

# सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उदयम)

## CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

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

(A Government of India Enterprise)

Ref: CTU/E/00/5<sup>th</sup> CMETS-ER

Date: 25-03-2022

As per distribution list

**Subject: Agenda for 5<sup>th</sup> Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER)**

Dear Sir,

The 5<sup>th</sup> Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER) for ISTS planning and open access applications processing is scheduled to be held on 30<sup>th</sup> Mar 2022 through video conferencing as per details below:

**Topic** : 5<sup>th</sup> CMETS-ER  
**Date & Time** : 30<sup>th</sup> Mar 2022 at 10:30 am  
**Meeting Link** : MS-Teams (in email)

In this regard, please find enclosed agenda of the meeting which is also available on CTU website ([www.ctuil.in](http://www.ctuil.in) >> ISTS Planning and Coordination >> Consultation Meetings for ISTS >> ER).

It is requested to join the meeting through the above link and send confirmation of participation in this regard through return mail.

Thanking you,

Yours faithfully,



(Rajesh Kumar) 25/03/2022

General Manager

**A. Distribution List:**

<b>1. Chief Engineer (PSP&amp;A-II)</b> Central Electricity Authority Sewa Bhawan, R.K.Puram New Delhi-110066	<b>2. Member Secretary</b> Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata-700033
<b>3. Director (SO)</b> Power System Operation Corporation Ltd. (POSOCO) 9 <sup>th</sup> Floor, IFCI Towers, 61, Nehru Place, New Delhi-110016	<b>4. Executive Director</b> Eastern Regional Load Despatch Centre 14, Golf Club Road, Jubilee Park, Golf Gardens, Tollygunge, Kolkata, West Bengal - 700095
<b>5. CMD</b> Damodar Valley Corporation DVC Towers, VIP Road Kolkata-700054	<b>6. CMD</b> Odisha Power Transmission Corporation Ltd. (OPTCL) Bhoinagar Post Office, Jan path Bhubaneshwar-751022
<b>7. CMD</b> Bihar State Power Transmission Company Ltd. (BSPTCL) Vidyut Bhavan, 4 <sup>th</sup> floor, Bailey Road Patna-800021	<b>8. CMD</b> Jharkhand Urja Sancharan Nigam Limited (JUSNL) Engineering Building, HEC, Dhurwa Ranchi -834004
<b>9. Principal Chief Engineer cum Secretary</b> Power Department Government of Sikkim Gangtok, Sikkim	<b>10. Managing Director</b> West Bengal State Electricity Transmission Company Ltd. (WBSETCL) Vidyut Bhavan, 8 <sup>th</sup> Floor, A-Block Salt Lake City, Kolkata-700091

**B. Special invitee:****Director (Projects)**

Power Grid Corporation of India Ltd.  
"Saudamini", Plot No. 2, Sec-29, Gurugram  
Haryana-122001

**Agenda for 5<sup>th</sup> Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER)**

**1. Confirmation of minutes of the previous meeting**

The minutes of the 4<sup>th</sup> meeting of CMETS-ER held on 25-02-2022 were issued vide letter dated 10-03-2022. As no comments have been received, the minutes may be confirmed.

**A. Application related matters in Eastern Region (ER)**

No New Open Access Application in Eastern Region has been received in the month of Feb'2022

**2. LTA applications with injection in another region and drawl in ER**

2.1. Following LTA applications have been received from generation developers in NR and WR with drawl in ER in the month of Feb 2022:

Sl. No.	Applica tion No.	Applicant Name	Applic ation Date	Location of Generating Station	Type of Fuel	Start Date	End Date	Drawl Point
1	120000 3712	NTPC Renewable Energy Limited	27-02-2022	Khavda-II PS, Gujarat	Solar	03-04-2024	02-04-2049	TSNPDC/SR: 78.04 MW TSSPDCL/SR: 186.96 MW DVC/ER: 100 MW
2	120000 3764	Adani Renewable Energy Park Rajasthan Limited	28-02-2022	Fathegarh-II PS, Rajasthan	Solar	18-12-2023	18-12-2048	Target ER: 150MW

2.2. The above LTAs are proposed to be granted with transmission system expansion in WR and NR. The subject LTAs involves power transfer from NR and WR to ER, and no constraints are envisaged in above transfer of power to ER.

