सत्यमेव जयते

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

सेवा में /To

As per list of Addresses

विषय: ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की बत्तीसवीं बैठक के संशोधित कार्यवृत्त ।

Subject: Revised minutes of the 32nd Meeting of the National Committee on Transmission (NCT)-reg.

महोदया (Madam) / महोदय (Sir),

The 32nd meeting of the National Committee on Transmission (NCT) was held 12th August, 2025 at New Delhi. The revised minutes of the meeting are attached herewith.

भवदीय / Yours faithfully

22-8-2025

(बी.एस.बैरवा / B.S. Bairwa)
मुख्य अभियन्ता एवं सदस्य सचिव,(एन.सी.टी.)/
Chief Engineer & Member Secretary (NCT)

प्रतिलिपि / Copy to:

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

List of Addresses:

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power Systems), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.
3.	Member (Economic & Commercial), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	4.	Director (Trans), Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Sh, Abhay Bakre, Mission Director, MNRE Atal Akshay Urja Bhawan Opposite CGO Complex gate No. 2, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, CTUIL, Floors Nos. 5-10, Tower 1, Plot Nos. 16, IRCON International Tower, Institutional Area, Sector 32, Gurugram, Haryana - 122001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9 (1st Floor), Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016
9.	Sh. Ravinder Gupta Expert Member	10	Smt. Raheela Wani, TCC& Managing Director, JKPTCL, Office of Managing Director, Grid Station Complex, Janipur, Jammu/ PDD Complex Bemina Srinagar- 190010
11.	Member Secretary , Western Region Power Committee 2nd Floor, Vidyut Seva Bhavan, P.O.: Sunder Nagar, Danganiya, Raipur: 492 013	12.	Shri Shivdas.S, Chairperson (TCC) and Director (Transmission, System Operation & Planning), KSEBL Vydyuthi Bhavanam, Pattom, Thiruvananthapuram, Kerala- 695004
13.	Sh. Sabyasachi Roy, Director (Operations), WBSETCL	14.	Shri A T Mondal Chairman, NERPC & Hon'ble Power Minister, Govt. of Meghalaya NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya
15.	Shri Santanu Basu (IAS) Chairperson, Eastern Regional Power Committee (ERPC) & CMD (WBSEDCL) 14, Golf Club Road, Tollygunge Kolkata-700033		

Special Invitee

1. Chief Engineer (PCD), CEA
2. CEO, RECPDCL
3. CEO, PFCCL

Table of Minutes

Minutes of the 32nd meeting of National Committee on Transmission

1 Confirmation of the minutes of the 31st meeting of National Committee on Transmission.

1.1 The minutes of the 31st meeting of NCT held on 14.07.2025 were issued on 04.08.2025 vide CEA letter Nos. CEA-PS-12-13/3/2019-PSPA-II. No comments have been received on the minutes.

1.2 Members confirmed the minutes.

2 Status of the transmission schemes noted/approved/recommended to MoP in the 31st meeting of NCT:

2.1 NCT noted the following:

2.1.1 Status of transmission schemes approved/recommended:

Sr. No	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Mode of Implementation	BPC	Award/ Gazette notification
1.	Network Expansion Scheme for drawal of power at South Kalamb S/s: **Part A**	Recommended	TBCB	PFCCL	Informed to MoP vide letter dated 04.08.2025. Gazette notification under process.
2.	Transmission system strengthening for integration of additional RE potential at Davanagere (0.25 GW) and Bellary (2.75 GW)	Recommended	TBCB	RECPDCL	
3.	Transmission system strengthening at Tumkur-II for integration of additional RE potential (1.5 GW)	Recommended	TBCB	PFCCL	
4.	Network Expansion Scheme for drawal of power at South Kalamb S/s: **Part B** (WTPL line reconductoring)	Approved	RTM through Western Transco Power Ltd (WTPL) (a subsidiary of AESL)	Not Applicable	Informed to CTUIL vide letter dated 04.08.2025.
5.	Network Expansion Scheme for drawal of power at South Kalamb S/s: **Part C** (POWERGRID Bay	Approved	RTM through through POWERGRID	Not Applicable	

Sr. No	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Mode of Implementation	BPC	Award/ Gazette notification
	Upgradation)				
6.	Transmission System for providing connectivity to RE applicant(s) at Navinal (Mundra)(GIS)	Approved	RTM through Navinal Transmission Limited [a subsidiary of M/s Adani Energy Solutions Limited (AESL)] i.e. the TSP of Navinal (Mundra) (GIS)	Not Applicable	
7.	North Eastern Region Expansion Scheme-XXIII (NERES-XXIII)	Approved	RTM through POWERGRID	Not Applicable	
8.	OPGW installation on 765kV Sasan – Vindhyachal PS 2 x S/c Lines which are proposed to be bypassed at Vindhyachal PS (Part A & Part B)	Approved	RTM	Not Applicable	

2.1.2 **Status of transmission schemes where modifications was suggested/approved in 31st NCT meeting:**

S. Nos.	Scheme where modifications was suggested	Status
1.	Modification in Time-line of 400/220 kV 500 MVA ICT (7th) at Mandsaur PS being implemented under "Augmentation of transformation capacity and Implementation of line bays at Mandsaur S/s for RE Interconnection" scheme	Informed to CTUIL vide letter dated 04.08.2025.

3 Modification in earlier approved transmission schemes

3.1 De-linking of 04 Nos. of Bays at Edayarpalayam approved under Raigarh – Pugalur HVDC Scheme-II (AC System Strengthening at Pugalur End)

3.1.1 Representative of CTUIL informed that HVDC Bipole link connecting Raigarh (Chhattisgarh) to Pugalur (Tamil Nadu) and North Trichur (Kerala) was awarded to POWERGRID vide MoP OM dated 10.12.2014. The work is being implemented under RTM with three schemes:

- Scheme-I: Raigarh–Pugalur 6000 MW HVDC System
- Scheme-II: AC system strengthening at Pugalur
- Scheme-III: Pugalur–Trichur 2000 MW VSC-based HVDC System

3.1.2 He further informed that Scheme-I and Scheme-III have been completed and commercially operational. However, Scheme-II includes implementation of 4 Nos. of line bays at the upcoming Edayarpalayam Substation of TANTRANSCO which were assigned to TANTRANSCO on a DCO basis, with ₹36 crore deposited as per MoU. However, due to delay in commissioning of the Edayarpalayam substation, the 400 kV Pugalur–Edayarpalayam and Edayarpalayam–Udumalpet lines were directly connected, bypassing the Edayarpalayam substation. As of now, the substation remains incomplete, with no concrete implementation plan by TANTRANSCO.

3.1.3 CTUIL proposed that the "4 Nos of 400 kV Line bays at Edayarpalayam (TANTRANSCO Substation) for Terminating Pugalur HVDC Station-Edayarpalayam 400 kV (Quad) D/c line and Edayarpalayam-Udumalpet 400 kV (Quad) D/c lines" may be delinked from the scope of works of "Scheme-II: AC system strengthening at Pugalur". The same can be taken up subsequently as a separate project as and when TANTRANSCO finalizes the construction of 400 kV Edayarpalyam Substation.

3.1.4 After detailed deliberations, NCT noted the proposal and directed PSPM Division, CEA to note the same for monitoring purpose. Further, it was decided that the implementation of 4 Nos. of line bays at Edayarpalyam for termination of lines may be discussed separately whenever there is clear visibility of the Edayarpalyam Substation of TANTRANSCO.

3.2 Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-5:6 GW) [Barmer Complex] Barmer-II: 6 GW (Solar)

3.2.1 Representative of CTUIL stated that in the 30th NCT meeting held on 30.05.25, Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-5 :6 GW) [Barmer Complex] Barmer-II: 6 GW (Solar) was recommended to be implemented under TBCB mode by RECPDCL (BPC) with implementation timeframe of 54 months from allocation of project (Pole-1: 48 months, Pole-2: 54 months). The estimated cost of the project is ₹ 24,974 Cr**.**

3.2.2 He further stated, in general, Implementation time required for HVDC scheme (48 month for Pole-1) is higher than Implementation time required for SynCon (30 months). CTUIL mentioned that the specifications for SynCon are not yet ready and proposed that in present scheme, SynCon may be separated from main HVDC package

and implemented as separate package with implementation timeframe matching with HVDC transmission scheme as it will avoid the delay in bidding process of HVDC transmission scheme.

3.2.3 CTU further stated that 400/33 kV, 2x50 MVA transformers for exclusively supplying auxiliary power to HVDC terminal is not required & therefore same may be deleted from HVDC scope of works. With the above deletion, the overall cost of scheme will be reduced by Rs 22.72 Cr.

3.2.4 GRID-INDIA mentioned that SynCons are required to be commissioned in matching time-frame to maintain the requisite fault level/SCR at Barmer-II. The SCR at Barmer-II is already on the lower side. Some implementation time margin may be kept while deciding the project execution timeline of SynCons to avoid any delay.

3.2.5 After deliberations, NCT opined that as the scheme is yet to be notified by the Ministry, the specifications of SynCon may be prepared in consultation with the OEMs at the earliest. CEA may also provide their technical support to CTU for finalization of specifications of SynCon.

3.2.6 Accordingly, the proposal of CTUIL for segregation SynCon from main HVDC package in the scheme "Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-5:6 GW) [Barmer Complex] Barmer-II: 6 GW (Solar)" was not agreed by the NCT. However, it was agreed to delete the 400/33 kV, 2x50 MVA ICTs from the earlier approved scope.

