



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 तैंतीसवीं बैठक की कार्यवृत्त ।

Subject: Minutes of 33rd Meeting of the National Committee on Transmission (NCT)-reg.

महोदया (Madam) / महोदय (Sir),

The 33rd meeting of the National Committee on Transmission (NCT) was held on 16th September, 2025 at New Delhi. The minutes of the meeting are attached herewith.

भवदीय / Yours faithfully

(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 (1 st Floor), Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016
9.	Smt. Raheela Wani, TCC& Managing Director, JKPTCL, Office of Managing Director, Grid Station Complex, Janipur, Jammu/ PDD Complex Bemina Srinagar- 190010	10.	Member Secretary, Western Region Power Committee 2nd Floor, Vidyut Seva Bhavan, P.O.: Sunder Nagar, Danganiya, Raipur: 492 013
11.	Shri Shivdas.S, Chairperson (TCC) and Director (Transmission, System Operation & Planning), KSEBL Vydyuthi Bhavanam, Pattom, Thiruvananthapuram, Kerala- 695004	12.	Sh. Sabyasachi Roy, Director (Operations), WBSETCL
13.	Shri A T Mondal Chairman, NERPC & Hon'ble Power Minister, Govt. of Meghalaya NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya	14.	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

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Minutes of the 33rd meeting of National Committee on Transmission

1 Confirmation of the minutes of the 32nd meeting of National Committee on Transmission

1.1 The minutes of the 32nd meeting of NCT held on 12.08.2025 were issued on 22.08.2025 vide CEA letter no. CEA-PS-12-13/3/2019-PSPA-II Division/ I/53063/2025. 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 32nd 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/ Implementing Agency	Award/ Gazette notification
1.	WR-ER Inter-Regional Network Expansion Scheme- Part A	Recommended	TBCB	RECPDCL	Informed to MoP vide letter dated 21.08.2025. Under process for approval in MoP.
2.	WR-ER Inter-Regional Network Expansion Scheme- Part C	Recommended	TBCB	RECPDCL	
3.	NERGS-III Siang Basin	Recommended	TBCB	PFFCL	
4.	Transmission system for integration of Kurnool-V REZs-Phase-I	Recommended	TBCB	PFFCL	
5.	Transmission system for integration of Ananthapuram-III REZs-Phase-I	Recommended	TBCB	PFCCL	
6.	Transmission system for proposed Green Hydrogen / Green Ammonia projects in Vizag area, Andhra Pradesh (Phase-I)” Tentative implementation timeframe:	Recommended	TBCB	RECPDCL	
7.	Augmentation of 1x500 MVA, 400/220kV ICT (3rd) at Thrissur VSC HVDC Station in Kerala	Approved	RTM	POWERGRID	

Sr. No	Name of the Transmission Scheme	Noted/ Recommended / Approved	Mode of Implementation	BPC/ Implementing Agency	Award/ Gazette notification
8.	WR-ER Inter-Regional Network Expansion Scheme-Part B	Approved	RTM	M/s Purulia and Kharagpur Transmission Company Ltd. (owned by Indigrid)	CTUIL awarded the schemes to implementing agencies on 21.08.2025.

2.1.2 Status of transmission schemes where modifications was suggested/approved in 32nd NCT meeting:

S. No.	Scheme where modifications was suggested	Status
1.	Transmission System for Kurnool-IV REZ – Phase-II	Informed to BPCs vide letter dated 21.08.2025

2.2 Joint secretary (Transmission), MoP informed that in order to ensure optimum utilization of the transmission lines, RE power from Kurnool-V REZ-Phase-1 (4.5 GW) and of Ananthapuram-III REZ-Phase-1 (4.5GW) may be evacuated through the already identified transmission system in Kurnool and Ananthapuram areas respectively during non-solar hours with implementation of co-located BESS. He mentioned that the schemes at S.No. 4 and 5 at para 2.1.1 above, will be referred again to NCT in light of the optimum utilization of the existing/under implementation transmission lines in those REZs. He further informed that the scheme at S.No 6 is under examination.

2.3 NCT opined that possibility may be explored for grant of additional connectivity for optimal utilization of the transmission system during non-solar hours. Representative of CTUIL informed that details of margins available for grant of connectivity during non-solar is being worked out and shall be made available on CTU website shortly for information of the stakeholders.

2.4 MNRE was requested to provide bifurcation of wind and solar potential separately on the Kurnool and Ananthapuram areas including additional RE potential declared by MNRE in the State of Andhra Pradesh for discussion in next meeting of the NCT.

3 Modification in earlier approved transmission schemes

3.1 Extension of Implementation Timeframe for ISTS Transmission Scheme at Siot, Jammu & Kashmir

3.1.1 The transmission scheme "Creation of 400/220 kV, 2x315 MVA Substation at Siot,

Jammu & Kashmir" was earlier kept on hold due to non-establishment of the downstream 220 kV network by J&K authorities. The same has now resumed with the initiation of the bidding process for selection of the Transmission Service Provider (TSP) for development of the downstream network. PFCCL is acting as the BPC, for both (inter-state and intra-state) transmission schemes.

3.1.2 PFCCL informed that initially, the implementation timeframe for the intra-state transmission scheme was specified as 18 months by JKPTCL. However, this timeframe has subsequently been extended from 18 months to 30 months. Further, in the 25th meeting of NCT, BPC was directed to proceed with the bidding process of the ISTS scheme within the matching timeframe of the intra-state scheme.

3.1.3 After detailed deliberations, NCT approved modification in the implementation timeframe for the ISTS transmission scheme "Creation of 400/220 kV, 2x315 MVA Substation at Siot, Jammu & Kashmir" from 18 months to 30 months matching with the downstream intra-state scheme.