2.3. Proposal may be agreed.

**3. Requirement of STU NoC from OPTCL for LTA Application no. 1200003586 from M/s Azure Power India Pvt. Ltd. (at Bhadla-II PS, Rajasthan) for transfer of 100MW power to GRIDCO, Odisha (ER)**

3.1. LTA application (267MW) of M/s Azure Power India Pvt. Ltd. was discussed in 3<sup>rd</sup> CMETS-NR held on 28-01-2022 with beneficiaries as 100MW: WR (Target) & 167MW: ER (Target). The LTA application was also discussed in 3<sup>rd</sup> CMETS of SR, ER & WR for grant with target beneficiary in Eastern Region.

3.2. However, M/s Azure vide their letter dated 17-02-2022 had requested to firm up their LTA on submission of PPA & PSA (without NoC). PPA/PSA (without NoC)

has been submitted by M/s Azure for transfer of 167MW power to GRIDCO. Request for NoC to OPTCL from CTU has already been sent on 16-03-2022.

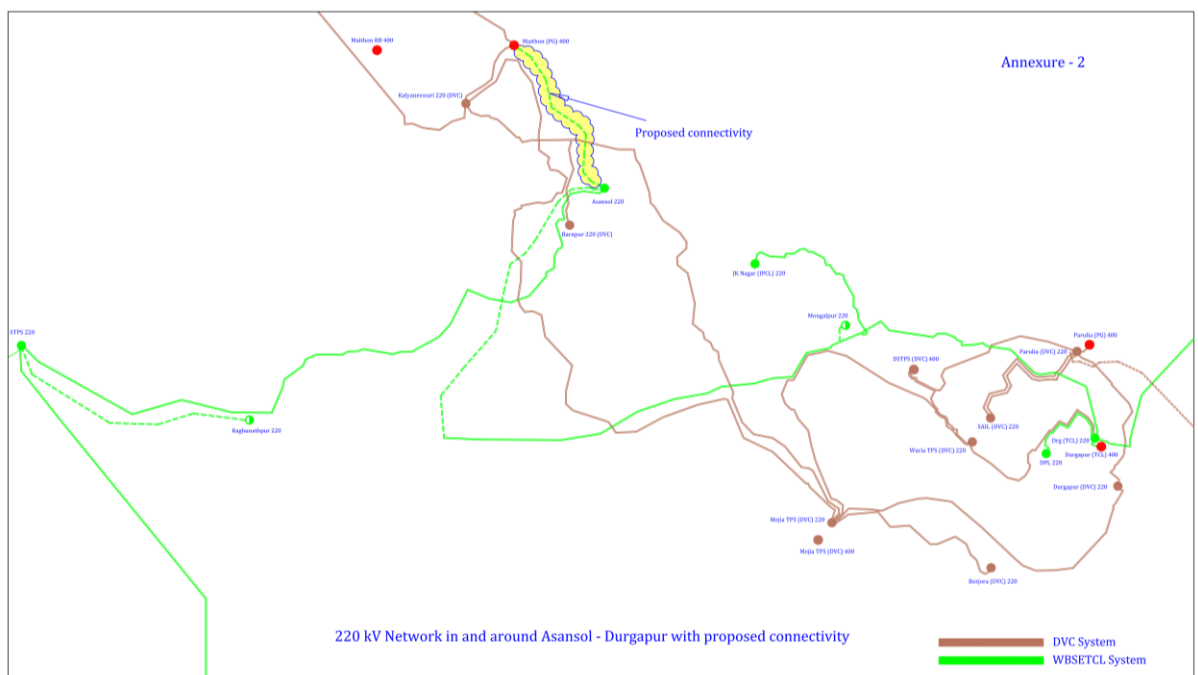
3.3. OPTCL may intimate their views regarding the STU NoC for the above LTA.