3.3 Change in Type (AIS/GIS) of Shadnagar (TGTRANSCO) substation for "Transmission System for Kurnool-IV REZ - Phase-II (3 GW)

3.3.1 It was informed that in the 28th NCT meeting held on 06.03.2025, "Transmission System for Kurnool-IV REZ – Phase-II" was recommended for implementation through TBCB and the same is under bidding stage. The scheme includes 2 Nos. of AIS 400 kV line bays at Shadnagar (TGTRANSCO) for Shadnagar (765/400 kV ISTS) - Shadnagar (TGTRANSCO) 400 kV quad D/c line. The detailed scope of work of the agreed transmission system is given below*:*

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***	***Schedule***
1.	Augmentation of Kurnool-IV PS by 400/220 kV, 4x500 MVA ICTs	• 400/220kV, 500 MVA, ICTs – 4 Nos. • 400kV ICT bays – 4 Nos. • 400kV Bus Sectionalizer: 1 set • 220kV ICT bays – 4 Nos. • 220kV Bus Sectionalizer: 1 set • 220 kV Bus Coupler (BC) Bay – 1 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 1 No.	24 months

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*	*Schedule*
2.	220kV line bays at Kurnool-IV PS for termination of dedicated transmission lines of RE generation projects	• 220kV line bays – 5 Nos.	24 months
3.	400kV line bays at Kurnool-IV PS for termination of dedicated transmission lines of RE generation projects	• 400kV line bays – 1 No.	24 months
4.	Augmentation of Kurnool-IV PS by 765/400kV, 2x1500 MVA and 400/220 kV, 6x500 MVA ICTs	• 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 6 Nos. • 400kV ICT bays – 6 Nos. • 220kV ICT bays – 6 Nos. • 220kV Bus Sectionalizer: 1 set • 220 kV Bus Coupler (BC) Bay – 1 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 1 no.	30 months
5.	220kV line bays at Kurnool-IV PS for termination of dedicated transmission lines of RE generation projects	• 220kV line bays – 8 Nos.	30 months
6.	400kV line bays at Kurnool-IV PS for termination of dedicated transmission lines of RE generation projects	• 400kV line bays – 1 no.	30 months
7.	Establishment of 4x1500 MVA, 765/400 kV Shadnagar Station with 2x330 MVAr (765 kV) bus reactors with space provision for establishment of 220 kV switchyard **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos.	• 765/400kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765kV ICT bay – 4 Nos. • 400kV ICT bay – 4 Nos. • 765kV line bays – 4 Nos. (at Shadnagar for termination of LILO of Kurnool-IV – Bidar 765kV D/c line) • 765 kV, 330 MVAr Bus Reactors – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit) • 765 kV Bus Reactor bays – 2 Nos. • 400kV line bays – 4 Nos. (at Shadnagar for termination of Shadnagar – Shadnagar	30 months

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*	*Schedule*
	• 765kV line bays – 8 Nos. (with provision for SLR) • 400kV line bays – 8 Nos. (with provision for SLR) • 400kV Bus Sectionalizer: 1 set **Future Space Provisions for 220kV switchyard:** • 400/220kV, 500 MVA, ICTs – 10 Nos. • 400kV ICT bays – 10 Nos. • 220kV ICT bays – 10 Nos. • 220kV line bays – 16 Nos. • 220kV Bus Sectionalizer: 3 set • 220 kV Bus Coupler (BC) Bay – 4 no. • 220 kV Transfer Bus Coupler (TBC) Bay – 4 no.	(TGTRANSCO) and Shadnagar – Kethiredipally (TGTRANSCO) 400 kV quad D/c lines)	
8.	LILO of Kurnool-IV – Bidar 765kV D/c line at Shadnagar (about 50 kms)	~ 50 km	30 months
9.	Shadnagar – Shadnagar (TGTRANSCO) 400 kV quad D/c line (about 50 kms) {TGTRANSCO to upgrade Shadnagar (TGTRANSCO) to 400 kV in matching time frame}	~ 50 km 400kV line bays – 2 Nos. (at Shadnagar (TGTRANSCO))	30 months
10.	Shadnagar – Kethiredipally (TGTRANSCO) 400 kV quad D/c line (about 60 kms)	~ 60 km 400kV line bays – 2 Nos. (at Kethiredipally (TGTRANSCO))	30 months

3.3.2 It was also informed that a meeting was convened by CEA on 07.07.2025 with participation from CEA, SRLDC, CTUIL and TGTRANSCO for discussions on intra-state proposals of Telangana. In the meeting, TGTRANSCO proposed for construction of Shadnagar 400/220 kV Substation as a GIS Substation. Further, in response to BPC's communication, TGTRANSCO vide letter dated 25.07.2025 confirmed that Shadnagar (TGTRANSCO) substation would be "GIS" type.

3.3.3 In view of these developments, representative of CTUIL proposed to modify scope of the scheme at para-9 as **"**Shadnagar – Shadnagar **GIS** S/s (TGTRANSCO) 400 kV quad D/c line (about 50 kms) {TGTRANSCO to implement Shadnagar GIS S/s in matching time frame} with 400 kV **GIS** line bays – 2 Nos. (at Shadnagar GIS S/s (TGTRANSCO))". He also mentioned that this change in scope of works of line bays

from AIS to GIS shall lead to increase in estimated cost by additional ₹ 35 crore. It was explained that this additional cost will be about 1.08% of the original cost of the scheme for which NCT is empowered to approve.

3.3.4 After deliberations, NCT approved the modification of Change in Type of bay to be constructed at Shadnagar (TGTRANSCO) substation from AIS to GIS in the transmission scheme "Transmission System for Kurnool-IV REZ - Phase-II (3 GW) and para-9 of the transmission scheme may be updated as below:

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***	***Schedule***
9.	Shadnagar – Shadnagar **GIS** (TGTRANSCO) 400 kV quad D/c line (about 50 kms) {TGTRANSCO to implement 400kV Shadnagar **GIS** (TGTRANSCO) substation in matching time frame}	~ 50 km 400kV **GIS** line bays – 2 Nos. (at Shadnagar **GIS** (TGTRANSCO))	30 months

4 New Transmission Schemes:

4.1 WR-ER Inter-Regional Network Expansion Scheme

4.1.1 Representative of CTUIL stated that to alleviate critical loading in the WR–ER transmission corridors under peak solar scenarios (2028–29), ensure N-1 reliability, and enable evacuation of power from upcoming generation projects in Chhattisgarh [in order to facilitate evacuation of power from 2x800MW Raigarh TPS of APL at Raigarh (Kotra)-II, Korba Power Limited (2x660MW) at Champa and & Korba Power Limited (2x800MW) at Dharamjaygarh Substation], two new 765/400 kV ISTS substations at Raigarh (Kotra-II) in WR and Jamshedpur (New) in ER along with WR – ER inter-regional link and associated transmission lines have been planned. The scheme addresses overloading issues on key 765 kV and 400 kV lines in WR & ER, mitigates critical loading and fault level constraints at existing Raigarh (Kotra).

4.1.2 It was also informed that, scheme was recommended in a Special Joint TCC and ERPC meeting of ERPC held on 11.08.2025 and 55th meeting of WRPC held on 08.08.2025

4.1.3 GRID-INDIA stated that, with the future generation envisaged in the Raigarh complex and anticipated power flow from NR to ER region, the utilization of Champa–Kurukshetra HVDC in the forward direction (WR->NR) could be limited during high VRE generation scenario in NR. Therefore, possibility of reverse power flow capability in HVDC Champa–Kurukshetra bipoles may be explored.

4.1.4 GRID-INDIA further added that, with the LILO of 765kV New Ranchi-Medinipur D/c and 400kV New Ranchi-New Purulia PSP D/c at Jamshedpur, low voltages in West Bengal and N-1 violation of 765/400 kV ICTs at New Jeerat is observed. Further, in

lean demand period high voltage is envisaged in Jamshedpur/Jeerat area. Accordingly, the following suggestions were made from voltage stability and reliability perspective in Kolkata / Jeerat area:

a) A new 765kV New Jamshedpur-New Jeerat D/C line along with Switchable L/R (with NGR) at both ends of 765kV New Jamshedpur-New Jeerat D/C for voltage regulation.
b) At 765 kV New Jamshedpur station, each circuit of the New Ranchi D/C to be kept in same dia of the Medinipur D/C, and each circuit of Tamnar D/C in the dia of the Jeerat D/C to enhance the reliability in the event of bus tripping.
c) Augmentation of transformation capacity at New Jeerat by adding one or more 1500 MVA 765/400kV ICTs.

4.1.5 Member (E&C), CEA stated that efforts should be made to make multiple packages of large scheme to encourage more participation from the bidders and to create wider competition in the market.

