Guarantee.

24

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the 25 written demand from Central Transmission Utility of India Limited (in its roles as the Nodal Agency), made in any farmat, raised at the above mentioned address of the Guarantor Bank, in 26 27 order to make the sold payment to Nodal Agency. 28

The Guarantor Bank shall make payment hereunder on first demand without restriction or 29 30 conditions and notwithstanding any objection by M/s Sterlite Grid 38 Limited, Khavda IV C Power Transmission Limited and/or any other person. The Guarantor Bank shall not require 31

Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantar Bank 32

have any recourse against Nodal Agency in respect of any payment made hereunder. 33

34 This BANK GUARANTEE shall be interpreted in accordance with the laws of India.

Gel

35 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 36

> Pagelof2 mite

37 Guarantar Bank in the manner provided herein.



3519

Regd. Office: ICICI Bank Ltd., ICICI Bank Tower, Near Chakli Circle, Old Padra Road, Vadodara, Pin code- 390 007, Gujarat Phone: +91-265-6722286, CIN L65190GJ1994PLC021012

Sr.No. 1799988

#### BANK GUARANTEE ICICI Bank Limited (Incorporated in India)

BG Number: 0005NDLG00117025 Issuance Date: 29 August 2024



fight to

802

38 This BANK GUARANTEE shall not be affected in any manner by reason of merger. 39 amalgamation, restructuring liquidation, winding up, dissolution or any other change in the 40 constitution of the Guarantar Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly 41 Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in 42 any court or arbitral proceedings against Khavda IV C Power Transmission Limited or the 43 Selected Bidder, as the case may be, to make any claim against or any demand on Khavda IV C 44 Power Transmission Limited or the Selected Bidder, as the case may be, or to give any notice to 45 Khavda N C Power Transmission Limited or the Selected Bidder, as the case may be, or to 46 enforce any security held by the Nodal Agency or to exercise, levy or enforce any distress. 47 diligence or other process against Khavda IV C Power Transmission Limited or the Selected 48 49 Bidder, as the case may be.

50 The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to Nodal 51 Agency and may be assigned, in whole or in part (whether absolutely or by way of security) by 52 Nodal Agency to any entity to whom the Nodal Agency is entitled to assign its rights and 53 obligations under the Transmission Service Agreement.

54 The Guarantor Bank hereby agrees and acknowledges that Nodal Agency shall be a straight of the straighto straight of the straight of the straight of the

Signature

Name:

Signatur

l.d

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs 1,12,75,00,000 (Rupees One Hundred Twrive Grart and Seventy-Five Lakhs Only) and it shall remain in force until 31st December 2025, who devotational claim period of three hundred sixty five (365) days thereafter. This BANK SUPHANTEE shall be extended from time to time for such period, as may be desired by Ms Sterlite Grid 38 Limited. We are liable to pay the guaranteed amount of any part thereof under this Bank Guarantee only if Nodal Agency serves upon us a written claim andemand.

63 Date: 29/08/2024

Place: Pune 64

- 55 For ICICI BANK LIMITED
- 66 Authorised Signatories

67 Signature:

68 Name

69 Sign SWAPNA JOY EMP No. 106905 CHIEF MANAGER - 1

Pagelofi mited

NDER SINGH

EMP. NO. 331684

MANAGER - 11

GURJ

The beneficiary may, in its own interest, verify the genuineness of the bank guarantee by seeking confirmation of its issuance from a branch of ICICI Bank other than the issuing branch.