**B. ISTS expansion schemes in Eastern Region**

**4. 2 no. of 220kV line bays at Maithon (POWERGRID) S/s for connecting Maithon (POWERGRID) – Asansol (WBSETCL) 220kV D/c line – Agenda by WBSETCL**

4.1. WBSETCL has informed following in regard to the proposal:

(a) The load growth in Asansol area in west Burdwan district is taking place rapidly. Presently, power supply in the area is met from Asansol 220/132/33kV sub-station having transformation capacity of 2x160MVA + 4x50MVA. Maximum demand of the sub-station has already been reached over 150 MVA. One 220/33kV sub-station is under construction at Mongalpur in West Burdwan district to meet up-coming new loads, which is expected to be commissioned by 2022-23.



(b) Main source of power in this area is Santaldihi TPS (STPS) and Durgapur (Bidhannagar) 400/220kV sub-station. 400/220kV, 315MVA (3<sup>rd</sup>) ICT at Durgapur (Bidhannagar) is expected to be commissioned by 2022-23. Two nos. 220kV sub-station namely Asansol & JK Nagar are already connected with STPS & Durgapur (Bidhannagar) through STPS – Durgapur (Bidhannagar) 220kV D/c line (213MVA). Upcoming Mongalpur 220kV sub-station would be connected in the same line due to non-availability of corridor in the area.

(c) Presently, maximum demand of Asansol and JK Nagar 220kV sub-stations is around 150MVA and 130MVA respectively. Expected demand of Mongalpur 220kV sub-station is around 80MVA.

(d) Considering future load growth, for reliable operation of the grid in compliance of N-1 contingency, one new 220kV connectivity from a strong source at Asansol 220kV sub-station is required. Accordingly, Maithon (POWERGRID) – Asansol (WBSETCL) 220kV D/c line has been proposed under intra-state.

4.2. Observations of CTU on the proposal are as follows:

(a) Under normal operating condition in peak load scenario about 150MW per circuit power flow is observed on the newly proposed Maithon (POWERGRID) – Asansol (WBSETCL) 220kV D/c line. Under N-1, about 270MW power flow is observed. Therefore, it is suggested to implement this line with high capacity conductor, such as Twin ACSR Moose or Single HTLS of 1600A rating.

(b) Upon implementation of the proposed line, power flow on Asansol – Mongalpur and Asansol – JK Nagar 220kV line sections increases and it is observed that under N-1 of any of the said two line sections, the other section gets critically loaded. Further, in case of low generation at DPL or Bakreswar the condition aggravates resulting in much higher loading in normal operating condition itself. Accordingly, it is proposed that along with implementation of Maithon (POWERGRID) – Asansol (WBSETCL) 220kV D/c line, reconductoring of Asansol – Mongalpur and Asansol – JK Nagar 220kV line sections with HTLS may also be taken up (HTLS of about 1600A).

4.3. POWERGRID has confirmed regarding availability of space for implementation of 2 no. 220kV new line bays at Maithon (POWERGRID) S/s.

4.4. In view of the above, following is proposed:

**(a) Space allocation at Maithon (POWERGRID) ISTS S/s to WBSETCL:**

Space for implementation of 2 no. 220kV line bays would be provided at Maithon (POWERGRID) ISTS S/s for termination of Maithon (POWERGRID) – Asansol (WBSETCL) 220kV D/c intra-state line (Twin ACSR Moose or Single HTLS of 1600A rating) of WBSETCL.

**5. Establishment of 400/220kV substation at Joda – Agenda by OPTCL**

5.1. OPTCL vide letter no. Dir.(P)/BBSR/2021-22/Tech.22/154 dated 21-02-2022 has mentioned that a large number of industries are coming in Joda area in Odisha. The major bulk loads as provided by Odisha are as follows:

Sl. No.	Load Centre	Load (MW)
1	Essar Minment	40
2	JSW Steel	75
3	Rungta Mines	148
4	Narbheram	20
5	Tata	40
6	Arcelor Mittal	38
7	JSPL	50
8	Triveni Earth Mover	100
	<b>Total</b>	<b>481</b>

