

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड  
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)  
(भारत सरकार का उद्यम)  
**CENTRAL TRANSMISSION UTILITY OF INDIA LTD.**

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

**Ref. No.: CTUIL/OM/12/16<sup>th</sup> NCT**

03<sup>rd</sup> January 2024

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

**Sub: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 16<sup>th</sup> meeting held on 30-11-2023 under Regulated Tariff Mechanism (RTM).**

NCT vide letter dated 16.02.2023 has awarded various ISTS Transmission schemes for its implementation under RTM mode by the respective implementing agencies indicated in the letter. The same have been forwarded to the respective implementing agencies vide CTU letter dated 16.02.2023 (Copy of letter enclosed at **Annexure-I**). These schemes include the following 2 nos. communication schemes mentioned at sl. no. III (3) & III (4) in the CTU letter:

Sl. No.	Communication Schemes	Implementing Agency
<b>III. Communication Schemes approved by NCT:</b>		
3	Supply and Installation of OPGW on existing 400kV Agra- Ballabhgarh line (181 km) – Replacement	POWERGRID
4	Supply and Installation of OPGW on existing 400kV Kishenpur – Wagoora line (183 km) – Replacement	POWERGRID

Later, CTU vide email dated 31.05.2023 intimated that the above two nos. of schemes were discussed in 66<sup>th</sup> NRPC held on 30.05.2023 for modifications and the same is to be reviewed in the upcoming NCT.

Subsequently, NCT vide letter dated 03-01-2024 has awarded the following revised scheme for its implementation by POWERGRID under RTM mode:

**Modification in the scheme viz. OPGW on 400kV Agra – Ballabhgarh & 400kV Kishenpur – Wagoora line approved in 11<sup>th</sup> NCT:**

Sl. No.	Original Scope	Revised Scope
1.	Replacement of old OPGW and terminal equipment on existing 400kV Agra – Ballabhgarh line (181km) with new OPGW and terminal equipment	Supply & Installation of OPGW alongwith terminal equipment on existing 400kV Agra – Ballabhgarh line (181 km)
2.	Replacement of old OPGW alongwith terminal equipment on 400kV Kishenpur –	Supply & Installation of OPGW alongwith terminal equipment on existing 400kV Kishenpur – Wagoora

Sl. No.	Original Scope	Revised Scope
	Wagoora line with new OPGW (183km) except LILO portion at New Wanpoh (3km) and terminal equipment	line (183km) except LILO portion at New Wanpoh (3kms)

Copy of NCT letter dated 03-01-2024 in this regard is enclosed at **Annexure-II**. The detailed scope of work along with implementation time frame for the above Communication Schemes shall be as per the enclosed letters of NCT.

The implementing agency shall enter into a concession agreement with CTUIL for implementation of aforementioned Transmission/Communication Schemes. However, pending finalization of Concession Agreement, it is requested to initiate necessary actions for implementation of the aforementioned Transmission/Communication Schemes.

This is for your kind information and necessary action, please.

Yours faithfully,



**(Partha Sarathi Das)**  
**Sr General Manager**

**Encl.: as stated.**

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

**CENTRAL TRANSMISSION UTILITY OF INDIA LTD.**

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

Ref. No.: CTUIL/OM/09/Rev

16<sup>th</sup> February 2023

<b>Director (Projects)</b> Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001	<b>Shri Chetan Bundela</b> Torrent Power Grid Ltd. 'SAMANVAY', 600, Topovan, Ambawadi, Ahmedabad, Gujarat
<b>CEO</b> POWERGRID Bikaner Transmission System Ltd. C/o ED (TBCB) Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001	<b>Shri Lonkedra Singh Ranawat</b> Head – Regulatory INDIGRID Unit No. 101, 1 <sup>st</sup> Floor, Windor, Village Kolekalyan Off CST Road, Vidyanagari Marg, Kalina, Santacruz (East), Mumbai – 400 098.