3.2 Transmission system strengthening at Tumkur-II for integration of additional RE potential (2.7 GW)

3.2.1 Representative of CTUIL informed that the transmission scheme "Transmission system strengthening at Tumkur-II for integration of additional RE potential (1.5 GW)" was agreed in the 31st meeting of NCT held on 14.07.2025 with an estimated cost of Rs. 1051 Cr. The scheme is presently under bidding. Broad scope of the scheme is given below:

- Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (5th to 7th)
- Tumkur-II – Madhugiri 400kV (Quad) D/c line (~ 100 km)
- \pm 300 MVAr STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVAr bus reactors.
- 2 Nos. of 220kV line bay at Tumkur-II PS for termination of dedicated transmission lines of RE developers

3.2.2 He further informed that, the scheme includes \pm 300 MVAr STATCOM at Tumkur-II PS and space provision for STATCOM was not kept in the original scope of the scheme. Further, the scope includes 2 Nos. of 400 kV line bays at Madhugiri S/s for termination of Tumkur-II – Madhugiri 400kV (Quad) D/c line. However, space for 2 Nos. of 400 kV bays available at Madhugiri are not suitable for termination of line at Madhugiri S/s. The lines can be terminated at bays getting vacant after upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at rated voltage level being implemented under "Transmission Scheme for integration of Davanagere / Chitradurga and Bellary REZ in Karnataka" with SCoD as 21.03.2027". This will require shifting of the existing 63 MVAr line reactors to vacant bay (space) as bus reactors.

3.2.3 It was also discussed that the 63 MVArs line reactors are owned by POWERGRID.

To avoid difficulties during shifting of the reactors and subsequent commercial / maintenance issues, shifting of 2 nos. of 63 MVA line reactors at Madhugiri S/s to vacant 400 kV bays (space) to use as bus reactors may be considered for implementation by the owner of existing substation.

- 3.2.4 Representative of CTUIL informed that MNRE vide letter dated 28.08.2025 has declared additional potential of 1.2 GW at Tumkur-II PS. Further, applications of about 4550 MW have already been received with installed capacity of about 4635 MW (Solar – 3692 MW, Wind – 869 MW & ESS – 75 MW) against the total declared RE potential of 4200 MW. Accordingly, for grant of connectivity for accommodating above potential, augmentation of additional 3 Nos. of 400/220 kV ICTs (8th to 10th) are required at Tumkur-II PS. CTUIL proposed that additional 3 Nos. of 400/220 kV ICTs (8th to 10th) may be clubbed together with the under bidding scheme “Transmission system strengthening at Tumkur-II for integration of additional RE potential (1.5 GW)” for ease of implementation. The estimated cost of the above additions will be about Rs 198 Crs.
- 3.2.5 CTUIL also proposed that name of the scheme may be modified as “Transmission system strengthening at Tumkur-II for integration of additional RE potential (2.7 GW)” for better clarity.
- 3.2.6 After deliberations, NCT recommended the following modification in existing transmission scheme “Transmission system strengthening at Tumkur-II for integration of additional RE potential (1.5 GW)” with change in name of the scheme as “Transmission system strengthening at Tumkur-II for integration of additional RE potential (2.7 GW)”:

Sl.No	Scope of the Transmission Scheme	Original scope of the Transmission Scheme	Revised scope of the Transmission Scheme
1	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (5 th to 7 th)	<ul style="list-style-type: none"> • 400/220kV, 500 MVA, ICTs – 3 Nos. • 400kV ICT bays – 3 Nos. • 220kV ICT bays – 3 Nos. • 220kV Bus Sectionalizer: 2 set • 220 kV Bus Coupler (BC) Bay – 2 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 Nos. 	No Change
2	Tumkur-II – Madhugiri 400kV (Quad) D/c line (~ 100	<ul style="list-style-type: none"> • 400kV line bays – 2 Nos. (at Tumkur-II PS) • 400kV line bays – 2 	<ul style="list-style-type: none"> • 400kV line bays – 2 nos. (at Tumkur-II PS) • 400kV line bays at Madhugiri – The Tumkur-

Sl.No	Scope of the Transmission Scheme	Original scope of the Transmission Scheme	Revised scope of the Transmission Scheme
	km)	Nos. (at Madhugiri)	II – Madhugiri 400kV (Quad) D/c line may be terminated in the existing line bays which will be available upon upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level which is being implemented under “Transmission Scheme for integration of Davanagere / Chitradurga and Bellary REZ in Karnataka”
3	± 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVAR bus reactors	<ul style="list-style-type: none"> • ±300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVAR bus reactors. • 400 kV bay – 1 No. 	<ul style="list-style-type: none"> • ± 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVAR bus reactors. • 400 kV bay – 1 No. • Acquisition of additional land adjacent to Tumkur-II PS for STATCOM.
4	2 Nos. of 220kV line bay at Tumkur-II PS for termination of dedicated transmission lines of RE developers	<ul style="list-style-type: none"> • 220kV line bays – 2 Nos. 	<ul style="list-style-type: none"> • No Change
5.	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (8 th to 10 th)	-	<ul style="list-style-type: none"> • 400/220kV, 500 MVA, ICTs – 3 Nos. • 400kV ICT bays – 3 Nos. • 220kV ICT bays – 3 Nos. • 220kV Bus Sectionalizer: 1 set • 220 kV Bus Coupler (BC) Bay – 1 No. • 220 kV Transfer Bus Coupler (TBC) Bay – 1 No.
6.	4 Nos. of 220kV line bay at Tumkur-II PS for termination of dedicated transmission	-	<ul style="list-style-type: none"> • 220kV line bays – 4 Nos.