- 5.2. OPTCL has further mentioned that new 220kV switching station at Tikarpada along with Keonjhar - Tikarpada 220kV D/c line and LILO of TTPS - Joda 220kV line at Tikarpada was approved in 1<sup>st</sup> meeting of CMETS of Eastern Region held on 29-11-2021.
- 5.3. Due to addition of about 480MW new load in Joda area, OPTCL has proposed for establishment of new 400/220kV S/s at Joda New and requested for ISTS connectivity from Rourkela 400/220kV and Keonjhar 400/220kV S/s alongwith LILO of Tikarpada – Joda 220kV line and Keonjhar – Joda 220kV line at Joda New.
- 5.4. It may be mentioned that out of two ISTS connectivity requested at para 5.3 above, Rourkela is strongly connected to various parts in the grid viz. Talcher, Sundargarh, Ranchi, Chaibasa/Jamshedpur. However, Keonjhar is connected to the grid through LILO of Baripada – Rengali 400kV S/c line only. Considering 400/220kV Rourkela substation as a strong source, the ISTS connectivity to new 400/220kV Joda substation may preferably be provided through Rourkela substation.
- 5.5. Further, as the loads at Joda New are major industrial loads, 400kV feed to Joda New substation may be provided from two sources. Accordingly, LILO of 400kV Talcher - Rourkela 400kV D/c line at Joda New would be a better solution.
- 5.6. Observations of CTU on the proposal are as follows:
- (a) **Alternative-1:** Rourkela – Joda New 400kV D/c line
- Under the normal condition, the power flow is about 484MW per circuit with the proposed interconnection. However, under N-1 contingency of this line the loading is about 790MW which is under the thermal limits. The study results is enclosed at **Exhibit-1**
- (b) **Alternative-2:** Keonjhar – Joda New 400kV D/c line
- Under the normal condition, the power flow is about 233MW per circuit with the proposed interconnection. However, under N-1 contingency of Keonjhar – Rengali 400kV S/c line, very low voltage and overloading in the 220kV lines emanating from Joda New substation have been observed. Accordingly, the proposal seems to be technically non-feasible. The study results is enclosed at **Exhibit-2**
- (c) **Alternative-3:** Connectivity with proposed LILO of Rourkela (POWERGRID) – Talcher (NTPC) 400kV D/c line at Joda New substation
- Under normal operating condition in peak load scenario about 460MW per circuit power flow is observed from Rourkela to Joda New 400kV section & about 41MW per circuit is observed from Talcher to Joda New 400kV section formed after proposed LILO. Under N-1 contingency of the either 400kV section power flow is observed to be under the thermal limits. However, it may be noted that 3x500MVA, 400/220kV ICTs are required to be installed

by OPTCL to meet the N-1 contingency criteria under ICT outages. The study results is enclosed at **Exhibit-3**.

(d) Further, OPTCL may install 420kV, 2x125MVAR bus reactor at Joda New S/s.

5.7. In view of above, as the loads are industrial in nature, the dual source to the 400/220kV Joda new substation may preferably be provided. Accordingly, connectivity to Joda New 400/220kV substation may be provided through **Alternative-3** mentioned above viz. LILO of Rourkela (POWERGRID) – Talcher (NTPC) 400kV D/c line at Joda New substation.

5.8. Proposal may be discussed.

**6. Status of downstream 220kV or 132kV network by STUs from the various commissioned and under-construction ISTS substations in ER**

6.1. Numbers of ISTS sub-stations have been commissioned and some are under construction for which the downstream system is being implemented by the STUs. Based on the information provided by the states, updated information on planned/under-construction downstream system is given at **Annexure-I**.

6.2. STUs may update the status of downstream system given at **Annexure-I** prior to the meeting for further deliberations in the meeting, if any.

**7. Status of 400kV substations being implemented by STUs in ER under intra-state schemes to be connected through ISTS**

7.1. Various 400kV substations have been approved in the intra-state strengthening schemes in ER having interconnection with ISTS grid involving LILO of ISTS lines or direct connection to ISTS substations. Status of such intra-state substations as per available information is given at **Annexure-II**.

7.2. STUs may update the status of the transmission system given at **Annexure-II** prior to the meeting for further deliberations in the meeting, if any.