**Sub: Implementation of ISTS Transmission Schemes approved by NCT in its 11<sup>th</sup> meeting held on 28.12.2022 and 17.01.2023 under Regulated Tariff Mechanism (RTM)**

NCT vide letter dated 16.02.2023 has awarded the following ISTS Transmission Scheme for its implementation under RTM mode by implementing agencies as indicated in the table below:

Sl. No.	Transmission Scheme	Implementing Agency
<b>I. Approved ISTS Schemes:</b>		
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A	POWERGRID
2.	Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D:	TPGL
3.	ICT Augmentation at Navsari (New) associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III.	POWERGRID
4.	Western Region Expansion Scheme-XXXIII (WRES-XXXIII): Part B1	POWERGRID
5.	Western Region Expansion Scheme-XXXIII (WRES-XXXIII): Part C1	POWERGRID
<b>II. Modification in the already approved schemes:</b>		
1.	Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part C	POWERGRID
2.	Transmission system for evacuation of power from Rajasthan REZ Ph IV (Part-1) (Bikaner Complex) Part-E  (iii) Augmentation with 5x500MVA, 400/220 kV ICTs at Bikaner-II PS:	POWERGRID Bikaner

Sl. No.	Transmission Scheme	Implementing Agency
		Transmission System Ltd. (PBTSL)
<b>III. Communication schemes approved by NCT:</b>		
1.	Supply and Installation of OPGW on existing 400 kV Jalandhar (PG) – Kurukshetra (PG) line which is to be LILOed at 400 kV Dhanansu (PSTCL) (229 km)	POWERGRID
2.	Supply and Installation of OPGW on existing 400 kV Koldam – Ludhiana (PG) line which is to be LILOed at 400 kV Ropar (PSTCL) (150 kms)	INDIGRID
3.	Supply and Installation of OPGW on existing 400 kV Agra – Ballabgarh line (181km) - Replacement	POWERGRID
4.	Supply and Installation of OPGW on existing 400 kV Kishenpur – Wagoora line (183 km) - Replacement	POWERGRID
5.	Redundant communication system for Bhinmal (PG) and Kankroli (PG) ISTS stations.	POWERGRID
6.	Supply and Installation of OPGW on existing 220kV Anta (NTPC) – Bhiwara line (187 km)	POWERGRID

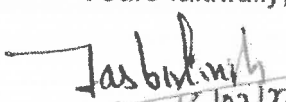
Copy of NCT letter dated 16.02.2023 in this regard is enclosed at **Annexure-I**. The detailed scope of work along with implementation time frame for the above transmission scheme is as per the letter enclosed.

The respective implementing agencies shall enter into a concession agreement with CTUIL for implementation of aforementioned Transmission Scheme. However, pending finalization of Concession Agreement, it is requested to initiate necessary actions for implementation of the aforementioned Transmission Schemes.

The earlier letter ref. no. CTUIL/OM/09 dated 14.02.2023 issued on the above subject stands withdrawn.

This is for your kind information and necessary action, please.

Yours faithfully,

  
 16/02/23  
 (Jasbir Singh)  
 Chief General Manager

**Encl: as stated.**



I/26294/2023

## ANNEXURE-I



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

सेवा में / To

Chief Operating Officer, CTUIL  
Saudamini, Plot No. 2,  
Sector-29, Gurgaon-122001

**विषय/Subject: Implementation of ISTS Transmission Schemes approved by NCT in its 11<sup>th</sup> meeting held on 28.12.2022 and 17.01.2023- regarding**

महोदय/Sir,

The undersigned is directed to inform that NCT has approved implementation of the following ISTS Transmission Schemes in its 11<sup>th</sup> meeting held on 28.12.2022 and 17.01.2023, in line with MoP office order dated 28.10.2021, to be implemented through Regulated Tariff Mechanism (RTM) route by agency as indicated below:

**I. APPROVED ISTS SCHEMES:****1. Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A**

Sl. Nos.	Transmission Scheme	Scope	Implementing Agency
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A	i) Creation of 220 kV level at 765/400 kV Jabalpur PS with installation of 2x500 MVA, 400/220 kV ICTs along with associated ICT bays, ii) 4 Nos. of 220 kV line bays at Jabalpur PS for LILO of Narsinghpur - Jabalpur (MP) 220 kV D/c line at Jabalpur Pool	POWERGRID

I/26294/2023

Detailed scope of the scheme is given below:

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

Estimated Cost: Rs. 126.09 Crs.

Implementing Agency: POWERGRID.

Implementation timeframe: 18 months from date of allocation

**2. Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D:**

<i>Sl. Nos.</i>	<i>Scope of the Transmission Scheme</i>
1.	LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor with OPGW for both main line and LILO section
2.	Bay upgradation work with requisite FOTE at Pirana (PG) & Pirana (T) 400 kV line bays (Bay Upgradation) – 4 Nos@

@ The current rating of existing bays at Pirana (PG) & Pirana(T) is 2000 A. 04 Nos. 400 kV line bays upgradation includes 02 bays upgradation at Pirana (PG) and 02 bays upgradation at Pirana (T). Upgradation at Pirana (T) shall also include upgradation of 400 kV Bus coupler bay and 400 kV Transfer bus coupler bay along with upgradation of bus bar.