Sl.No	Scope of the Transmission Scheme	Original scope of the Transmission Scheme	Revised scope of the Transmission Scheme
	lines of RE developers		

Note :

- i. TSP of Tumkur-II PS to provide space (free of cost) for above mentioned augmentation of ICTs and line bays (400 kV and 220 kV) at Tumkur-II PS.
- ii. POWERGRID to provide 02 Nos. of 400 kV line bays (free of cost) at Madhugiri S/s [available upon upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level] for termination of Tumkur-II – Madhugiri 400kV (Quad) D/c line

3.2.7 Further, NCT approved Shifting of 2 Nos. of 63 MVA line reactors at Madhugiri S/s to vacant 400 kV bays (space) to use as bus reactors as given below:

Sl.No.	Scope of the Transmission Scheme	Capacity (MVA)/Line Length (km)/Nos.	Remarks
1	Shifting of 2 nos. of 63 MVA line reactors at Madhugiri S/s [available upon upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level] to vacant 400 kV bays (space) to use as bus reactors.	<ul style="list-style-type: none"> • Shifting of 63 MVA line reactors [2 nos.] to vacant 400 kV bays [space] [at Madhugiri S/s] • 400 kV bays – 2 Nos. [at Madhugiri S/s for utilisation of 2 nos. of 63 MVA line reactors as bus reactors] 	<ul style="list-style-type: none"> • Approved under RTM mode through POWERGRID • Estimated Cost-Rs 28 Crore • Tentative implementation timeframe: 24 months from the date of allocation

3.3 Inter-Regional Strengthening between SR Grid and ER

3.3.1 Representative of CTUIL stated that the transmission scheme “Inter-Regional Strengthening between SR Grid and ER Grid” was agreed in the 29th meeting of NCT with an estimated cost of Rs. 2710 Cr and presently the transmission scheme is under bidding. Broad scope of scheme is given below:

- Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) with 240 MVA SLR at both ends on both circuits
- 1x330 MVA, 765kV bus reactor (3rd) at Angul Substation

3.3.2 He further added the scope includes 2 Nos. of 240 MVA line reactors (6x80 MVA switchable units) at both Angul and Srikakulam ends. Presently, 1x80 MVA spare line reactor is available at Angul S/s and additional spare line reactor at Angul for Angul – Srikakulam 765 kV 2nd D/c line was not included in the scope of the scheme.

3.3.3 During the bidder query, POWERGRID, the owner of Angul S/s, has communicated

to BPC (PFCCL) that connection of existing 80 MVAR spare line reactor at Angul is not feasible with new 6x80 MVAR switchable line reactors envisaged under present scheme as the 765 kV switchyard of Angul is established in two different areas. Hence, one no. of additional 1x80 MVAR spare reactor unit shall be required for line reactors envisaged under present scheme.

3.3.4 CTUIL mentioned that the estimated cost of scheme with the above modification of the scope will be increased by about Rs. 12.5 Cr. The cost variation due to above change is approx. 0.46%.

3.3.5 After deliberations, NCT approved the inclusion of 1x80 MVAR spare reactor unit at Angul S/s under the scheme “Inter-Regional Strengthening between SR Grid and ER Grid”. The details of scheme with inclusion of 1x80 MVAR spare reactor unit at Angul S/s is given below:

Sl. No	Scope of the Transmission Scheme approved in 29 th NCT	Modified scope of the Transmission Scheme [Capacity /km]
1	Angul – Srikakulam 765 kV 2 nd D/c line (about 275 km) with 240 MVAR SLR at both ends on both circuits	<ul style="list-style-type: none"> •765kV line bays – 2 nos. GIS (at Srikakulam) •765kV line bays – 2 nos. AIS (at Angul) • 765 kV, 240 MVAR SLR at Srikakulam – 2 nos. (6x80 MVAR switchable units) • 765 kV, 240 MVAR SLR at Angul – 2 nos. (7x80 MVAR switchable units incl. 1 spare unit)
2	1x330 MVAR, 765kV bus reactor (3 rd) at Angul Substation	<ul style="list-style-type: none"> •765kV bus reactor – 1 no. (3x110 MVAR switchable units) •765kV bus reactor bay – 1 No

Note :

- i. POWERGRID shall provide space (free of cost) for 2 Nos. of 765 kV line bays each at Srikakulam (GIS) and Angul for termination of Angul-Srikakulam 765 kV D/c line.
- ii. POWERGRID shall provide space (free of cost) for 1x330 MVAR bus reactor along with associated bay at Angul.

4 New Transmission Schemes:

4.1 Transmission system for evacuation of 5GW RE power from Renewable Energy Parks in Leh

4.1.1 Representative of CTUIL stated that the transmission system for evacuation of 5 GW of RE power from Renewable Energy Parks in Leh comprised of ±350kV HVDC system (VSC) between Pang and Kaithal PS, AC system strengthening in Ladakh to provide RE power to Ladakh and J&K through 220 kV Pang – Leh (Phyang) S/c line and EHVAC system for dispersal of power to load centres towards Modipuram at 765 kV level and Bahadurgarh at 400kV level. However, due to various design, contractual and technical issues (as informed by OEM to POWERGRID), and bidding of the VSC HVDC scheme (Pang-Kaithal) scheme could not be concluded.