4.1.6 After deliberations, the transmission scheme "WR-ER Inter-Regional Network Expansion Scheme Part-A" and "WR-ER Inter-Regional Network Expansion Scheme Part-C" were recommended for implementation under TBCB mode while Transmission scheme "WR-ER Inter-Regional Network Expansion Scheme Part-B" was approved for implementation under RTM mode as follows:

(A) Summary of the transmission schemes is given below:

Sl. No.	**Name of the scheme and tentative implementation timeframe**	**Estimated Cost (₹ Crore)**	**Remarks**
1.	WR-ER Inter-Regional Network Expansion Scheme-**Part A**	6272.30 Cr.	Recommended under TBCB with RECPDCL as BPC
3.	WR-ER Inter-Regional Network Expansion Scheme-**Part B**	80.05 Cr.	Approved under RTM through M/s Purulia and Kharagpur Transmission Company Ltd. (owned by Indigrid)
2.	WR-ER Inter-Regional Network Expansion Scheme-**Part C**	912.6	Recommended under TBCB with RECPDCL as BPC
	Implementation timeframe: **Part A:** The implementation timeline is 24 months from the date of allocation. **Part B:** 24 months from date of allocation [matching with WR-ER Inter-Regional Network Expansion Scheme (Part-A)] **Part C:** 31.03.2029		

(B) Detailed scope of the scheme is given below:

a) **WR-ER Inter-Regional Network Expansion Scheme-Part A**

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
1.	Establishment of 2x1500MVA, 765/400kV S/s at Jamshedpur (New) in Jharkhand **Additional space for future expansion**: - 765/400kV, 4x1500MVA (12x500MVA single phase units) ICTs along with associated ICT bays at both voltage levels - 400/220kV, 6x500MVA ICTs along with associated ICT bays at both voltage levels - 765kV, 2x330MVAr (6x110MVAr single phase units) bus reactor along with associated bay - 420kV, 2x125MVAr bus reactor along with associated bay - 765kV line bays (along with space for switchable line reactor) for future lines: 8 Nos. - 400kV line bays (along with space for switchable line reactor) for future lines: 10 Nos. - 220kV line bays for future lines: 12 Nos. - 765kV bus sectionaliser bay: 1 set - 400kV bus sectionaliser bay: 1 set - 220kV bus sectionaliser bay: 1 set - 220kV bus coupler bay: 2 set - 220kV transfer bus coupler bay: 2 set	- 765/400kV, 2x1500MVA ICT (7x500MVA single phase units) - 765kV, 2x330MVAr bus reactor (7x110MVAr single phase units) - 420kV, 125MVAr bus reactor: 2 Nos. - 765kV ICT bays: 2 Nos. - 765kV Bus reactor bays: 2 Nos. - 400kV ICT bays: 2 Nos. - 400kV Bus reactor bays: 2 Nos. - 765kV line bays: 6 Nos. (2 nos. for Jamshedpur – Tamnar 765kV D/c line and 4 nos for LILO of Ranchi (New) – Medinipur 765kV D/c line) - 400kV line bays: 4 Nos. [for LILO of Ranchi (New) – New PPSP 400kV D/c line] - 765kV, 330MVAr (3x110MVAR single phase units) switchable line reactor along with associated bays in each circuit of Raigarh (Tamnar) – Jamshedpur 765kV D/c line	788.05
2.	Establishment of 3x1500MVA, 765/400kV S/s (on 765kV Bus section-II & 400kV Bus Section-II) at Raigarh (Kotra)-II S/s in Chhattisgarh with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor (on 765kV Bus section-II & 400kV Bus Section-II)		-
2A	**Additional space for future expansion**:	**<u>Common Transmission System Augmentation:</u>**	518.85

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
	- Creation of 1100kV level - 1100kV bus sectionaliser bay: 1 set (to establish Sec-I & Sec-II) - 400kV bus sectionaliser bay :3 sets (to establish Sec-I, Sec-III & Sec-IV) - 1100/400kV, 6x3000MVA (19x1000 MVA single phase units) ICTs along with associated ICT bays. • 1100kV side: - 3 Nos. on Bus Sec-I & 3 nos. on Bus Sec-II) • 400kV side: 3 Nos. on Bus Sec-III & 3 Nos. on Bus Sec-IV) - 1100kV line bays (along with space for switchable line reactor) for future lines: 12 Nos. (6 Nos. on Bus Sec-I & 6 Nos. on Bus Sec-II) - 1200kV, 4x660MVAr (13 x 220MVAR single phase units) bus reactor along with associated bays (2 Nos. on Bus Sec-I & 2 Nos. on Bus Sec-II) - 765kV bus sectionaliser bay: 1 set (to establish Sec-I) - 765/400kV, 5x1500MVA (15 x 500 MVA single phase units) ICTs along with associated ICT bays • 765kV side: - 4 Nos. on Bus Sec-I & 1 Nos. on Bus Sec-II) • 400kV side: - 4 Nos. on Bus Sec-I & 1 Nos. on Bus Sec-II) - 765kV, 2x330MVAr (6 x 110MVAr single phase units) bus reactor along with associated bay (on Bus Sec-I) - 420kV, 6x125MVAr bus reactor along with associated bay (2 on Bus Sec-I; 2 on Bus Sec-III & 2 on Bus Sec-IV) - 765kV line bays (along with space for switchable line reactor) for future lines: 6 Nos. (6 on Bus Sec-I) - 400kV line bays (along with space for switchable line reactor) for future lines: 22 Nos. (6 on Bus Sec-I; 4 on Bus Sec-II, 6 on Bus Sec-III & 6 on	- 765kV, 2x330MVAr bus reactor (7x110MVAr single phase units) - 420kV, 125MVAr bus reactor: 2 Nos. - 765kV Bus reactor bays: 2 Nos. - 400kV Bus reactor bays: 2 Nos. - 765kV line bays: 6 Nos. (2 nos. for Raigarh (Tamnar) - Raigarh(Kotra)-II 765kV D/c line and 4 nos. for LILO of Dharamjaygarh (Sec-B) – Jharsuguda (Sec-A) 765kV D/c line 765kV D/c line) - 765kV, 240MVAr (3x80MVAr single phase units) switchable line reactor along with associated bays in each circuit of Raigarh (Kotra)-II – Jharsuguda (Sec—A) 765kV D/c section along with 1x80MVAr 765kV spare reactor	

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
	Bus Sec-IV) - Establishment of 6000 MW, ± 800 kV Raigarh (Kotra-II) (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard (2x1500 MW on 400 kV Sec-III along with associated 4 no. bays & 2x1500 MW on 400 kV Sec-IV along with associated 4 no. bays) & all associated equipment (incl. filters)/bus extension, etc.		
2B		**ATS incl. terminal bays identified for 2x800MW Raigarh TPS of M/s APL (appl. No.2200001709):** - 765/400kV, 3x1500MVA ICT (10x500MVA single phase units) - 765kV ICT bays: 3 Nos. - 400kV ICT bays: 3 Nos. - 400kV line bays: 2 Nos. [for interconnection of 2x800MW Raigarh TPS of M/s APL to Raigarh (Kotra)-II 400kV D/c line]	415.44
3.	Bypassing of Raigarh (Tamnar) – Dharamjaygarh (Sec-B) 765kV D/c line & Raigarh(Kotra) – Raigarh (Tamnar) 765kV D/c line at Raigarh (Tamnar) S/s so as to form at Raigarh (Kotra) – Dharamjaygarh (Sec-B) 765kV D/c line	10km (Route length)	65.47
4.	LILO of Dharamjaygarh (Sec-B) – Jharsuguda (Sec-A) 765kV D/c line at Raigarh (Kotra)-II S/s	LILO length ~40 km	523.87
5.	Raigarh (Tamnar)[@]- Raigarh(Kotra)-II S/s 765kV D/c line	50km	327.39
6.	765kV, 330MVAr switchable line reactor along with associated bays in each line of Raigarh(Tamnar) – Jamshedpur 765kV	- 765kV, 330MVAr switchable line reactors – 2 Nos. - Switching equipment for line	132.50

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
	D/c line at Raigarh(Tamnar) end	reactors – 2 Nos. - 765kV spare reactor: 1x110MVAr	
7.	Raigarh(Tamnar)[@] – Jamshedpur (New) 765kV D/c line	315km	2111.45
8.	LILO of Ranchi (New) – Medinipur 765kV D/c line at Jamshedpur (New)	51km and 49km	709.05
9.	LILO of Ranchi (New) – New PPSP 400kV D/c line at Jamshedpur (New) (a) Jamshedpur (New) to LILO section towards Ranchi (New) needs to be implemented with Twin Moose (b) Jamshedpur (New) to LILO section towards New PPSP needs to be implemented with Twin HTLS (ampacity of single HTLS as 1574A at nominal voltage)	63km Twin Moose 63km Twin HTLS	532.59
10.	Installation of new 765/400kV, 1x1500MVA (3x500MVA single phase units) ICT (3rd) at Jeerat (New) S/s of M/s POWERGRID Medinipur Jeerat Transmission Limited (PMJTL) along with associated bays at both ends	• 765/400kV, 1x1500MVA (3x500MVA single phase units) ICT: 1 no. • 765kV ICT bay: 1 no. • 400kV ICT bay: 1 no	147.64
		Total	**6272.30**

Note:

1. *[@]4 Nos. 765kV line bays vacated at Raigarh (Tamnar) S/s after bypass arrangement mentioned at Sl. No. 3 of the scope of works [i.e. bypassing of Raigarh (Tamnar) – Dharamjaygarh (Sec -B) 765kV D/c line & Raigarh (Kotra) – Raigarh (Tamnar) 765kV D/c at Raigarh (Tamnar)] to be utilized for termination of 765kV lines at Raigarh (Tamnar) S/s i.e. 2 nos. for Raigarh (Tamnar) – Raigarh (Kotra-II) 765kV D/c proposed line and 2 nos. for Raigarh (Tamnar) – Jamshedpur (New) 765kV D/c proposed line.*
2. *After the implementation of subject bypassing arrangement at the outskirts of Raigarh (Tamnar) S/s, the existing unutilized portions of Raigarh (Kotra) – Raigarh (Tamnar) and Raigarh (Tamnar) – Dharamjaygarh (Sec -B) 765kV D/c line sections at Raigarh (Tamnar) end may be utilized for termination of proposed 765kV D/c lines under the subject scheme i.e. proposed 765kV D/c lines may be terminated at bypassing points. This shall ensure utilization of existing ISTS transmission infrastructure. However, if the said existing ISTS transmission line sections remain unutilized at Raigarh (Tamnar) end, due to any reason, the same shall be*

dismantled by the TSP of the subject scheme and cost of scrapped assets may be adjusted under subject transmission scheme. In both cases (viz. utilization of existing line sections or its scarping), the original tariff of Raigarh (Tamnar) – Dharamjaygarh (Sec -B) 765kV D/c line & Raigarh (Kotra) – Raigarh (Tamnar) 765kV D/c line shall remain unaffected.