Regd. Office: ICICI Bank Ltd., ICICI Bank Tower, Near Chakli Circle, Old Padra Road, Vadodara, Pin code- 390 007, Gujarat Phone : +91-265-6722286, CIN L65190GJ1994PLC021012

CLICICI (SNOX CLICICI Danish

REC Power Development and Consultancy Limited (Formerly known as REC Power Distribution Company Limited, A wholly owned subsklinery of REC Limited, a Maharatina CPSE' under Ministry of Power, Gov., of India)



Ref No: RECPDCL/TBCB/Khavda Ph-IV Part C/2024-25/1777

Sh. Chandan Dutt, AVP M/s Sterlite Grid 38 Limited, DLF Cyber Park Tower-B 9<sup>th</sup> Floor, Udyog Vihar Phase-3, Sector-20, Gurugram-122008

Sub: Establishment of Transmission System for "Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C" through tariff based competitive bidding process – Extension of Loi- regarding.

Ref.: RECPDCL/TBCB/Khavda Ph-IV Part C/2024-25/1647, Dated 19.08.2024

Dear Sir,

This is in reference to above referred Letter of Intent deted 19<sup>n</sup> August 2024 issued to M/s Sterlite Grid 38 Limited for Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C.

To complete the activities mentioned under Clause 2.15 2, Clause no. 2 15 3 and Clause no. 2.15.4 of Request for Proposal (RFP) document, the last date for completion of various activities, is extended till 06° September; 2024.

Thanking You,

Yours faithfully,

General Man

## SHARE PURCHASE AGREEMENT

### BETWEEN

## REC POWER DEVELOPMENT AND CONSULTANCY LIMITED

AND

## KHAVDA IV C POWER TRANSMISSION LIMITED

AND

STERLITE GRID 38 LIMITED

Dated: 30th August, 2024

hel

111

CINS Y

. Lines O

Distantion of

1

ą



:0

.....

International Contraction

120

of the FIRST PART

## INDIA NON JUDICIAL

#### Government of National Capital Territory of Delhi ₹500 सत्यमेव जयते e-Stemp IN-DL44755720941469W Certificate No. 28-Aug-2024 06.52 PtV Cemticate Issued Data SELFPRINT (PU)/ disel/ NEHRU/ DL-DLH Account Relevence SURIN-DLDL-SELF42152581714355W Unique Doc. Reference REC POWER DEVELOPMENT AND CONSULTANCY LUMITED. Purchased by Arbole 5 General Agreement Description of Document. CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DEUHI-110003 Property Description 0-Consideration Price (Rs.) (Zero) KHAVDA IV C POWER TRANSMISSION LIMITED First Party NOT APPLICABLE Second Party KHAVDA IV C POWER TRANSMISSION LIMITED Starup Duty Paid By 500 Stamp Duty Amount(Rs.) (Five Hundred only) SELF PRINTED CERTIFICATE TO BE VERIFIED BY THE RECIPIENT AT www.shcilestamp.com n p,⊻:/65/20941469₩ signed white or type lusions this line. ..... ..... SHARE PURCHASE AGREEMENT This SHARE PURCHASE AGREEMENT ('Agreement') made on the 30<sup>d</sup> day of August, 2024 at New Delhi by and between: REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, a company incorporated 🛔 under the Companies Act, 1956, vide CIN-U401010L2007GOI165779 having its registered office at Core 4, SCOPE Complex, 7, Lodhi Road, New Delhi 110 003, India (hereinafter

So or Forens of Forent An So sing e-Silmus Mota of the Steen wash ILL HI RECPOCE Billinter Pe S Incluse of an

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) §

BRID

38 Limited

- 012510

2

r

3

LUDSON/NES

12

SSDXUL NUTED KEAVEN



5 114

311 J. 3026W

9-202

## INDIA NON JUDICIAL



registered office at Core 4, SCOPE Complex. 7, Lodhi Road, New Delhi 110003, India (herein after referred to as "Company" which expression shall, unless repugnant to the context, mean and include its successors in interest) of the SECOND PART and

ol

-1011103

2

Limited

All the same way they being of the shade be suged at the provide state of the state

E-M

Do No. 10 of



ģ

1 3-202

06.