- 4.1.2 He mentioned that studies were carried out amongst CEA, CTUIL, Grid-India & POWERGRID to explore feasibility of EHVAC options for evacuation of power from Pang to various load centres of Northern region. The studies were carried out in solar maximized scenario in 2030 timeframe. The outcome of studies were further discussed and the EHVAC scheme was finalized.
- 4.1.3 As part of EHVAC proposal, a 400/220 kV pooling station at Pang is proposed with its 400 kV interconnections to RE developer pooling stations i.e. 400 kV PS1, PS2 & PS3 for integration of RE power. For evacuation of power from Pang PS, 400 kV Sundernagar PS along with its 400 kV interconnection to Pang PS through 2xD/c line with 45% FSC at Sundernagar end is being proposed.
- 4.1.4 For further dispersal of power from Sundernagar to NR load centres, 400 kV Sundernagar is proposed to be interconnected to Saharanpur S/s through 400 kV D/c line and 400 kV Kaithal S/s through 2x D/c line with 45% FSC at Kaithal end. Further, 765/400 kV Kaithal PS is proposed to be interconnected to Bahadurgarh & Modipuram S/s through 400kV D/c lines. Further to provide RE power to Ladakh and J&K, 220 kV Pang – Leh (Phyang) S/c line is also proposed as part of the EHVAC system. To maintain angular and voltage stability in base case as well as in various contingency scenarios, 8 Nos. Syncon units (125MVA_r) are proposed at Pang PS and 1 No. of SynCon unit (75 MVA_r) each at Leh, Kargil and Khalsti S/s.

Further, establishment of 400/220 kV PS-1, PS-2 & PS-3 along with 18 Nos. SynCons of 125 MVA_r per unit (viz. 6 units at each PS) at 220 kV level (i.e. total of $\pm 125 \times 18 = 2250$ MVA_r with suitable inertia) is considered in RE Developers scope.

- 4.1.5 For ease of implementation and to gain operational experience, transmission scheme is phased out in two phases. The Ph-I (1.67 GW evacuation capacity) and Ph-II (2.33 GW evacuation capacity) covers all the transmission elements of scheme, whereas for Ph-III generation of 1 GW, requirement of additional SynCons/400kV interconnection will be identified based on Operational performance/Feedback.
- 4.1.6 It was informed that, Pang-Kaithal VSC HVDC scheme have involvement of extreme high altitude. There are primary challenges (such as technical, environmental and geographical challenges) in implementation of transmission system which are as under:
- a. Excessive Altitude and thin air resulting in enhanced requirements of Insulation.
 - b. Extreme Environmental Conditions - low temperatures and low oxygen levels
 - c. High level of UV and cosmic radiation- higher failure rate of power electronic devices
 - d. Limited corridors for laying transmission lines
 - e. Non-existent transportation infrastructure for moving heavy equipment
 - f. Weak network strength - Low Short Circuit level at the Leh/Pang area
 - g. Presence of multiple inverter-based resources- Requires matching fixed and dynamic reactive compensation

4.1.7 Representative of POWERGRID stated that Front End Engineering Design (FEED) Studies were carried out in two stages; (i) Network Level and (ii) equipment Level. As per FEED-1 studies, following results were emerged

- Complex Geography of Pang PS (at 4700m altitude and low temperature [-35 degree]) - No VSC HVDC solutions were available at such high altitude
- Design and performance challenges of equipment to be adopted for such altitude – exemption from performance requirements
- Transportation and logistics concerns
- Additional time requirement as well as scope exclusion requirements
- Other technical challenges i.e. working at derated voltage (leads to requirement of more no. of semiconductor devices to maintain voltage)

4.1.8 Representative of GRID-INDIA added that EHVAC scheme was evolved in joint study meetings and matter was also discussed and agreed in special Meeting of NRPC for the Transmission system for evacuation of 5GW RE power from Renewable Energy Parks in Leh under EHVAC scheme.

4.1.9 After deliberations, following was decided:

- (i). CTUIL, in consultation with CEA, to review the transmission scheme to enhance system stability while also facilitating the supply of green power to Himachal Pradesh.
- (ii). POWERGRID to carry out studies regarding feasibility of the proposed scheme with respect to EHVAC equipment's and a firmness in design.
- (iii). MNRE to take up the matter with RE developers and get their feedback on the working of inverters in high altitude low temperature areas and on SynCons planned as part of developers scope and implementation timeline.
- (iv). The matter will be again taken up in NCT after receipt of above information.

4.2 **Scheme to Resolve High Loading on Lara STPS-I – Raigarh (Kotra) 400kV D/c line**

4.2.1 Representative of CTUIL stated that Power flow on the Lara STPS-Raigarh(Kotra) 400 kV D/c line is from Lara STPS to Raigarh (Kotra) during high HVDC power order on Raigarh-Pugalur HVDC (WR to SR) and low power order on Champa-Kurukshetra HVDC (WR to NR). Conversely, the power flow is from Raigarh (Kotra) to Lara STPS during high power order on Raigarh-Pugalur HVDC (SR to WR) and low power order on Champa-Kurukshetra HVDC (WR to NR). In both these cases, N-1 non-compliance of the Lara STPS-Raigarh(Kotra) 400kV D/c line is being observed. To mitigate this issue, reconductoring the Lara STPS-I – Raigarh(Kotra) 400kV D/c line (~20km.) with twin HTLS conductor with minimum capacity of 2100 MVA per circuit at nominal voltage is required.

4.2.2 He also informed that at Raigarh (Kotra), only wave trap associated with Lara STPS-I – Raigarh (Kotra) 400kV D/c line requires upgradation from 2000A to 3150A, as the

remaining equipment are already rated for 3000A / 3150A. Additionally, based on the information furnished by NTPC Ltd., bay upgradation for two complete 400kV diameters at the Lara STPS-I end of Lara STPS-I – Raigarh (Kotra) 400kV D/c line will be required. This includes upgrading CTs and isolators from 2000 A to 3150 A, along with upgradation of existing connectors, jumpers, jack bus, commensurate to reconductoring capacity. The complete cost of the subject scheme is estimated to be about ₹100.23 Crore out of which cost of bay upgradation works at Lara STPS-I switchyard end of NTPC Ltd. is about ₹ 41.08 Cr.