**Note:**

- Transmission system for evacuation of 3 GW RE injection at Khavda is being taken up under Phase-I. Phase-II RE scheme for evacuation of 4.5 GW RE injection at Khavda needs to be taken up for evacuation requirement beyond 3 GW from Khavda RE park.
- Implementation of all the transmission packages proposed for evacuation of 4.5 GW RE injection at Khavda RE park under Phase-II (Part A to Part D) needs to be taken up in similar timeframe.

I/26294/2023

iii) The switching scheme of existing 400 kV Pirana (T) S/S is Double Main and Transfer (DMT) Scheme and current rating of existing Bus Coupler bay and Transfer Bus Coupler bay is 2000 A. With upgradation of line bays to 3150 A (to suit the re-conductoring with Twin HTLS conductor), existing 400 kV Bus Coupler bay and Transfer Bus Coupler bay (with associated Bus Bar) shall also be upgraded to 3150 A by the TSP.

The scheme has already been de-notified vide Gazette Notification No. 221 dated 13.01.2023.

Estimated cost of the scheme: Rs.221 Crs (as per CTUIL email dated 10.02.2023)

Implementing agency: Torrent Power Grid Limited (TPGL)

Implementation timeframe: In matching the commissioning timeframe of Khavda Phase-II (Part A to C). The implementing agency under RTM would coordinate with the BPC/SPV of Khavda Phase II (Part A – C) schemes to match the commissioning timeframe.

**3. ICT Augmentation at Navsari (New) associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III:**

Sl. Nos.	Name of Transmission Scheme	Implementation Mode
1.	ICT Augmentation at Navsari (New) S/s associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III	RTM route by TSP of Navsari (new) S/stn i.e. POWERGRID

Detailed scope of the scheme:

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

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

Estimated Cost: Rs. 58.52 Crores.

I/26294/2023

Implementing Agency: POWERGRID.

Implementation timeframe: In matching timeframe of Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B

#### 4. Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B1

Sl. No.	Name of Transmission Scheme	Implementation Mode
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B1	Under RTM to the owner of Gwalior-Satna 765 kV line i.e. Powergrid

Detailed scope of the scheme:

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

Estimated Cost: Rs 19 Crs

Implementing Agency: POWERGRID.

Implementation timeframe: In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B

#### 5. Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C1

Sl. Nos.	Name of Transmission Scheme	Implementation Mode
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C1	RTM route to POWERGRID, the TSP of Jabalpur - Orai 765 kV S/c line.

Detailed scope of the scheme:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
---------	----------------------------------	--------------



I/26294/2023

1.	Conversion of 1x330 MVAR, 765 kV Fixed line reactor at Orai end of Ishanagar – Orai 765 kV line [formed after LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar (New) S/s] to Bus reactor at Orai S/s.	Shifting of 330 MVAR, 765 kV Line reactor of Orai-Jabalpur line at Orai end and installing the same as Bus Reactor in existing bay (GIS) at Orai.
----	--	---

Estimated cost: Rs. 0.5 Crore

Implementing Agency: POWERGRID

Implementation timeframe: In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C.

**I. MODIFICATION IN THE ALREADY APPROVED SCHEMES:**

- (1) Modification in the “**Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part C**” has been approved in the 11<sup>th</sup> meeting of NCT. The modified scope is as given below:

Sl. No.	Original Scope of the Transmission Scheme	Modified scope of the transmission scheme
1	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500MVA 765/400 kV, 1500 MVA ICT: 1 Nos. 765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA 765/400 kV, 1500 MVA ICT: 1 Nos. 765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.
2	Banaskantha -Sankhari 400 kV 2 <sup>nd</sup> D/c line (26 km) Line Length : 26 km 400 kV line bays- 4 Nos. (2 Nos. at Banaskantha and 2 Nos. at Sankhari)	Banaskantha – Sankhari section of Banaskantha – Prantij 400 kV D/c line (Twin AL59 Moose equivalent) Route Length : 26 km 400 kV line bays- 2 Nos. (at Banaskantha)

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

Implementing Agency: POWERGRID

I/26294/2023

**(2) Transmission system for evacuation of power from Rajasthan REZ Ph IV (Part-1)  
(Bikaner Complex) Part-E**

The scheme inter-alia includes augmentation with 5x500 MVA, 400/220 kV ICTs at Bikaner-II PS:

• **Augmentation with 5x500 MVA, 400/220 kV ICTs at Bikaner-II PS:**

CEA vide letter dated 15.11.22 has allocated the implementation of above scheme to POWERGRID under RTM.