128 P.

0.2.0

2-2: 4 05

## INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

#### सत्थमेव जवते e-Stamp IN-DL44745910950055W Certificate No. 28-Aug-2024 06.37 PM Certificate Issued Date SELEPRINT (PU)/ deset/ N6HRU/ DL-DLH Account Relevence SUBIN-DLDL-SELF42130589893522W Unique Doc, Roference REC POWER DEVELOPMENT AND CONSULTANCY LIMITED. Purchased by Article 5 Genoral Agreement Description of Document CORE 4,SCOPE COMPLEX. 7, LODHI ROAD, NEW DELHI-1100D3 Property Descuption Ω. Consideration Price (Rs.) (Zeić) KHAVDA IV C POWER TRANSMISSION LIMITED Ferst Party NOT APPLICABLE Second Party KHAVDA IV C POWER TRANSMISSION LIMITED Stamp Duty Paid By 200 Stamp Duty Amount(Rs.) (Two Hundred only)



Guruaran

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

\_\_\_\_\_0950055W/

#### AND

Preside write at type writes the line

STERLITE GRID 38 LIMITED, a company incorporated under the Companies Act, 2013 vide CIN-U40106HR2022PLC105370 and having its registered office at DLF Cyber Park, Tower-B, 9<sup>th</sup> Floor, Udyog Vihar, Phase III, Sector-20, Gurugram, Haryana, India - 122008 (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 THRD PART.

Hook

Imite

The according of the Stong of the Stong of the Stong be under a stong test assimption of the Stong Mobile According
According to the Stong of the Stong

### WHEREAS:

- A. The Ministry of Power, Government of India, vide its notification no. 3733 [F. No. 15/3/2018-Trans-Pt(1)] dated 04.09.2023 has appointed REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish transmission system for "Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase- IV (7 GW): Part C" through tariff based competitive bidding process (hereinafter referred to as the "Project").
- B in accordance with the Bidding Guidelines, the BPC had initiated a competitive bidding process through issue of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project comprising of the Elements mentioned in Schedule 2 of the TSA. BPC had initiated this process in accordance with and on the terms and conditions mentioned in the RFP Project Documents (as defined hereinafter).
- C. BPC has incorporated the Company and has undertaken the preliminary studies, obtained certain approvals, etc. regarding the Project on behalf of the Company
- D. REC PDCL along with the Nominees hold one hundred per cent (100%) of the total issued and paid up equily share capital of the Company.
- E. Pursuant to the said Bid Process, Sterlite Grid 38 Limited has been identified as the Selected Bidder vide Letter of Intent dated 19<sup>th</sup> August, 2024 issued by the BPC in favour of the Selected Bidder.
- E. 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 18,68,73,583 (Rupees Eighteen Crore Sixty-Eight Lakh Seventy-Three Thousand Five Hundred Eighty-Three 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.



RID **SG** 8 Limited

- (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 between Central Transmission Utility of India Limited (CTUIL) and Khavda IV C 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 and the address within the jurisdiction of the RoC of New Delhi and Haryana, which would be the new registered office of the Company. The Company shall, upon receipt of the said documents from the Selected Bidder, do the following:
  - (i) Immediately on the Closing Date convene a meeting of the Board, wherein the Board shall pass the following necessary resolutions: a)D 2



- (a) approving the transfer of the Shares constituting the Sale Shares from the Shares Seller and the Nominees to the name of the Sterlite Grid 38 Limited and its nominees and transfer of all assets and liabilities of the Company as on Closing Date;
- (b) approving the Sterlite Grid 38 Limited and its nominees as the members of the Company and entering the name of the Sterlite Grid 38 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 nominees of the Selected Bidder on the Board and accepting the resignations of the other existing Directors on the Board and the Chair of the meeting which was taken by one of the existing Directors shall be vacated and appointment of a new Chairman who shall be one of the newly appointed Director, for the rest of the meeting.

immediately pursuant to the acceptance of resignation of the existing Directors and appointment of new Chairman, the newly constituted Board of Directors shall continue with the meeting and pass the following resolution:

- (e) terminating all the authorizations granted regarding the business and/or operations of the Company or the operations of the bank accounts of the Company, with prospective effect; and
- (f) acknowledging and accepting the terms and conditions as contained in the executed copies of the RFP Project Documents and to abide by the provisions contained therein.
- (ii) Enter the name of the Sterlite Grid 38 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 Sterlite Grid 39 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 Sterlite Grid 38 Limited and its nominees, to the Sterlite Grid 38 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) (a) to (i) (f) of Clause 3.3 (i) to the Central Transmission Utility of India Limited (CTUIL).
- 3.4 The Parties to this Agreement agree to take all measures that may be required to ensure that all the events contemplated in the Clauses 3.1 to 3.3 above on the Closing Date are completed on the same day

Notwithstanding the provisions of **Ctause 3.3** hereto, all proceedings to be taken and all documents to be executed and delivered by the Parties at the Closing Date shall be deemed to have been taken and executed simultaneously and no proceedings shall be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered.

- 3.5 The Selected Bidder hereby acknowledges and agrees that after the date of acquisition of one hundred percent (100%) of the Shares of the Company by the Selected Bidder as per Clause 3.3. (a) the authority of the BPC in respect of the Bid Process shall forthwith cease and any actions to be taken thereafter regarding the Bid Process will be undertaken by the Central Transmission Utility of India Limited (CTUIL) themselves, (b) all rights and obligations of the BPC shall cease forthwith, (c) all other rights and obligations of the Company shall be of the TSP and (d) any decisions taken by the BPC on behalf of the Company prior to the date of acquisition, shall continue to be binding on the Company and/or Central Transmission Utility of India Limited (CTUIL) as the case may be.
- 3.6 This Agreement shall be effective from the date of its signing by the Parties and shall remain in force until all the obligations of the respective Parties under Clause 3.3 hereto are fulfilled.

### 4. REPRESENTATIONS AND WARRANTIES

- 4.1 The Selected Bidder hereby represents and warrants to the Shares Seller that:
  - 4.1.1 The Selected Bidder has full legal right, power and authority to enter into, execute and deliver this Agreement and to perform the obligations, undertakings and transactions set forth herein, and this Agreement has been duly and validly executed and delivered by the Selected Bidder and constitutes its legal, valid and binding obligations, enforceable against it in accordance with its terms;



- 4.1.2 The execution, delivery and performance of this Agreement by the Selected Bidder will not violate or contravene any provision of the Memorandum of Association or Articles of the Selected Bidder, (ii) will not violate or contravene any law, statute, rule, regulation, licensing requirement, order, writ, injunction or decree of any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority by which the Selected Bidder is bound or by which any of its and/or their properties or assets are bound, and (iii) except to the extent that the same have been duly and properly completed or obtained, will not require any filing with, or permit, consent or approval of or license from, or the giving of any notice to, any court, governmental instrumental instrumentality or other regulatory, 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.



Limited

- 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

Gel

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, ansing 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

RECPDCL

- 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:	Sterlite Grid 38 Limited, DLF Cyber Park, Tower-B, 9 <sup>th</sup> Floor, Udyog Vihar, Phase III, Sector-20, Gurugram, Haryana. India - 122008
REC PDCL:	REC Power Development and Consultancy Limited Core-4, SCOPE Complex, 7, Lodhi Road, New Delhi-110003
Company:	Khavda IV C Power Transmission Limited Core-4, SCOPE Complex, 7. Lodhi Road, New Delhi-110003
Any Party may by	notice of at least fifteen (15) days to the other

and communications to it are to be delivered or mailed

**G**1A

Khayda TV C PTL

### 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 herelo 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. However, after the Closing Date, in such an event the Shares Seller shall appoint one arbitrator and the Selected Bidder and the Selected Bidder and the Selected Bidder along with the Company shall appoint one arbitrator and the Selected Bidder and the Selected Bidder along with the Company shall appoint one arbitrator and the two arbitrator and the Selected Bidder and the Selected Bidder along with the Company shall appoint one 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.