4.2.3 It was also discussed that upgrading some equipment in bays at the Lara STPS-I end under ISTS would be difficult due to implementation and commercial issues. Therefore, the bay upgradation work at Lara STPS-I need to be carried out by the owner of the bays.

4.2.4 After deliberations, the transmission scheme “Scheme to Resolve High Loading on Lara STPS-I – Raigarh (Kotra) 400 kV D/c line” was approved for implementation through 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.	Scheme to Resolve High Loading on Lara-I – Raigarh (Kotra) 400 kV D/c line	59.15	Approved under RTM through POWERGRID

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

Sl. No.	Scope of the Transmission Scheme	Capacity (MVA)/Line Length (km)/Nos.
1.	Reconductoring of existing Lara-I – Raigarh (Kotra) 400kV D/c line with twin HTLS conductor with minimum capacity of 2100MVA per ckt at nominal voltage.	Line Length 20 km.
2.	Wave trap upgradation for 2 nos. 400kV bays at Raigarh (Kotra) end of Lara-I – Raigarh (Kotra) 400kV D/c line from 2000A to 3150A	

4.2.5 It was also decided that upgradation of 4 Nos. of 400 kV bays (i.e. two complete diameter upgradation including Tie bays) from 2000 A to 3150 A at Lara STPS-I end of Lara STPS-I – Raigarh (Kotra) 400 kV D/c line would be carried out by NTPC Ltd. (the owner of the switchyard), in matching timeframe of the above ISTS scheme. This will involve CT & Isolator upgradation from 2000A to 3150A, as well as upgrading the existing connectors, jumpers, jack bus commensurate to reconductoring capacity.

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

4.3.1 Representative of CTUIL stated that, to ensure grid stability and provide inertial support in RE complex, requirement of dynamic compensation like Synchronous Condensers, 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.

4.3.2 The Committee had 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

4.3.3 Further the committee had recommended installation of first SynCon of 2 x+300/-200 MVAR at 400kV level either at Fatehgarh-II (Priority-1) or Fatehgarh-I (Priority-2) Substation.

4.3.4 In the 32nd meeting of NCT held on 12.08.25 and it was opined that more discussion is required on optimal location of Synchronous condensers and other aspects. In this regard, discussions were held in CEA on 12.09.25. Based on the directions, studies were carried out to see the impact of envisaged intra state thermal machines (2400 MW) in south Rajasthan (Chabbra/Kalisindh complex) on short circuit ratio (SCR) of Fatehgarh-II PS. From studies it is envisaged that considering above thermal generation, there will be no appreciable improvement in SCR of Fatehgarh-II S/s. Therefore, 2 Nos. of Synchronous Condensers (SynCon) units at 765/400/220 kV Fatehgarh-II PS are required to improve the SCR which will further address the issue Oscillations in RE complexes.

4.3.5 After deliberations, NCT recommended the following for implementation:

A. Summary of the scheme is given below:

Sl. No.	Description of the scheme	Estimated Cost (₹ Crore)	Remarks
1.	2 Nos. of Synchronous Condensers (SynCon) units at 400kV level of 765/400/220kV Fatehgarh-II PS along with 2 nos. of 400kV bays Implementation timeframe: 30 months	1157.45 Cr.	Recommended under TBCB with PFCCL as BPC

	from the date of allocation		
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B. Details of the Scheme:

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
1	<p>2 nos. of Synchronous Condensers (SynCon) units* at 400kV level of 765/400/220kV Fatehgarh-II PS along with 2 nos. of 400kV bays</p> <p><i>*1 No. of SynCon unit comprises dynamic support of +300MVar/-200MVar (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) (Value of inertia (MW-secs) shall be provided in RfP document</i></p>	<ul style="list-style-type: none"> • Synchronous Condenser units- 2 nos. • 400kV Bay- 2 nos.

Note : POWERGRID shall provide space (free of cost) for 2 Nos. (SynCon) units at Fatehgarh-II PS along with 2 Nos. of 400 kV bays

5 Communication Schemes

5.1 Redundant communication for Narora Atomic Power Plant (NPCIL) (NAPP)

5.1.1 Representative of CTUIL stated that NAPP is connected with radial path through UPPTCL OPGW network, and no redundant path is available, therefore, a redundant communication path for NAPP is needed and that can be created through fiber sharing from UPPTCL OPGW N/w i.e. NAPP – Simbhavli (UP) – Shatabdi Nagar (UP) – Modipuram (UP). At Modipuram (UP) ISTS FOTE is available.

5.1.2 It was further mentioned that UPPTCL has given consent regarding sharing of 2 pairs of fibers on the following UPPTCL links for provide redundant communication to NAPP (NPCIL):

- i. Simbhavali (UP) - Shatabdi Nagar (UP)
- ii. Shatabdi Nagar (UP) - Modipuram (UP)-having ISTS FOTE

5.1.3 The proposal was agreed in the 78th meeting of NRPC held on 17.03.2025.

5.1.4 After deliberations, the communication scheme “Redundant communication for Narora Atomic Power Plant (NPCIL) (NAPP)” was approved for implementation under RTM mode as mentioned below:

A. Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Redundant communication for Narora Atomic Power Plant (NPCIL) (NAPP) Tentative implementation timeframe: 24 months from date of allocation	6.45	Approved under RTM mode

B. Detailed scope of the scheme is given below:

S.No.	Scope of the scheme	Implementing Agency
1	(a) Supply & Installation of 48F OPGW on 220kV NAPP (NPCIL) – Simbhavli UPPTCL line (88 Km) under ISTS (b) Supply & Installation 2 no. of STM-16 FOTE at Simbhavli (UP) and Shatabdi Nagar (UP) each under ISTS	POWERGRID