## Annexure-I

## Status of Downstream Transmission Network in ER

Sl. No.	ISTS S/s	State	Voltage ratio, Trans. Cap	Downstream Voltage level (kV)	Unutilised bays	Status of ISTS bay	STU lines for unutilised bays	Status of Lines	
								Date of Award	Completion schedule
1.	Chaibasa	Jharkhand	400/220kV, 2x315MVA	220	2	Existing bay	Chaibasa (POWERGRID) – Jadugoda (JUSNL) 220kV D/c		Exploring for fund
2.	Daltonganj	Jharkhand	400/220/132kV, 2x315MVA+ 2x160MVA	132	2	Existing bay	Daltonganj (POWERGRID) – Chatarpur 132kV D/c	22-10-2019	21-10-2022
3.	Dhanbad	Jharkhand	400/220kV	220	4	Existing bay	LILO of one circuit of 220kV Dumka - Govindpur D/c line at Dhanbad (LILO section 21ckm)	Tender has been floated on 18-02-2022	Dec 2023 (for 02 bays at Dhanbad)
4.	Bolangir	Odisha	400/220kV, 2x315MVA	220	2	Existing bay	LILO of one ckt. of Sadeipalli – Kesinga 220kV D/c at Bolangir		Expected by Mar'22
5.	Keonjhar	Odisha	400/220kV, 2x315MVA	220	2	Existing bay	Keonjhar (POWERGRID) – Turumunga (OPTCL) 220kV D/c		Expected by Jun'22
6.	Pandiabil	Odisha	400/220kV, 2x500MVA	220	2	Existing bay	Pratapsasan (OPTCL) – Pandiabil (POWERGRID) 220kV D/c		Expected by Mar'22
7.	Subashgram	West Bengal	400/220kV, 3x315MVA	220	2	Existing bay	Subashgram (POWERGRID) – Baraipur 220kV D/c line		Line has been charged on 27/01/2021 as anti-theft. Will be commissioned after completion of Baraipur 220kV GIS. Expected by Apr'22
8.	Rajarhat	West Bengal	400/220kV, 2x500MVA	220	4	Existing bay	Rajarhat (POWERGRID) – New Town AA2C 220kV D/c		Severe ROW (12km) in cable laying. Expected by Oct 2022
							Rajarhat (POWERGRID) – Barasat/Jeerat 220kV D/c		Expected by May'22

Sl. No.	ISTS S/s	State	Voltage ratio, Trans. Cap	Downstream Voltage level (kV)	Unutilised bays	Status of ISTS bay	STU lines for unutilised bays	Status of Lines	
								Date of Award	Completion schedule
9.	Sitamarhi (New)	Bihar	400/220/132kV, 2x500MVA + 2x200MVA	132	2	Existing bay	LILO of Benipatti - Pupri 132kV S/c at Sitamarhi (New)		Expected by May'22
10.	Saharsa (New)	Bihar	400/220/132kV, 2x500MVA + 2x200MVA	220	4	Existing bay	Saharsa (New) - Khagaria 220kV D/c line		Expected by Mar'22
							Saharsa (New) - Begusarai 220kV D/c line		Expected by Mar'22
				132	2-ISTS & 2-State	Saharsa (New) - Saharsa 132kV D/c line formed by LILO of Saharsa - Banmankhi and Saharsa - Uda Kishanganj 132kV S/c line		Completed. Charged on no load. 04 nos. of bays are under construction by BSPTCL at Saharsa (New)	
11.	Banka	Bihar	400/220/132kV, 2x500MVA + 2x200 & 1x315MVA	220	2	Under Bidding	Banka (POWERGRID) – Goradih (Sabour New) 220kV D/c line		Funds not yet tied up.