RID 3 sment ano urugram Gd wda IV C RECPDO

### 6.3 AUTHORISED PERSON

For the purposes of this Agreement, the Selected Bidder is represented by Sh. Tatimakula Amarendranath Reddy, pursuant to an authorization granted to Sh. Tatimakula Amarendranath Reddy through necessary Board resolutions. Further, Sh. Tatimakula Amarendranath Reddy 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. Tatimakula Amarendranath Reddy shall be deemed to be acts done or documents executed by the Selected Bidder to be 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, civit 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.



210 **BUB I imi** 

### 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 (CTULL) 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;
- 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.

alD 34 sent an Gel Khavda IV C G38 Limit RECODO

- 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. TSC Bosh, CEO

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 21<sup>st</sup> August, 2024)

IN THE PRESENCE OF:

WITNESS: (Name and address)

1 SATYABAN SAHOD GH (ENG9)

Suntofs

Zatychan 20

(Core-4. SCOPE Complex, 7, Lodhi Road, New Dethi-110003)

2. ANIL HUMAR PERALA CHIEF MANAGER (ENGG)

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

SIGNED AND DELIVERED by the within named KHAVDA IV C POWER TRANSMISSION LIMITED by the hand of Sh. Ajay Mathur, Chairman

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on August, 2024)

WITNESS: (Name and address)

1. RITAM BISWAS ASST. MANAGER (ENGG.)

2. K. HARSHA VARDHAN KOHAR. Officer(ENGG)

Gel



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

Colorgh lather themes

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

SIGNED AND DELIVERED by the within named **STERLITE GRID 38 LIMITED** by the hand of Sh. Tatimakula Amarendranath Reddy

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 26<sup>th</sup> August, 2024)

WITNESS: (Name and address)

Nitin Kumar Jan.

Malandra Salun



Filturen.

# Nith Kumar Jach

DLF Cyber Park, Tower-B, 9th Floor, Udyog Vihar, Phase III, Sector-20, Gurugram, Haryana, India, 122008

DLF Cyber Park, Tower-B, 9th Floor, Udyog Vihar, Phase III, Sector-20, Gurugram, Haryana, India, 122008

RECPDCL

Gel

18

## ANNEXURE A

## DESCRIPTION OF THE SALE SHARES

S. NO.	NAME OF THE SHAREHOLDER	NUMBER OF EQUITY SHARES HELD	PERCENTAGE OF THE TOTAL PAID UP EQUITY CAPITAL	
1.	REC POWER DEVELOPMENT AND CONSULTANCY LIMITED	49,994	99.988	
2.	Shri Thangarajan Bosh*	1	0.002	
3.	Shri Sahab Narain *	1	0.002	
4.	Shri Salyaban Sahoo*	1	0.002	
5.	Shn Alok Singh*	1	0.002	
6.	Shri Mohan Lal Kumawat*	1	0.002	
7.	Shri Arvind Kumar*	1	0.002	
	Total	50,000	100.000	

\* Held as nominee of REC PDCL.

ment en Delt 9 hd 5638 Limited (havda IV C P) RECPDC 73H 12 and all all ŧ

## Annexure- 14 (Colly.)

#### FORM-I

#### Application Form for Grant of Transmission licence

#### 1. Particulars of the Applicant

- i) Name of the Applicant: Khavda IV C Power Transmission Limited
- Status Individual/ partnership firm/ Private Limited Company/ Public Limited Company: Public Limited Company
- iii) Address : DLF Cyber Park, Tower B, 9<sup>th</sup> Floor, Udyog Vihar Phase- 1, Sector 20, Gurugram - 122008
- iv) Name, Designation & Address of the Contact Person (2 persons):