Also, TSP of Raigarh (Tamnar) S/s shall provide space for above scope of work at the existing Raigarh (Tamnar) S/s free of cost.

3. *TSP shall implement Inter-tripping scheme on Dharamjaygarh (Sec-B) – Raigarh (Kotra)-II 765 kV D/c line (for tripping of the switchable line reactor at Dharamjaygarh (Sec-B) end along with the main line breaker).*
4. *TSP of the subject scheme shall implement Inter-tripping scheme on Raigarh (Kotra)-II – Jharsuguda 765 kV D/c line (for tripping of the switchable line reactor at Raigarh (Kotra)-II end along with the main line breaker).*
5. *LILO of Ranchi (New) – Medinipur 765kV D/c line at Jamshedpur (New) shall be carried out such that one circuit of Ranchi (New) – Jamshedpur (New) 765kV D/c line and one circuit of Jamshedpur (New) – Medinipur 765kV D/c line are terminated in same diameter. Similarly, second circuit of both line sections may also be terminated in bays of the same diameter.*
6. *LILO of Ranchi (New) – New PPSP 400kV D/c line at Jamshedpur (New) shall be carried out such that one circuit of Ranchi (New) – Jamshedpur (New) 400kV D/c line and one circuit of Jamshedpur (New) – New PPSP 400kV D/c line are terminated in same diameter. Similarly, second circuit of both line sections may also be terminated in bays of the same diameter.*
7. *M/s POWERGRID Medinipur Jeerat Transmission Limited (PMJTL) shall provide space for above scope of work at the existing Jeerat (New) S/s free of cost.*

b) WR-ER Inter-Regional Network Expansion Scheme-Part B

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)	Remarks
1.	Reconductoring of LILO point to New PPSP line section of Ranchi (New) – New PPSP 400kV D/c line with Twin HTLS (ampacity of single HTLS as 1574A at nominal voltage level)	27 km	80.05	Approved under RTM through M/s Purulia and Kharagpur Transmission Company Ltd. (owned by Indigrid)
		Total	**80.05**	

c) WR-ER Inter-Regional Network Expansion Scheme-Part C

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)	Remarks
1.	Jamshedpur (New) – Balasore 400kV D/c (Quad) line	174km	883.37	Recommended under TBCB with RECPDCL as BPC
2.	Extension at Jamshedpur (New) 765/400kV (ISTS) substation	400kV line bays: 2 Nos. [for Jamshedpur – Balasore 400kV D/c (Quad) line]	29.23	
		Total	**912.60**	

Note:

1. *OPTCL shall implement 2 Nos. 400kV line bays along with 1x80MVAr switchable line reactor at its planned Balasore 400/220kV S/s for termination of Jamshedpur (New) – Balasore 400kV D/c (Quad) line. Balasore (OPTCL) 400/220kV S/s is yet to be awarded. However, the expected commissioning schedule is 31-03-2029, as per OPTCL.*
2. *TSP of Jamshedpur (New) S/s [a new 765/400kV S/s being implemented under WR-ER Inter-Regional Network Expansion Scheme-Part A scheme] shall provide space for above scope of work at Jamshedpur (New) S/s free of cost.*

4.2 NERGS-III Siang Basin

4.2.1 Representative of CTUIL stated that, to facilitate power evacuation from Heo (3x80 MW) and Tato-I (3x62 MW) Hydro Electric Projects (total 426 MW) in Shi-Yomi, Arunachal Pradesh and to support future hydro development in the Siang sub-basin of the Brahmaputra basin (estimated potential ~5604 MW by 2035), ISTS connectivity has been planned through subject scheme. The scheme forms part of a common transmission system (NERGS-III Siang Basin) planned under ISTS to enable reliable and coordinated evacuation from existing and upcoming hydro projects in the Siang sub-basin.

4.2.2 Representative of Grid India stated that for the evacuation of 426 MW, 400 kV D/c Quad line may not be necessary, and the reactive power generated by the quad line will be high and need to be taken care through some remedial measures. He further mentioned that large voltage variation may be experienced in the Siang/Arunachal Pradesh system on account of low system strength in the NER/Arunachal Pradesh network and light loading of quad conductors particularly during lean hydro periods. To address these concerns, it was suggested to optimize reactor capacities in multiples of smaller MVAr units (e.g., two stages of 25 MVAr for a 50 MVAr reactor) or consider planning Variable Shunt Reactors (VSR) for improved voltage profile

management.

4.2.3 Representative of CTUIL stated that some other hydro projects are also coming in the vicinity of these projects and their power will be evacuated through the same system. Further, for the reactive power management, adequate bus and line reactors have been planned under the subject scheme. Further, space provision for bus reactors at generation switchyard of HEPs has also been mandated. Moreover, the HEPs have confirmed that they shall support reactive power management by running in synchronous condenser mode as mandated in CEA Regulations. Regarding, VSR it was informed that a VSR of 125MVAr is under installation at Misa (POWERGRID) S/s. Upon commissioning and review of the performance, more VSRs can be planned in the National Grid.

4.2.4 MS, NERPC stated that the scheme has been recommended by NERPC in its 29th meeting held on 18th July 2025. However, NERPC constituents are of the view that ISTS transmission charges may be waived off for NER states or the transmission cost may be considered by CTU under National Component of CERC Sharing Regulations, 2020.

4.2.5 After deliberations, the transmission scheme "NERGS-III Siang Basin" was recommended for implementation through TBCB mode.

4.2.6 Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	NERGS-III Siang Basin Implementation timeframe: 28.02.2029	1804.30	Approved under TBCB through PFCCL

4.2.7 Detailed scope of the scheme is given below:

Sl. No.	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
1.	Establishment of new 2x500MVA, 400/220kV GIS Pooling station at Kaying in Arunachal Pradesh **Additional space for future expansion**: - 400/220kV, 2x500MVA ICTs along with associated ICT bays at both voltage levels - 420kV, 1x80MVAr bus reactor along with associated bay	420kV, 80MVAr bus reactor: 2 Nos. 400kV GIS Bus reactor bays: 2 Nos. 400/220kV, 500MVA ICT: 2 nos 400kV GIS ICT bays: 2 Nos. 220kV GIS ICT bays: 2 Nos. 220kV bus coupler bay:1 No. 400kV GIS line bays: 2 Nos. [for Kaying PS – Niglok PS 400kV D/c	339.11

	- 10 Nos. of 400kV line bays (along with space for switchable line reactor) for future lines - 8 Nos. of 220kV line bays for future lines - 400kV bus sectionaliser bay: 1 set - 220kV bus sectionaliser bay :1 set - 220kV bus coupler bay: 1 no.	(Quad) line] 220kV GIS line bays: 2 Nos. [for termination of DTL of 1840A or more per circuit] 420kV, 50MVAr switchable line reactor with GIS bays: 2 Nos. [one in each circuit of Kaying PS – Niglok PS 400kV D/c (Quad) line]	
2.	Establishment of new 400kV GIS Switching station at Niglok in Arunachal Pradesh (with a provision for 400/220kV level and 6000MW LCC HVDC station) **Additional space for future expansion**: - Establishment of ±800 kV, 6000 MW, Niglok (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. - 400/220kV, 4x500MVA ICTs along with associated ICT bays at both voltage levels - 420kV, 1x80MVAr bus reactor along with associated bays - 12 Nos. of 400kV line bays (along with space for switchable line reactor) for future lines - 8 Nos. of 220kV line bays for future lines - 400kV bus sectionaliser bay: 1 set - 220kV bus sectionaliser bay :1 set - 220kV bus coupler bay: 2 no.	420kV, 80MVAr bus reactor: 2 Nos. 400kV GIS Bus reactor bays: 2 Nos. 400kV GIS line bays: 4 Nos. [2 for Kaying PS – Niglok PS 400kV D/c (Quad) line & 2 for Niglok PS – Gogamukh 400kV D/c (Quad) line] 420kV, 50MVAr switchable line reactor with GIS bays: 2 Nos. [one in each circuit of Niglok PS - Gogamukh 400kV D/c (Quad) line]	227.25
3.	Extension at Gogamukh 400/220/132kV (ISTS) substation	400kV line bays: 2 Nos. [for Niglok PS – Gogamukh PS 400kV D/c (Quad) line]	29.44
4.	Kaying PS – Niglok PS 400kV D/c (Quad) line	100km	527.29

5.	Niglok PS – Gogamukh 400kV D/c (Quad) line	125km	681.21
		Total	**1804.30**

***Note**:*

1. Gogamukh 400/220/132kV (ISTS) S/s is under implementation under North Eastern Region Expansion Scheme-XVI (NERES-XVI) scheme through TBCB route by M/s NERES XVI Power Transmission Limited (wholly owned subsidiary of Techno Electric and Engineering Company Limited). SCoD as per TSA is 30-11-2026.