## Annexure-II

**Status of 400kV substations being implemented by STUs in ER under  
intra-state schemes to be connected to ISTS**

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
<b>A Bihar (to be implemented by BSPTCL/BGCL)</b>				
I	<b>Naubatpur GIS</b>	400/220/132/33kV, 2x500MVA + 2x160MVA + 2x80MVA	26.04.2018	Mar'22
a)	LILO of circuits 3 & 4 of Patna (PG)-Balua 400 kV D/c (Quad) line at Naubatpur 400 kV 2x D/C	400kV 2x D/C	26.04.2018	Mar'22
b)	LILO of both circuits of Ara (PG) – Khagaul (BSPTCL) line at Naubatpur (New) 220 kV 2xD/C	220kV 2xD/C	26.04.2018	Mar'22
II	<b>Bakhtiyarpur GIS</b>	400/220/132kV, 2x500MVA + 2x160MVA	26.11.2019	Progressively from July'22 to Dec'22.
a)	LILO of both circuits of Barh – Patna (PG) 400kV D/c (Quad) line-1 at Bakhtiyarpur 400 kV 2xD/C	400kV 2xD/c	26.11.2019	Line ready to be charged matching with Bakhtiyarpur S/s.
III	<b>Jakkanpur GIS</b>	400/220/132/33kV, 2x500MVA + 3x160MVA + 4x80MVA	26.04.2018	Mar'22
a)	LILO of both circuits of Nabinagar-II – Patna (PG) 400kV D/c at Jakkanpur	400kV 2xD/c	26.04.2018	Mar'22
IV	<b>Chappra (New)</b>	400/220/132kV, 2x500MVA + 2x200MVA	Funds not yet tied up	State Govt approval under process.
a)	LILO of 400 kV Barh (NTPC) - Motihari (DMTCL) D/C (Quad) transmission line at Chappra	400kV 2xD/c	Funds not yet tied up	State Govt approval under process.
<b>B Odisha (to be implemented by OPTCL)</b>				
I	<b>Meramundali-B</b>	400/220kV, 2x500MVA	-	ICT-1 charged & ICT-2 in Mar'22.
II	<b>Digapahandi</b>	400/220kV, 2x500MVA	Survey in progress	2025-26
a)	Digapahandi – Therubali – Jeypore 400kV D/c line	400kV D/c	Survey in progress	2025-26
III	<b>Therubali</b>	400kV switching station along with 420kV, 1x125MVA bus reactor	Survey in progress	2025-26
IV	<b>Bhadrak</b>	400/220kV, 2x500MVA	Tendering in progress	2024-25
a)	LILO of Baripada – Duburi and Baripada – Pandiabili 400kV line sections at Bhadrak	400kV D/c	Tendering in progress	2024-25

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
V	Paradeep	Transformation capacity to be updated by OPTCL 765/400kV	Tendering to be done by Feb'2022	2025-26
a)*	Angul (POWERGRID) – Paradeep (OPTCL) 765kV D/c line	765kV D/c	Survey in progress	2025-26
VI	Begunia	765/400kV, 2x1500MVA	Kept in abeyance	Kept in abeyance
a)	Angul – Begunia 765kV D/c line	765kV D/c	Kept in abeyance	Kept in abeyance
b)	LILO of Pandiabil – Digapahandi 400kV D/c line at Begunia	400kV D/c	Kept in abeyance	Kept in abeyance
<b>C Jharkhand (to be implemented by JUSNL)</b>				
I	Jasidih	400/220kV, 2x500MVA	-	Exploring for fund
II	Chandil (New)	400/220kV, 2x500MVA	NIT has been floated on 05-03-2022	Mar'24
a)	Chandil – Chaibasa (POWERGRID) 400kV D/c line	400kV D/c		
III	Koderma	400/220kV, 2x500MVA	-	Exploring for fund
IV	Mander	400/220kV, 2x500MVA	-	Exploring for fund
a)	LILO of Patratu – Ranchi (New) 400kV D/c line at Mander	400kV 2xD/c	-	Exploring for fund
V	Dumka (New)	400/220kV, 2x500MVA	-	Exploring for fund
a)	Dumka (New) – Dhanbad (ISTS) 400kV D/c line	400kV D/c	-	Exploring for fund
<b>D West Bengal (to be implemented by WBSETCL)</b>				
I	Laxmikantpur GIS	400/132kV, 2x315MVA	Land identified. In process of acquisition. Expected by Dec 2024	Land identified. In process of acquisition. Expected by Dec 2024
a)	LILO of Haldia – Subhasgram 400kV D/c line at Laxmikantpur	400kV D/c	-	Expected by Dec 2024

\* OPTCL informed that Paradeep 765/400kV is different that of already under-construction Paradeep 400/220kV S/s, accordingly, they are planning 400kV 2xD/c line between two substations.



# SLD: With Proposal of JODA substation by OPTCL

Exhibit-2