Mr. Tatimakula Amarendranath Reddy (Head – Regulatory & Policy) DLF Cyber Park, Tower B, 9th Floor, Udyog Vihar Phase- 1, Sector 20, Gurugram - 122008

Ms. Anshu Sharma (Chief Manager - Regulatory Affairs)

DLF Cyber Park, Tower B, 9th Floor, Udyog Vihar Phase-1, Sector 20, Gurugram - 122008

- v) Contact Tel. No. (2 nos.): (+91) 9310490976; (+91) 9873692022
- vi) Fax No.:
- vii) Email ID(s) :tan.reddy@sterlite.com;

regulatoryinfra@sterlitepower.com;

- viii) Place of Incorporation / Registration: Delhi
- ix) Year of Incorporation/Registration: 2023
- x) Following documents are to be enclosed:
  - (a) Certificate of registration : Annexed with the Petition as Annexure 3
  - (b) Original Power of Attorney of the signatory to commit the Applicant or its promoter : Annexed with Form I.
- Particulars of the Project for which licence / Amendment in licence (list of existing elements and proposed addition /deletion element in case) is being sought:
  - (a) Transmission Lines:



S. No.	Name (end-points location)	Voltage Class (kV)	Length (Km)	Type (S/C or D/C)	Remarks
Ð	South Olpad (GIS) - Boisae-II (GIS) 765 kV D/c line	765 kV	225	D/C	
2	LILO of Navsari (New) – Padghe (PG) 765 kV D/c line at Boisar-II	765 kV	25	D/C	
3	Boisar-II (Sec-II) – Velgaon (MH) 400 kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line	∋400 kV	10	D/C	(Quad ACSR/AAAC/ AL59 moose equivalent)
4	LILO of Babhaleswar – Padghe (M) 400 kV D/c line at Boisar-II (Sec-I)	400 kV	65	D/C	

(b) Sub-stations:

S. No. 0	lame location)	Voltage Level(s) (kV)	Transformer (Nos. and MVAR capacity)	Reactive / capacitative compensation (device with MVAR Capacity)	No. of Bays	Remarks
1 1 1 1 1 1	Boisar Establishment of 4x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV Boisar-II (GIS) S/s	765/400 kV & 400/220	Transformer 500 MVA, 1- Ph, 765/400 kV - 13 Nos 500 MVA, 3- Ph, 400/200 kV - 2 Nos	Reactor 110 MVAR, 1-Ph, 765 kV – 7 Nos 125 MVAR, 400 kV – 2 Nos	GIS Bays: 765 kV – 20 Nos. 400 KV – 36 Nos. 220KV – 3 Nos.	

- (a) Remarks: Status whether the element is existing or proposed to be added or deleted
- (b) Scheduled COD: 24 months from Effective Date.



- (c) Agreements with Identified Long-term transmission customers or CTU for the Project, as applicable:
- Quoted transmission charges in case of project selected through the guidelines of competitive bidding and estimated completion cost of the project in other cases: INR 13,148.08 Million Per Annum
- 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.
- 5. List of documents enclosed: As mentioned in the Index

Dated: 06.09.2024 Place: New Delhi

ï



Khavda IV C Power Transmission Limited, Registered Office : YC Co Working Space, 3<sup>rd</sup> Floor, Plot No.94, Dwarka Sec.13, Opp. Metro, Near Raddison Blu, South West Delhi, New Delhi-110075

**MSterlite** Power

827

CERTIFIED TRUE COPY OF THE RESOLUTION PASSED BY BOARD OF DIRECTORS OF KHAVDA IV C POWER TRANSMISSION LIMITED IN ITS MEETING HELD ON FRIDAY, AUGUST 30, 2024.