2. M/s NERES XVI Power Transmission Limited shall provide space for above scope of work at under implementation 400/220/132kV Gogamukh S/s free of cost.

4.3 Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala

4.3.1 Representative of CTUIL informed that, the unrestricted peak demand of Kerala system touched 6000 MW on 03.05.2024 and SRLDC observed high loading on the ICTs at Kozhikode and Thrissur HVDC during the peak demand season of 2023-24. He further stated that ICTs at various ISTS and STU substations are heavily loaded and not meeting the N-1 contingency criteria. To mitigate this over loading, ICT (1x500 MVA) augmentation at Thrissur HVDC is required.

4.3.2 After deliberations, the transmission scheme "Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala" was approved for implementation under RTM mode as follows:

A. Summary of the scheme is given below:

Sl. No.	**Name of the scheme and tentative implementation timeframe**	**Estimated Cost (₹ Crore)**	**Remarks**
1.	Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala Tentative implementation timeframe: 24 months from the date of allocation	170	Approved under RTM mode through POWERGRID

B. Detailed scope of the scheme is given below:

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***
1.	Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC station along with 33kV tertiary power supply and associated ICT bays	• 1x500 MVA, 400/220kV ICT • 400kV ICT bay – 1 No. (GIS) • 220kV ICT bay – 1 No. (GIS) • 400 kV & 220 kV GIS duct – 1 Lot

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
		• Tertiary arrangement with 33 kV cable – 1 set
2.	2 Nos. of 220kV line bays for termination of 220kV transmission lines along with 220kV bus sectionaliser	• 220kV line bays – 2 Nos. (GIS) • 220kV bus sectionaliser – 1 set • 220 kV Bus Coupler (BC) Bay – 1 no
3.	Extension of 220kV GIS hall to accommodate 6 Nos. of 220kV bays (2 Nos. of 220kV ICT bays and 4 Nos. of 220kV line bays) and associated 220kV bus sectionaliser	• Extension of 220kV GIS hall to accommodate 6 Nos. of 220kV bays and associated 220kV bus sectionaliser

4.4 Transmission System for integration of Kurnool-V, Ananthapuram-III and Kadapa-II REZs in Andhra Pradesh

4.4.1 Representative of CTUIL informed that Govt. of India has set a target of 500 GW generation capacity from non-fossil fuel resources by 2030. In this direction, MNRE has identified addition of 86 GW RE Potential in the State of Andhra Pradesh, Telangana, Karnataka and Tamil Nadu (Offshore) in Southern Region. Out of the identified (86 GW) RE Potential in Southern Region, 51 GW has been identified in the State of Andhra Pradesh (Ananthapuram – 20 GW, Kurnool – 23 GW & Kadapa – 8 GW).

4.4.2 CTU mentioned that Connectivity applications from RE generation developers for about 3630 MW have already been received till Jun'2025 at Ananthapuram-III PS. Similarly, Connectivity applications for about 1380 MW has already been received till Jun'25 at Kurnool-IV PS. Further, connectivity application of about 300 MW has been received at Kadapa-II PS till Jun'25. In view of the same, Kurnool-V, Ananthapuram-III and Kadapa-II REZs transmission system have been identified for total 7.5 GW RE evacuation, however these transmission schemes are to be implemented each in two phases with Phase-I for 4.5 GW and phase-II for 3 GW.

4.4.3 CTUIL further informed that additional Connectivity applications of 1673 MW have been received in July 2025 at Ananthapuram-III. Therefore, it was proposed to take-up the implementation of Ananthapuram-III Phase-I and Phase-II schemes together.

4.4.4 As the Connectivity applications are very less, it was decided that Kadapa-II transmission system may deliberated in next NCT meeting based on the receipt of further Connectivity applications. Further, it was decided that Ananthapuram-III

Phase-2 transmission may put-up for discussion in subsequent meeting of NCT after due consultation in CTU / SRPC meetings.

4.4.5 GRID-INDIA stated that SCR of all three pooling stations are below 5 (recommended in CEA technical standards for connectivity to the grid), especially after including the generation envisaged under Phase-II. It was highlighted that low-SCR renewable pockets are one of the contributing factors for low-frequency oscillations triggered due to controller interactions. It was suggested to plan for system strengthening measures, such as SynCON in these pockets to improve system strength and dynamic voltage stability.

4.4.6 CTU informed that SR grid is a well-integrated network with large number of conventional as well as RE generations and majority of the substations have higher short circuit strength. The present transmission schemes under Phase-I do not have SCR issues.

4.4.7 After deliberations, the transmission scheme "Transmission system for integration of Kurnool-V REZ Phase-I and Ananthapuram-III REZ Phase-I" in Andhra Pradesh was recommended for implementation under TBCB mode.

4.4.8 Summary of the scheme is given below:

Sl. No.	**Name of the scheme and tentative implementation timeframe**	**Estimated Cost (₹ Crore)**	**Remarks**
1.	Transmission system for integration of Kurnool-V REZ - Phase-I Tentative implementation timeframe: 30 months from the date of SPV transfer	7187	Recommended under TBCB mode with PFCCL as BPC
2.	Transmission system for integration of Ananthapuram-III REZ - Phase-I Tentative implementation timeframe: 30 months from the date of SPV transfer	4531	Recommended under TBCB mode with PFCCL as BPC

4.4.9 Detailed scope of the scheme is given below:

(A) Transmission System for integration of Kurnool-V REZ - Phase-I

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***
1.	Establishment of 4x1500 MVA, 765/400 kV and 5x500 MVA, 400/220kV Kurnool-V Pooling Station near Kodumur in Kurnool district along with 2x330 MVAr (765 kV) bus reactors at	• 765/400kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765kV ICT bays – 4 Nos. • 400kV ICT bays – 4 Nos. • 765kV line bays – 6 Nos. (at Kurnool-V PS for termination of Kurnool-V –

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
	Kurnool-V PS with provision of two (2) sections of 4500 MVA each at 400kV level **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 13 Nos. • 400kV ICT bays – 13 Nos. • 220kV ICT bays – 13 Nos. • 765kV line bays – 8 Nos. (with provision for SLR) • 400kV line bays – 12 Nos. (with provision for SLR) • 220kV line bays – 19 Nos. • 220kV Bus Sectionalizer : 2 sets • 220 kV Bus Coupler (BC) Bay – 2 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 Nos. • 400kV Bus Sectionalizer : 1 set	Shadnagar, Kurnool-V – Raichur New and Kurnool-V – Sagar 765kV D/c lines) • 765 kV, 330 MVAr Bus Reactor – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV Bus Reactor bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 5 Nos. • 400kV ICT bays – 5 Nos. • 220kV ICT bays – 5 Nos. • 220kV line bays – 6 Nos. • 220kV Bus Sectionalizer : 1 set • 220 kV Bus Coupler (BC) Bay – 2 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 Nos.
2.	± 300 MVAr STATCOM at Kurnool-V PS	• 400kV bay – 1 no. • ± 300 MVAr STATCOM – 1 set
3.	Kurnool-V – Shadnagar 765 kV D/c line (about 240 km) with 240 MVAr SLR (convertible) at both ends on both circuits	~ 240 km • 765 kV line bays – 2 Nos. (at Shadnagar) • 765 kV, 240 MVAr SLR at Kurnool-V PS – 2 Nos. (7x80 MVAr inc. 1 switchable spare unit) • Switching Equipment for 765 kV SLR at Kurnool-V PS – 2 Nos. • 765 kV, 240 MVAr SLR at Shadnagar PS – 2 Nos. (7x80 MVAr inc. 1 switchable spare unit) • Switching Equipment for 765 kV SLR at Shadnagar PS – 2 Nos.
4.	Kurnool-V – Raichur New 765 kV D/c line (about 150 km) with 240 MVAr SLR (convertible) at Raichur New end on both circuits	~ 150 km • Conversion of 765 kV Bus Reactor bay to 765 kV Line bay with SLR – 2 Nos. (at Raichur New) (*The Kurnool-V – Raichur 765kV D/c line is to be terminated in the existing 240 MVAr bus reactor bays and converting these bus reactors into switchable line reactors)*

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
5.	Establishment of 3x1500 MVA, 765/400 kV Sagar substation with 2x330 MVAr (765 kV) bus reactors with space provision for establishment of 220 kV switchyard **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 3 Nos. • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 765kV line bays – 12 Nos. (with provision for SLR) • 400kV line bays – 10 Nos. (with provision for SLR) • 400kV Bus Sectionalizer : 1 set **Future Space Provisions for 220kV switchyard:** • 400/220kV, 500 MVA, ICTs – 10 Nos. • 400kV ICT bays – 10 Nos. • 220kV ICT bays – 10 Nos. • 220kV line bays – 16 Nos. • 220kV Bus Sectionalizer: 3 set • 220 kV Bus Coupler (BC) Bay – 4 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 4 Nos.	• 765/400kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA incl. 1 spare unit) • 765kV ICT bay – 3 Nos. • 400kV ICT bay – 3 Nos. • 765kV line bays – 2 Nos. (at Sagar for termination of Kurnool-V – Sagar 765 kV D/c line) • 765 kV, 330 MVAr Bus Reactors – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit) • 765 kV Bus Reactor bays – 2 Nos. • 400kV line bays – 2 Nos. (at Sagar for termination of Sagar – Nagarjunasagar 400 kV quad D/c line)
6.	Kurnool-V – Sagar 765 kV D/c line (about 240 km) with 240 MVAr SLR (convertible) at both ends on both circuits	~ 240 km • 765 kV line bays – 2 Nos. (at Sagar) • 765 kV, 240 MVAr SLR at Kurnool-V PS – 2 Nos. (6x80 MVAr switchable units) • Switching Equipment for 765 kV SLR at Kurnool-V PS – 2 Nos. • 765 kV, 240 MVAr SLR at Sagar – 2 Nos. (7x80 MVAr inc. 1 switchable spare unit) • Switching Equipment for 765 kV SLR at Sagar – 2 Nos.
7.	Sagar – Nagarjunasagar 400 kV quad D/c line (about 25 km)	~ 25 km • 400kV line bays – 2 Nos. (at Nagarjunasagar)