5.2 Redundant communication for Saharanpur S/s (PG)

5.2.1 Representative of CTUIL stated that Saharanpur (PG) is presently connected with Roorkee and Dehradun (PG) and on Saharanpur to Roorkee line, there is a single OPGW installed upto LILO point of Dehradun (PG) (16 Km) which creates a single point of failure in case of snapping of OPGW or damage of fiber. Redundant communication for Saharanpur (PG) can be created using fiber sharing from following UPPTCL links:

- a. Saharanpur (PG)- Deoband (UP)
- b. Deoband (UP)- Saharanpur (UP)
- c. Saharanpur (UP) -Nanauta (UP)
- d. Nanauta (UP)-Shamli (UP)
- e. Shamli (UP) -Muradnagar (UP) (having ISTS FOTE)

5.2.2 UPPTCL has given their consent regarding sharing of 2 pairs of fibers on the above UPPTCL links. Five Nos. of FOTE at **Saharanpur (PG), Deoband (UP), Saharanpur (UP), Nanauta (UP) and Shamli (UP)** will be required under ISTS.

5.2.1 The proposal was agreed in the 78th meeting of NRPC held on 17.03.2025.

5.2.2 After deliberations, the communication scheme “Redundant communication for Saharanpur S/s (PG)” was approved for implementation under RTM mode as mentioned below:

A. Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Redundant communication for Saharanpur S/s (PG) Tentative implementation timeframe: 12 months from date of allocation	2.10	Approved under RTM mode

B. Detailed scope of the scheme is given below:

S.No.	Scope of the scheme	Implementing Agency
1	Supply & Installation of 1 No. of STM-16 FOTE each at Saharanpur (PG), Deoband (UP), Saharanpur (UP), Nanauta (UP) and Shamli (UP) (Total FOTE 5 Nos.)	POWERGRID

5.3 Redundant communication for Manesar S/s

5.3.1 Representative from CTUIL stated that Manesar S/s is presently connected through ISTS communication network via following two (02) transmission lines and both paths share common OPGW portion near Ballabhgarh S/s.

- a. Manesar – Sohna – Gurgaon – Ballabhgarh - - - up to NRLDC
- b. Manesar – Neemrana – Bhiwadi – Ballabhgarh - - - up to NRLDC

5.3.2 It was further mentioned that CEA Communication Planning Manual provides that following measures to be taken while planning the reliable communication system:

“Clause 4.1.2: Alternate channel (protection path) in different routes, i.e., the working path and protection path should be resource disjoint”

“Clause 4.4.2 (c): Alternate path shall be on “Physically independent communication media (wired or wireless)”

5.3.3 Redundant communication for Manesar can be created by using following:

- (i). Sharing of 3 pairs of fibers from existing OPGW on Manesar- Neemrana Line owned by POWERGRID from Manesar S/s upto crossing point of Neemrana – Manesar & Agra- Jhatikara line
- (ii). Supply and installation of OPGW (48F) on 765 kV Agra-Jhatikara line (from the crossing point of Neemrana – Manesar & Agra-Jhatikara line up to Jhatikara S/s (30 kms)

5.3.1 The proposal was agreed in 78th NRPC meeting held on 17.03.2025.

5.3.2 After deliberations, the communication scheme “Redundant communication for Manesar S/s” was approved for implementation under RTM mode as mentioned below:

A. Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Redundant communication for Manesar S/s Tentative implementation timeframe: 24 months from date of allocation	2.1	Approved under RTM mode

B. Detailed scope of the scheme is given below:

S.No.	Scope of the scheme	Implementing Agency
1	Supply and installation of 48 Fiber OPGW on 765 kV Agra-Jhatikara line from the crossing point of Neemrana – Manesar & Agra-Jhatikara line up to Jhatikara S/s- (30 kms)	POWERGRID

5.4 Communication requirement incidental to upcoming CN'Halli ISTS S/s

5.4.1 Representative of CTUIL stated that in the 28th meeting of NCT “Transmission System for Integration of Ananthapuram-II REZ - Phase-II (3 GW)” was approved. In the scheme LILO of the following two Nos. of KPTCL lines were agreed at upcoming CN'Halli S/s (ISTS):

- a. Talaguppa – Neelmangala
- b. Talaguppa – Hassan

5.4.2 It was also mentioned that OPGW is not available on the above lines and to meet data, voice, telemetry and Protection requirement of CN'Halli (ISTS), Talaguppa (KPTCL), Neelmangala (KPTCL) and Hassan (ISTS) S/s, OPGW is required to be installed on the above lines of KPTCL.

5.4.3 In the 52nd TCC & 55th SRPC meetings held on 25-26 July 2025 following were agreed to be implemented under ISTS scheme:

- a. Supply and Installation of OPGW (48F) from Hassan to LILO point of CN'Halli S/s - 40 kms
- b. Supply and Installation of 1 no. FOTE alongwith Optical interfaces at Hassan S/s.
- c. Bypassing arrangement of existing 24F OPGW on Neelmangala-Hassan line (ownership with POWERGRID) at LILO point of CN'Halli.