Authority for making petitions to Central Electricity Regulatory Commission ("CERC") and to deal on behalf of the Company

"RESOLVED THAT the directors of the Company and Mr. Amarendranath Tatimakula Reddy, Authorized Representative be and are hereby severally authorized to:

- a) Make/file an application / petition/ appeals to CERC/Tribunals/Courts for grant of transmission license and adoption of tariff, approval for creation of security or any other petition(s)/application(s) under Electricity Act, 2003 and to execute all necessary applications, documents, undertakings in connection therewith and personally appear before CERC or any other related statutory authority as may be required from time to time on behalf of the Company;
- b) file petitions before CERC from time to time on behalf of the Company;
- c) appoint any consultant and lawyers for representing before CERC, APTEL or any other regulatory authority;
- deal with Nodal Agency/ Central Transmission Utility of India Limited ('CTUIL')/Central Electricity Authority or any other statutory agency for the purpose of Transmission License Tariff Adoption, for authorization under Section 164 of the Electricity Act, 2003 etc. including signing and submission of undertaking on behalf of the Company for the purpose of compliance pertaining to TSA or any other law;
- register and operate online account of the Company to be created on CERC Portal or on Portal of any other statutory authority for e-filing of petitions/applications; and
- f) do all such acts, deeds, matters and things necessary to give effect to this resolution for Establishment of Transmission System for Evacuation of power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part C (hereinafter referred to as "Project") awarded to the Company by REC Power Development and Consultancy Limited, the Bid Process Coordinator, appointed by the Ministry of Power.

RESOLVED FURTHER THAT a certified true copy of this resolution be issued, as may be required, under the signatures of any one of the Directors of the Company."

For Khavda IV C Power Transmission Limited

JOB IV C Ashok Amutlal Gandhi Director 1 11015 DIN: 09851129 Address: 20-D, Neelkanth Apartments Plot No-46 I.P. Extension, Patparganj, Shakarpur, East Delhi, Delhi, India-110092

Date: 03.09.2024 Place: Gurugram

CIN : U42202DL2023GOI420655 | E-mail id: secretarial.grid@sterlite.com www.sterlitepower.com

#### BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI. PETITION NO. /TL/2024

#### IN THE MATTER OF:

Khavda IV C Power Transmission Limited

.... Petitioner

... Respondents

Versus

Central Transmission Utility of India Limited & Ors.

#### VAKALATNAMA

I/We, M/s Khavda IV C Power Transmission Limited, the Petitioner in the above Suit/Appeal/ Reference/Petition appoint and retain Mr. Gaurav Dudeja (D/1125/2009: Email: 9818833778), Mr. Dhruval Singh Gauray dudeja@phoenixlegal.in :Mob:+91 (UP/M/03243/2020 Email: Dhraval singh@phoenixlegal.in Mob: + 91 9099760530), Ms. Anumeha Smiti (D/10674/2022 Email Anumeha.smiti@phoenixlegal.in +91 9319008078), Abhijit Debnath (D/4903/2024 Email Abhijit.debnath@phoenixlegal.in +91 8585977325) and Phoenix Legal to act and appear for me/us in the above Suit/Appeal/Petition/Reference on my/our behalf to conduct and prosecute (or defend) he same and all proceedings that may be taken in respect of any Application connected with the same or any decree or other passed herein, to file and obtain return of documents, and to deposit and receive on my/our behalf in the said Suit/Appeal/Petition/Reference and in Application of Revenue and represent me/us and take all necessary steps on my/our behalf in the above matter. I/We agree to ratify all acts done 2008 1120 by the aforesaid Advocate in pursuance of this authority.



MEMO OF APPEARANCE

Sir,

Please enter appearance on behalf of the Petitioner(s)/Appellant(s)/Respondent(s) in the above matter.

Dated this the 6th day of September, 2024

lule

140

Gaurav Dudeja, Partner Phoenix Legal Advocates for Petitioner Phoenix House, 254, 1<sup>st</sup> Floor, Okhla Industrial Estate, Phase- III, New Delhi- 110020



PETITIONEI



1 \* 08