Note :

i) The Kurnool-V – Raichur 765kV D/c line is to be terminated in the existing 240 MVAr bus reactor bays and converting these bus reactors into switchable line reactors. POWERGRID to provide space (free of cost) for the same.

ii) POWERGRID to provide space (free of cost) for 2 Nos. of 400kV line bays at Nagarjunasagar for termination of Sagar – Nagarjunasagar 400 kV quad D/c line.

iii) TSP of Shadnagar S/s to provide space (free of cost) for 2 Nos. of 765kV line bays with provision of SLR at Shadnagar S/s for termination of Kurnool-V – Shadnagar 765 kV D/c line.

(B) Transmission System for integration of Ananthapuram-III REZ - Phase-I

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***
1.	Establishment of 4x1500 MVA, 765/400 kV and 9x500 MVA, 400/220kV Ananthapuram-III Pooling Station near Urvakonda/Beluguppa/Kalyandurg areas in Anantapur district along with 2x330 MVAr (765 kV) bus reactors at Ananthapuram-III PS with provision of two (2) sections of 4500 MVA each at 400kV level **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 10 Nos. • 400kV ICT bays – 9 Nos. • 220kV ICT bays – 9 Nos. • 765kV line bays – 10 Nos. (with provision for SLR) • 400kV line bays – 11 Nos. (with provision for SLR) • 220kV line bays – 14 Nos. • 220kV Bus Sectionalizer : 1 set • 220 kV Bus Coupler (BC) Bay – 1 no. • 220 kV Transfer Bus Coupler (TBC) Bay – 1 no.	• 765/400kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765kV ICT bays – 4 Nos. • 400kV ICT bays – 4 Nos. • 765kV line bays – 4 Nos. (at Ananthapuram-III PS for termination of Ananthapuram-III – Kurnool-V and Ananthapuram-III – Bidadi 765kV D/c lines) • 765 kV, 330 MVAr Bus Reactor – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV Bus Reactor bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 9 Nos. • 400kV ICT bays – 9 Nos. • 220kV ICT bays – 9 Nos. • 400kV Bus Sectionalizer : 1 set • 220kV line bays – 11 Nos. • 220kV Bus Sectionalizer: 2 sets • 220 kV Bus Coupler (BC) Bay – 3 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 3 Nos.
2.	± 300 MVAr STATCOM at Ananthapuram-III PS	• 400kV bay – 1 no. • ± 300 MVAr STATCOM – 1 set
3.	Ananthapuram-III – Kurnool-V 765 kV D/c line (about 170 km) with 330 MVAr SLR (convertible) at Ananthapuram-III end on both circuits	~ 170 km • 765 kV line bays – 2 Nos. (at Kurnool-V) • 765 kV, 330 MVAr SLR at Ananthapuram-III PS – 2 Nos. (6x110 MVAr switchable units)

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
		• Switching Equipment for 765 kV SLR at Ananthapuram-III PS – 2 Nos.
4.	Upgradation of existing 400/220kV Bidadi GIS to 765kV level GIS with 3x1500 MVA, 765/400 kV ICTs (Additional land for upgradation to 765kV level to be provided by KPCL) **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 3 Nos. • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 765kV line bays – 6 Nos. (with provision for SLR) • 400kV line bays – 6 Nos. (with provision for SLR)	• 765/400kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA incl. 1 spare unit) • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 765kV line bays – 2 Nos. (at Bidadi for termination of Ananthapuram-III – Bidadi 765kV D/c line) • 765 kV, 330 MVAr Bus Reactor – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit) • 765 kV Bus Reactor bays – 2 Nos.
5.	Ananthapuram-III – Bidadi 765kV D/c line (about 90 km)	~ 90 km • 765 kV line bays – 2 Nos. (at Ananthapuram-III)

Note:

i) Additional land for upgradation of Bidadi to 765kV level to be provided by KPCL. The interconnection at 765 & 400 kV from Bidadi to be facilitated by KPTCL. Further, KPTCL to identify adequate 220 kV transmission system for drawl of power for optimal utilization of ISTS infrastructure.

ii) *TSP of Kurnool-V PS to provide space (free of cost) for 2 Nos. of 765kV line bays with provision of SLR at Kurnool-V PS for termination of Ananthapuram-III – Kurnool-V 765 kV D/c line.*

4.5 Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I)

4.5.1 Representative of CTUIL stated that, as per the Communication from MNRE, about 5000 MW demand at Vizag area and 6000 MW at Kakinada area has been envisaged for the Green Hydrogen / Green Ammonia projects. The transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh (Phase-I) is presently under bidding. Further, a comprehensive Transmission system for Green Hydrogen / Green Ammonia projects at Kakinada (Ph-II) and Pendurthi have been identified.

4.5.2 He further stated, a number of data center loads are envisaged near Pendurthi / Vizag area and applications have already been received by APTRANSCO from certain developers at Pendurthi. Further as per the requirement of data centers, reliable power supply from two sources is required to be provided therefore, LILO of Kalpakka –

Maradam 400 kV D/c line at Pendurthi was proposed. Further reliable power supply from ISTS shall be ensured with proposed interconnection of Pendurthi substation.

4.5.3 He also stated that, CTUIL have already received applications from M/s NTPC Green Energy Limited seeking GNARE for 2500 MW for Green Hydrogen / Green Ammonia project as "Bulk Consumer seeking to connect to ISTS" in Vizag area. The requested start date of connectivity for above application is 01.09.2028.

4.5.4 GRID-INDIA mentioned that adequate reactive compensation may be planned for large load complex such as Green Hydrogen load at Pendurthi. CTU informed that GRID-INDIA is integral part of the system studies from initial stage itself and accordingly, 1 no. of ± 300 MVAR STATCOM along with 2x125 MVAr MSC have already been proposed at Pendurthi in the present scheme. Further, space provision has been kept at Pendurthi for 2nd ± 300 MVAR STATCOM along with 2x125 MVAr MSC.

4.5.5 After deliberations, the transmission scheme **"**Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I)" was recommended for implementation under TBCB mode as follows

A. Summary of the scheme is given below:

Sl. No.	**Name of the scheme and tentative implementation timeframe**	**Estimated Cost (₹ Crore)**	**Remarks**
1.	Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I)" Tentative implementation timeframe: 30 months from the date of SPV transfer	8386	Recommended under TBCB mode with RECPDCL as BPC

B. Detailed scope of the scheme is given below:

Sl. No.	***Scope of the Transmission Scheme***	***Capacity /km***
1.	Establishment of 4x1500 MVA, 765/400 kV Pendurthi (Vizag) GIS substation with 1x330 MVAr (765 kV) bus reactor with space provision for establishment of 220 kV switchyard **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos. • 765kV line bays – 8 Nos. (with provision for SLR)	• 765/400kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765kV ICT bay – 4 Nos. • 400kV ICT bay – 4 Nos. • 765kV line bays – 2 Nos. (at Pendurthi (Vizag) GIS for termination of Pendurthi (Vizag) – Srikakulam 765 kV D/c line) • 765kV line bays – 2 Nos. with provision of SLR (at Pendurthi (Vizag) GIS for termination of Khammam-II – Pendurthi (Vizag) – 765 kV D/c line)