CTUIL vide its mail dated 01.12.2022 has informed that Bikaner-II PS is under implementation by POWERGRID Bikaner Transmission System Ltd. (PBTSL) [100% subsidiary of POWERGRID] under TBCB.

Accordingly, the implementing agency for augmentation with 5x500 MVA, 400/220 kV ICTs at Bikaner-II PS is POWERGRID Bikaner Transmission System Ltd. (PBTSL).

**II. COMMUNICATION SCHEMES APPROVED BY NCT:**

Sl. Nos.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Allocated to	Estimated Cost (Rs Crs)
1.	Supply and Installation of OPGW on existing 400 kV Jalandhar (PG) – Kurukshetra (PG) line which is to be LILOed at 400 kV Dhanansu (PSTCL) (229 km)	RTM	24 months	POWER GRID	10.3
2.	Supply and Installation of OPGW on existing 400 kV Koldam (Indigrid) – Ludhiana (PG) line which is to be LILOed at 400 kV Ropar (PSTCL) (150 kms)	RTM	18 months	INDIGRID	6.7
3.	Supply and Installation of OPGW on existing 400 kV Agra – Ballabgarh line (181 km) - Replacement	RTM	18 months	POWER GRID	9.05


I/26294/2023

Sl. Nos.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Allocated to	Estimated Cost (Rs Crs)
4.	Supply and Installation of OPGW on existing 400 kV Kishenpur – Wagoora line (183 km) - Replacement	RTM	18 months	POWER GRID	9.15
5.	Redundant communication System for Bhinmal (PG) and Kankroli (PG) ISTS stations	RTM	18 months	POWER GRID	2.55
6.	Supply and Installation of OPGW on existing 220 kV Anta (NTPC) – Bhilwara line (187 km)	RTM	18 months	POWER GRID	9.35

The above schemes are awarded to CTUIL for implementation under RTM route. CTUIL is requested to take necessary action for entering into a concession agreement with the respective agency for implementation of the above schemes.

The letter dated 14.02.2023 on the above subject stands withdrawn.

Yours faithfully



16.02.2023

(ईशान शरण/Ishan Sharan)

मुख्य अभियंता /Chief Engineer &  
Member Secretary (NCT)

Copy to:

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



I/32813/2024



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

सेवा में / To

Chief Operating Officer, CTUIL

Saudamini, Plot No. 2,

Sector-29, Gurgaon-122001

**विषय/Subject: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 16<sup>th</sup> meeting held on 30.11.2023- regarding**

**Reference: CEA letter No. I/30355/2023 dated 18.09.2023**

महोदय/Sir,

This is in reference to CEA letter dated 18.09.2023 awarding the ISTS Communication schemes approved in the 15<sup>th</sup> meeting of NCT for implementation under RTM. Based on the confirmation of minutes in the 16<sup>th</sup> meeting of NCT held on 30.11.2023, the item no. II of CEA letter dated 18.09.2023 are modified as under:

**II. Modifications in the schemes viz. OPGW on 400 kV Agra - Ballabhgarh & 400 kV Kishenpur - Wagoora line approved in 11<sup>th</sup> NCT**

NCT approved the revised scope for implementation by POWERGRID under RTM mode:

Sl. No.	Original Scope	Revised Scope
1.	Replacement of old OPGW and terminal equipment on existing 400 kV Agra – Ballabhgarh line (181 km) with new OPGW and terminal equipment	Supply & Installation of OPGW alongwith terminal equipment on existing 400 kV Agra – Ballabhgarh line (181 km)
2.	Replacement of old OPGW alongwith terminal equipment on 400 kV Kishenpur-Wagoora line with new OPGW (183 km)	Supply & Installation of OPGW alongwith terminal equipment on existing 400 kV Kishenpur –

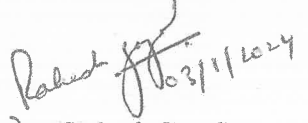
सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 टेलीफोन : 011-26732613 ईमेल: cea-pspa2@gov.in वेबसाइट: www.cea.nic.in

Sewa Bhawan, R.K Puram-I, New Delhi-110066 Telephone: 011-26732613, Email: cea-pspa2@gov.in Website: www.cea.nic.in

I/32813/2024

	except LILO portion at New Wanpoh (3 km) and terminal equipment	Wagoora line (183 km) except LILO portion at New Wanpoh (3 kms)
--	---	---

भवदीय/Yours faithfully,



(राकेश गोयल/Rakesh Goyal)

मुख्य अभियंता /Chief Engineer &  
Member Secretary (NCT)Copy to:

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