5.4.4 After deliberations, the communication scheme “Communication requirement incidental to upcoming CN'Halli ISTS S/s” was approved for implementation under RTM mode as mentioned below:

A. Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
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1.	Communication requirement incidental to upcoming CN'Halli ISTS S/s Tentative implementation timeframe: 24 months from date of allocation and matching time frame with transmission scheme "Transmission System for Integration of Ananthapuram-II REZ - Phase-II (3 GW)"	2.5	Approved under RTM mode
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B. Detailed scope of the scheme is given below:

S.No.	Scope of the scheme	Implementing Agency
1	(a) Supply and Installation of OPGW (48F) on existing Hassan to LILO point of CN'Halli Transmission line - 40 kms (b) Supply and Installation of 1 no. FOTE alongwith Optical interfaces at Hassan S/s. (c) Bypassing arrangement of existing 24F OPGW on Neelmangala- Hassan line (ownership with POWERGRID) at LILO point of CN'Halli.	POWERGRID

5.5 Replacement of 15 no. of FOTE at critical ISTS location in Southern Region

5.5.1 Representative of CTUIL stated that replacement of 15 Nos. of FOTE at the critical Location in Southern Region have been agreed in the 52nd TCC & 55th SRPC meetings held on 25-26 July 2025. Out of 15 Nos. of FOTE, 7 Nos. are proposed of STM-64 capacity and remaining 8 Nos. are proposed with STM-16 capacity. STM-64 are proposed in view of bandwidth congestion due to the proximity of SRLDC where data of inter-regional links, AGC, backup SRLDC and NLDC flows through these FOTE. Therefore, to create congestion free and reliable communication these 7 Nos. of FOTE are considered on STM-64 capacity.

5.5.2 After deliberations, the communication scheme "Replacement of 15 no. of FOTE at critical ISTS location in Southern Region" was approved for implementation under RTM mode as mentioned below:

A. Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Replacement of 15 no. of FOTE at critical ISTS location in Southern Region	10.21	Approved under RTM mode

	Tentative implementation timeframe: 18 months from date of allocation		
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B. Detailed scope of the scheme is given below:

S.No.	Scope of the scheme					Implementing Agency
1	Replacement of 15 no. of FOTE at critical ISTS location in Southern Region at following locations:					POWERGRID
S. No.	Location	S/s owner	No. of FOTE	Existing FOTE Capacity	Proposed FOTE Capacity	
1	SRLDC	PG	2	STM16 (3 MSP)	STM64 (3 MSP)	
2	Somanahalli	PG	1	STM16 (3 MSP)	STM64 (5 MSP)	
3	Bidadi PGCIL	PG	1	STM16 (3 MSP)	STM64 (5 MSP)	
4	Narendra PGCIL	PG	1	STM16 (3 MSP)	STM16 (5 MSP)	
5	Madhugiri 765	PG	1	STM16 (5 MSP)	STM16 (5 MSP)	
6	Hiriyur	PG	1	STM16 (5 MSP)	STM16 (5 MSP)	
7	Kolar	PG	1	STM16 (3 MSP)	STM64(5 MSP)	
8	Nelamangala	KPTCL	1	STM16 (3 MSP)	STM64(5 MSP)	
9	Davangere/Guttur	KPTCL	1	STM16 (3 MSP)	STM16 (5 MSP)	
10	Hoody	KPTCL	1	STM16 (3 MSP)	STM64 (5 MSP)	
11	Sripermbadur	PG	1	STM16 (3 MSP)	STM16 (5 MSP)	
12	Pondy cherry PG	PG	1	STM16 (3 MSP)	STM16 (5 MSP)	
13	Hosur	PG	1	STM16 (3 MSP)	STM16 (5 MSP)	
14	Salem 400kV PG	PG	1	STM16 (3 MSP)	STM16 (5 MSP)	

5.6 FOTE replacement for Alusteng, Drass, Kargil, Khalasti, Leh S/s

5.6.1 Representative of CTUIL stated replacement of Coriant make FOTE at Alstung, Drass, Kargil, Khalsti, Leh (ISTS) S/s was agreed in the 53rd TCC & 78th NRPC Meeting held on 16-17 March 2025. Further, CTU was requested to put up the agenda in the NCT.

- 5.6.2 This matter was again deliberated in a meeting held amongst CEA (PCD), CTU and POWERGRID on 09.07.2025 wherein it was discussed that these FOTE were originally procured under substation packages and are part of Substations. The treatment of replacement of these FOTE can be considered like other Substation elements as per CERC Tariff Regulation and TSPs are eligible to file for cost recovery before CERC, after RPCs approval. It was agreed in that meeting that in the matter of FOTE replacement / upgradation following philosophy can be adopted for future requirements:
- a. For FOTE implemented under CTU-planned separate communication schemes (executed by POWERGRID or any TSP) - the replacement or upgradation of FOTE to be planned by CTU.
 - b. Replacement / Upgradation of FOTE supplied and installed under RTM substation project may be taken up directly by TSP to CERC after RPC approval for cost recovery.
 - c. Replacement / Upgradation of FOTE for the substation under TBCB project shall be taken care by TSP as per CERC regulations, during the lifetime of the project.
- 5.6.3 NCT opined that there is modification in the proposal recommended by the RPC and advised CTU to approach NRPC with the modified proposal.

6 Status of the bids under process by BPCs

- 6.1 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	3	1
2	Bids Under Evaluation	2	3
3	RfP issued and bids to be submitted	2	5
4	RfP yet to be issued	5	5
5	RfP bid submission on hold	1	0
	TOTAL	13	14

- 6.2 Members noted the status of the schemes under bidding.

Summary of the deliberations of the 33rd meeting of NCT held on 16.09. 2025

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

1. Creation of 400/220 kV, 2x315 MVA Substation at Siot, Jammu & Kashmir

NCT approved the modification in the implementation timeline of ISTS transmission scheme “Creation of 400/220 kV, 2x315 MVA Substation at Siot, Jammu & Kashmir” from 18 months to 30 months, in alignment with the downstream intra-state transmission network.