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
	• 400kV line bays – 12 Nos. (with provision for SLR) • 400kV Bus Sectionalizer : 1 set **Future Space Provisions for 220kV switchyard:** • 400/220kV, 500 MVA, ICTs – 10 Nos. • 400kV ICT bays – 10 Nos. • 220kV ICT bays – 10 Nos. • 220kV line bays – 16 Nos. • 220kV Bus Sectionalizer : 3 set • 220 kV Bus Coupler (BC) Bay – 4 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 4 Nos.	• 765 kV, 330 MVAr Bus Reactors – 1 no. (4x110 MVAr inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV Bus Reactor bays – 1 no. • 400kV line bays – 4 Nos. (at Pendurthi (Vizag) GIS for termination of LILO of Kalpakka – Maradam 400 kV (quad) D/c line at Pendurthi)
2.	• ± 300 MVAr STATCOM with 2x125 MVAr MSC at Pendurthi (Vizag) GIS with control switching arrangement for proposed 1x330 MVAr bus reactor • Space provision for 2nd ± 300 MVAr STATCOM with 2x125 MVAr MSC at Pendurthi (Vizag) GIS	• 400kV bay – 1 no. • ± 300 MVAr STATCOM with 2x125 MVAr MSC at Pendurthi (Vizag) GIS with control switching arrangement for proposed 1x330 MVAr bus reactor – 1 set
3.	Pendurthi (Vizag) – Srikakulam 765 kV D/c line (about 200 km) with 330 MVAr SLR (convertible) at Srikakulam end on both circuits	~ 200 km • 765 kV line along with SLR GIS bays at Srikakulam - The D/c line to be terminated in the future line bays with SLR proposed under the scheme "Inter-Regional Strengthening between SR Grid and ER Grid" • 765 kV, 330 MVAr SLR at Srikakulam – 2 Nos. (7x110 MVAr switchable units inc. 1 switchable spare unit)
4.	LILO of Kalpakka – Maradam 400 kV (quad) D/c line at Pendurthi (about 20 km)	~ 20 km
5.	Establishment of 3x1500 MVA, 765/400 kV Khammam-II substation with 1x330 MVAr (765 kV) bus reactor with space provision for establishment of 220 kV switchyard **Future Space Provisions:** • 765/400kV, 1500 MVA, ICTs – 3 Nos. • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos.	• 765/400kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA incl. 1 spare unit) • 765kV ICT bay – 3 Nos. • 400kV ICT bay – 3 Nos. • 765kV line bays – 4 Nos. (at Khammam-II for termination of Khammam-II – Pendurthi and Khammam-II – Warangal New 765 kV D/c lines)

Sl. No.	*Scope of the Transmission Scheme*	*Capacity /km*
	• 765kV line bays – 8 Nos. (with provision for SLR) • 400kV line bays – 10 Nos. (with provision for SLR) • 400kV Bus Sectionalizer : 1 set **Future Space Provisions for 220kV switchyard:** • 400/220kV, 500 MVA, ICTs – 10 Nos. • 400kV ICT bays – 10 Nos. • 220kV ICT bays – 10 Nos. • 220kV line bays – 16 Nos. • 220kV Bus Sectionalizer : 3 set • 220 kV Bus Coupler (BC) Bay – 4 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 4 Nos.	• 765 kV, 330 MVAr Bus Reactors – 1 no. (4x110 MVAr inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV Bus Reactor bays – 1 no. • 400kV line bays – 2 Nos. (at Khammam-II for termination of Khammam-II – Khammam (existing) 400 kV (quad) D/c line)
6.	Khammam-II – Warangal New 765 kV D/c line (about 100 km)	~ 100 km 765 kV line bays – 2 Nos. (at Warangal New)
7.	Khammam-II – Pendurthi (Vizag) 765 kV D/c line (about 350 km) with 330 MVAr SLR (convertible) at both ends on both circuits	~ 350 km • 765 kV line bays – 2 Nos. (GIS) (at Pendurthi(Vizag)) • 765 kV, 330 MVAr SLR at Pendurthi(Vizag) – 2 Nos. (6x110 MVAr switchable units) • Switching Equipment for 765 kV SLR at Kadapa-II PS – 2 Nos. • 765 kV, 330 MVAr SLR at Khammam-II – 2 Nos. (6x110 MVAr switchable units) • Switching Equipment for 765 kV SLR at Kadapa-II PS – 2 Nos.
8.	Khammam-II – Khammam (existing) 400 kV (quad) D/c line (about 20 km)	~ 20 km • 400kV line bays – 2 Nos. (at Khammam (existing))

Note :

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

ii) POWERGRID to provide space (free of cost) for 765 kV line along with SLR GIS bays at Srikakulam - The D/c line to be terminated in the future line bays with SLR proposed under the scheme "Inter-Regional Strengthening between SR Grid and ER Grid"

iii) *POWERGRID to provide space (free of cost) for 2 Nos. of 400kV line bays at Khammam for termination of Khammam-II – Khammam (existing) 400 kV (quad) D/c line*

iv) *TSP of Warangal New S/s (Adani) to provide space (free of cost) for 2 Nos. of 765kV line bays with provision of SLR at Warangal New S/s for termination of Khammam-II – Warangal New 765 kV D/c line*

4.6 Installation of 2 Nos. of Synchronous Condensers (SynCon) units at 765/400/220kV Fatehgarh-II PS

4.6.1 Representative of CTUIL stated that, in the 71st NRPC meeting held on 29.01.24, it was deliberated that RE power is being integrated in fast pace country-wide and to ensure grid stability and provide inertial support in RE complex, requirement of dynamic compensation like Synchronous Condensers needs to be identified separately based on the detailed reactive power planning studies and the Short Circuit Ratios (SCRs) at different locations.

4.6.2 He also informed, a committee was formed under Chairmanship of Member Secretary, NRPC along with members from CEA, NRPC, NRLDC, NLDC, NTPC, BHEL, CTU and STUs to do futuristic analysis for the requirement of Synchronous Condensers based on the inertia considerations for NR**.** The Committee is in, therefore, consensus of installation of SynCons in RE complexes because of the following advantages of SynCons:

- Enhancement in System Strength/ Short Circuit Ratio (SCR)
- Fast Reactive Power Support during Faults/Transients
- Increased Inertia and Frequency Response
- Damping of Low Frequency Oscillations
- Steady-state Reactive Power Support

4.6.3 He further stated that, the committee recommends installation of first SynCon of 2 x+300/-200 MVAr at 400 kV level either at Fatehgarh-II (Priority-1) or Fatehgarh-I (Priority-2) Substation.

4.6.4 It was opined that more discussion is required on optimal location of Synchronous condensers and other aspects. Chairperson, NCT directed that a presentation may be arranged on these aspects by NRPC.

5 Status of the bids under process by BPCs

5.1 The BPCs (RECPDCL and PFCCL) have made presentations on the status of under bidding schemes. Summary of the same is given below:

S.N.	Region(s)	RECPDCL	PFCCL
1	LoI issued and SPV to be transferred	0	1
2	Bids Under Evaluation	2	1
3	RfP issued and bids to be submitted	4	7
4	RfP yet to be issued	3	2
5	RfP bid submission on hold	1	0
	TOTAL	**10**	**11**

5.2 Members noted the status of the schemes under bidding.

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Summary of the deliberations of the 32nd meeting of NCT held on 12.08. 2025

I. Modification in the earlier approved/notified communication schemes:

NCT approved the modification in the scheme "Transmission System for Kurnool-IV REZ – Phase-II" recommended in 28th NCT meeting as mentioned below:

S. No.	Original scope of the scheme at para-9 as	Modified scope of the scheme at para-9 as	Additional Estimated Cost (₹ Crs.)
9.	Shadnagar – Shadnagar (TGTRANSCO) 400 kV quad D/c line (about 50 kms) {TGTRANSCO to upgrade Shadnagar (TGTRANSCO) to 400 kV in matching time frame}	"Shadnagar – Shadnagar GIS S/s (TGTRANSCO) 400 kV quad D/c line (about 50 kms) {TGTRANSCO to upgrade Shadnagar GIS S/s (TGTRANSCO) to 400 kV in matching time frame} with 400 kV GIS line bays – 2 Nos. (at Shadnagar GIS S/s (TGTRANSCO))".	35.00

II. ISTS Transmission schemes, costing greater than ₹ 500 Crore, recommended by NCT to MoP under TBCB:

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

Sl. No.	Name of Transmission Scheme	Implementation Mode	Tentative Implementation timeframe	BPC	Estimated Cost (₹ Crs.)

1.	WR-ER Inter-Regional Network Expansion Scheme-**Part A**	TBCB	24 months from the date of allocation	RECPDCL	6272.30
2.	WR-ER Inter-Regional Network Expansion Scheme-**Part C**	TBCB	By 31.03.2029	RECPDCL	912.00
3.	NERGS-III Siang Basin	TBCB	By 28.02.2029	PFCCL	1804.30
4.	Transmission system for integration of Kurnool-V REZs-Phase-I	TBCB	30 months from the date of SPV transfer	PFCCL	7187.00
5.	Transmission system for integration of Ananthapuram-III REZs-Phase-I	TBCB	30 months from the date of SPV transfer	PFCCL	4531.00
6.	Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I)" Tentative implementation timeframe:	TBCB	30 months from the date of SPV transfer	RECPDCL	8386.00

The broad scope of the above ISTS schemes to be notified in Gazette of India is as given below:

Sl. No.	**Name of Scheme & Tentative implementation timeframe**	**Broad Scope**	**Bid Process Coordinator**
1.	WR-ER Inter-Regional Network Expansion Scheme-**Part A** **Implementation Timeframe:** 24 months from the date of allocation	i. Establishment of 2x1500MVA, 765/400kV S/s at Jamshedpur (New) in Jharkhand ii. Establishment of 3x1500MVA, 765/400kV S/s (on 765kV Bus section-II & 400kV Bus Section-II) at Raigarh (Kotra)-II S/s in Chhattisgarh with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor (on	RECPDCL

		765kV Bus section-II & 400kV Bus Section-II) iii. Bypassing of Raigarh (Tamnar) – Dharamjaygarh (Sec-B) 765kV D/c line & Raigarh(Kotra) – Raigarh (Tamnar) 765kV D/c line at Raigarh (Tamnar) S/s so as to form at Raigarh (Kotra) – Dharamjaygarh (Sec-B) 765kV D/c line iv. LILO of Dharamjaygarh (Sec-B) – Jharsuguda (Sec-A) 765kV D/c line at Raigarh (Kotra)-II S/s v. Raigarh (Tamnar)@- Raigarh (Kotra)-II S/s 765kV D/c line vi. 765kV, 330MVAr switchable line reactor along with associated bays in each line of Raigarh(Tamnar) – Jamshedpur 765kV D/c line at Raigarh(Tamnar) end vii. Raigarh(Tamnar)@ – Jamshedpur (New) 765kV D/c line viii. LILO of Ranchi (New) – Medinipur 765kV D/c line at Jamshedpur (New) ix. LILO of Ranchi (New) – New PPSP 400kV D/c line at Jamshedpur (New) (c) Jamshedpur (New) to LILO section towards Ranchi (New) needs to be implemented with Twin Moose (d) Jamshedpur (New) to LILO section towards New PPSP needs to be implemented with Twin HTLS (ampacity of single HTLS as 1574A at nominal voltage) x. Installation of new 765/400kV, 1x1500MVA (3x500MVA single phase units) ICT (3rd) at Jeerat (New) S/s of M/s POWERGRID Medinipur Jeerat Transmission Limited (PMJTL) along with associated bays at both ends	

		(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)	
2.	WR-ER Inter-Regional Network Expansion Scheme-**Part C** **Implementation Timeframe:** By 31.03.2029	i. Jamshedpur (New) – Balasore 400kV D/c (Quad) line ii. Extension at Jamshedpur (New) 765/400kV (ISTS) substation **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**	RECPDCL
3.	NERGS-III Siang Basin **Implementation Timeframe:** By 28.02.2029	i. Establishment of new 2x500MVA, 400/220kV GIS Pooling station at Kaying in Arunachal Pradesh ii. Establishment of new 400kV GIS Switching station at Niglok in Arunachal Pradesh (with a provision for 400/220kV level and 6000MW LCC HVDC station) iii. Extension at Gogamukh 400/220/132kV (ISTS) substation iv. Kaying PS – Niglok PS 400kV D/c (Quad) line v. Niglok PS – Gogamukh 400kV D/c (Quad) line **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**	PFCCL
4.	Transmission system for integration of Kurnool-V REZ - Phase-I **Implementation timeframe:** 30 months from the date of SPV transfer	i. Establishment of 4x1500 MVA, 765/400 kV and 5x500 MVA, 400/220kV Kurnool-V Pooling Station near Kodumur in Kurnool district along with 2x330 MVAr (765 kV) bus reactors at Kurnool-V PS with provision of two (2) sections of 4500 MVA each at 400kV level ii. ± 300 MVAr STATCOM at Kurnool-V PS iii. Kurnool-V – Shadnagar 765 kV D/c line (about 240 km) with 240 MVAr SLR (convertible) at both ends on both circuits iv. Kurnool-V – Raichur New 765 kV D/c line (about 150 km) with 240	PFCCL

		MVAr SLR (convertible) at Raichur New end on both circuits v. Establishment of 3x1500 MVA, 765/400 kV Sagar substation with 2x330 MVAr (765 kV) bus reactors with space provision for establishment of 220 kV switchyard vi. Kurnool-V – Sagar 765 kV D/c line (about 240 km) with 240 MVAr SLR (convertible) at both ends on both circuits vii. Sagar – Nagarjunasagar 400 kV quad D/c line (about 25 km) **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**	
5.	Transmission System for integration of Ananthapuram-III REZ - Phase-I **Implementation timeframe:** 30 months from the date of SPV transfer	i. Establishment of 4x1500 MVA, 765/400 kV and 9x500 MVA, 400/220kV Ananthapuram-III Pooling Station near Urvakonda/Beluguppa/Kalyandurg areas in Anantapur district along with 2x330 MVAr (765 kV) bus reactors at Ananthapuram-III PS with provision of two (2) sections of 4500 MVA each at 400kV level ii. ± 300 MVAr STATCOM at Ananthapuram-III PS iii. Ananthapuram-III – Kurnool-V 765 kV D/c line (about 170 km) with 330 MVAr SLR (convertible) at Ananthapuram-III end on both circuits iv. Upgradation of existing 400/220kV Bidadi GIS to 765kV level GIS with 3x1500 MVA, 765/400 kV ICTs (Additional land for upgradation to 765kV level to be provided by KPCL) v. Ananthapuram-III – Bidadi 765kV D/c line (about 90 km) **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**	PFCCL

6.	Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I) **Implementation timeframe:** 30 months from the date of SPV transfer	i. Establishment of 4x1500 MVA, 765/400 kV Pendurthi (Vizag) GIS substation with 1x330 MVAr (765 kV) bus reactor with space provision for establishment of 220 kV switchyard ii. ± 300 MVAr STATCOM with 2x125 MVAr MSC at Pendurthi (Vizag) GIS with control switching arrangement for proposed 1x330 MVAr bus reactor Space provision for 2nd ± 300 MVAr STATCOM with 2x125 MVAr MSC at Pendurthi (Vizag) GIS iii. Pendurthi (Vizag) – Srikakulam 765 kV D/c line (about 200 km) with 330 MVAr SLR (convertible) at Srikakulam end on both circuits iv. LILO of Kalpakka – Maradam 400 kV (quad) D/c line at Pendurthi (about 20 km) v. Establishment of 3x1500 MVA, 765/400 kV Khammam-II substation with 1x330 MVAr (765 kV) bus reactor with space provision for establishment of 220 kV switchyard vi. Khammam-II – Warangal New 765 kV D/c line (about 100 km) vii. Khammam-II – Pendurthi (Vizag) 765 kV D/c line (about 350 km) with 330 MVAr SLR (convertible) at both ends on both circuits viii. Khammam-II – Khammam (existing) 400 kV (quad) D/c line (about 20 km) **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**	RECPDCL

III. ISTS Transmission schemes, costing less than Rs 500 Crore, approved by NCT:

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

Sl. No.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Estimated Cost (₹ Cr)
1.	Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala	RTM through POWERGRID	24 months from the date of allocation	170.00
2.	WR-ER Inter-Regional Network Expansion Scheme-Part B	Approved under RTM through M/s Purulia and Kharagpur Transmission Company Ltd. (owned by Indigrid)	24 months from date of allocation [matching with WR-ER Inter-Regional Network Expansion Scheme (Part-A)]	80.05

The broad scope of above scheme is given below:

Sl. No.	Name of Scheme & Tentative implementation timeframe	Broad Scope
1.	Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala **Implementation Timeframe:** 24 months from the date of allocation	i) Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC station along with 33kV tertiary power supply and associated ICT bays ii) 2 Nos. of 220kV line bays for termination of 220kV transmission lines along with 220kV bus sectionaliser iii) Extension of 220kV GIS hall to accommodate 6 Nos. of 220kV bays (2 Nos. of 220kV ICT bays and 4 Nos. of 220kV line bays) and associated 220kV bus sectionaliser **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**

2.	WR-ER Inter-Regional Network Expansion Scheme-Part B **Implementation Timeframe:** 24 months from date of allocation [matching with WR-ER Inter-Regional Network Expansion Scheme (Part-A)]	Reconductoring of LILO point to New PPSP line section of Ranchi (New) – New PPSP 400kV D/c line with Twin HTLS (ampacity of single HTLS as 1574A at nominal voltage level) of line length 27km **(Detailed scope as approved by 32nd NCT and subsequent amendments thereof)**

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Annexure-I

List of participants of the 32nd meeting of NCT

CEA:

1. Sh. Ghanshyam Prasad, Chairperson, CEA & Chairman, NCT
2. Sh. Ajay Talegaonkar, Member (E&C)
3. Sh. V. K. Singh, Member (PS)
4. Sh. B S Bairwa, Chief Engineer (PSPA-II)
5. Ms. Ammi R Toppo, Chief Engineer (PSPA-I)
6. Sh. S.K. Maharana, Chief Engineer (PCD)
7. Sh. Rahul Raj, Director (PSPA-II)
8. Sh. Ganeshwar Rao Jada, Director (PSPA-I)
9. Sh. Ajay Kumar, Deputy Director (PSPA-II)
10. Sh. Nitin Deswal, Deputy Director (PSPA-I)
11. Sh. Prateek Jadaun, Assistant Director (PSPA-II)

MoP:

1. Sh. Om Kant Shukla, Director (Trans.)

RPCs:

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

MNRE:

1. Sh. Tarun Singh, Scientist E

SECI:

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

NITI AYOG:

1. Sh. Manoj Kumar Upadhyay, Dy. Adviser

CTUIL:

1. Smt. Manju Gupta, Dy. COO
2. Sh. Vikas Bagadia, CGM
3. Sh. Rajesh Kumar, Sr, GM
4. Sh. K.K. Sarkar, Sr. GM
5. Sh. P.S. Das, Sr. GM
6. Sh. Anil Kumar Meena, GM
7. Sh. Sandeep Kumawat, DGM
8. Sh. Bhaskar Wagh, DGM

9. Sh. Manish Ranjan Keshari, Chief Manager
10. Sh. Ankush Patel, Chief Manager
11. Sh. Pratyush Singh, Chief Manager

GRID India:

1. Sh. S.C. Saxena, CMD
2. Sh. Rajiv Porwal, Director (SO)
3. Sh. Vivek Pandey, CGM (SO)
4. Sh. Saibal Ghosh, Chief Manager
5. Sh. Prabhankar Porwal, Manager

RECPDCL

1. Sh. Anil Kumar Parela, Chief Manager

PFCCL

1. Sh. Nirmala Meena, Chief Manager
2. Sh. Deepak Kumar, Dy. Manager

Expert Member

1. Sh. Ravinder Gupta, Ex Chief Engineer, CEA