2. Transmission system strengthening at Tumkur-II for integration of additional RE potential (1.5 GW)

NCT recommended the following modification:

Sl.No	Scope of the Transmission Scheme	Original scope of the Transmission Scheme	Revised scope of the Transmission Scheme
1	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (5 th to 7 th)	<ul style="list-style-type: none"> • 400/220kV, 500 MVA, ICTs – 3 Nos. • 400kV ICT bays – 3 Nos. • 220kV ICT bays – 3 Nos. • 220kV Bus Sectionalizer: 2 set • 220 kV Bus Coupler (BC) Bay – 2 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 Nos. 	No Change
2	Tumkur-II – Madhugiri 400kV (Quad) D/c line (~ 100 km)	<ul style="list-style-type: none"> • 400kV line bays – 2 Nos. (at Tumkur-II PS) • 400kV line bays – 2 Nos. (at Madhugiri) 	<ul style="list-style-type: none"> • 400kV line bays – 2 nos. (at Tumkur-II PS) • 400kV line bays at Madhugiri – The Tumkur-II – Madhugiri 400kV (Quad) D/c line may be terminated in the existing line bays which will be available upon upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level which is being implemented under “Transmission Scheme for integration of Davanagere / Chitradurga and Bellary

Sl.No	Scope of the Transmission Scheme	Original scope of the Transmission Scheme	Revised scope of the Transmission Scheme
			REZ in Karnataka”
3	± 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVA bus reactors	<ul style="list-style-type: none"> • ±300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVA bus reactors. • 400 kV bay – 1 No. 	<ul style="list-style-type: none"> • ± 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVA bus reactors. • 400 kV bay – 1 No. • Acquisition of additional land adjacent to Tumkur-II PS for STATCOM.
4	2 Nos. of 220kV line bay at Tumkur-II PS for termination of dedicated transmission lines of RE developers	<ul style="list-style-type: none"> • 220kV line bays – 2 Nos. 	<ul style="list-style-type: none"> • No Change
5.	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (8 th to 10 th)	-	<ul style="list-style-type: none"> •400/220kV, 500 MVA, ICTs – 3 Nos. •400kV ICT bays – 3 Nos. •220kV ICT bays – 3 Nos. •220kV Bus Sectionalizer: 1 set •220 kV Bus Coupler (BC) Bay – 1 No. • 220 kV Transfer Bus Coupler (TBC) Bay – 1 No.
6.	4 Nos. of 220kV line bay at Tumkur-II PS for termination of dedicated transmission lines of RE developers	-	<ul style="list-style-type: none"> • 220kV line bays – 4 Nos.

Note :

- iii. TSP of Tumkur-II PS to provide space (free of cost) for above mentioned augmentation of ICTs and line bays (400 kV and 220 kV) at Tumkur-II PS.
- iv. POWERGRID to provide 02 Nos. of 400 kV line bays (free of cost) at Madhugiri S/s [available upon upgradation of Narendra New – Madhugiri 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level] for termination of Tumkur-II – Madhugiri 400kV (Quad) D/c line

3. Inter-Regional Strengthening between SR Grid and ER

NCT approved the inclusion of 1x80 MVA spare reactor unit at Angul S/s under the

scheme “Inter-Regional Strengthening between SR Grid and ER Grid”.

II. ISTS Transmission schemes, approved/ recommended by NCT:

The ISTS transmission schemes approved/recommended by NCT are given below:

Sl. No.	Name of Transmission Scheme	Implementation Mode	Tentative Implementation timeframe	BPC/ Implementing Agency	Estimated Cost (₹ Crs.)
1.	Shifting of 2 Nos. of 63 MVAR line reactors at Madhugiri S/s to vacant 400 kV bays (space) to use as bus reactors	RTM	24 months from the date of allocation	POWERGRID	28
2.	Scheme to resolve High loading on Lara-I – Raigarh (Kotra) 400kV D/c line	RTM	18 months from award to implementing agency (15 months on best effort basis)	POWERGRID	59.15
3.	Installation of 2 Nos. of Synchronous Condensers (SynCon) units at 765/400/220kV Fatehgarh-II PS	TBCB	30 months	PFCCCL	1157.45

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.	Shifting of 2 Nos. of 63 MVAR line reactors at Madhugiri S/s to vacant 400 kV bays (space) to use as bus reactors Implementation timeframe: 24 months from the date of	<ul style="list-style-type: none"> Shifting of 63 MVAR line reactors [2 nos.] to vacant 400 kV bays [space] [at Madhugiri S/s] 400 kV bays – 2 Nos. [at Madhugiri S/s for utilisation of 2 nos. of 63 MVAR line reactors as bus reactors] 	

	allocation		
2.	<p>Scheme to resolve High loading on Lara-I – Raigarh (Kotra) 400kV D/c line</p> <p>Implementation Timeframe: 18 months from award to implementing agency (15 months on best effort basis)</p>	<p>1. Reconductoring of existing Lara-I – Raigarh (Kotra) 400kV D/c line of 20km with twin HTLS conductor with minimum capacity of 2100MVA per ckt at nominal voltage.</p> <p>2. Wave trap upgradation for 2 nos. 400kV bays at Raigarh (Kotra) end of Lara-I – Raigarh (Kotra) 400kV D/c line from 2000A to 3150A</p> <p>3. Bay upgradation for 4 nos. 400kV bays (i.e. 2 Nos. complete Diameter upgradation incl. Tie bays) at Lara-I end of Lara-I – Raigarh (Kotra) 400kV D/c line from 2000A to 3150A (involving CT & Isolator upgradation from 2000A to 3150A as well as upgradation of existing connectors/jumpers/jack bus commensurate to reconductoring capacity).</p> <p>(Detailed scope as approved by 33rd NCT and subsequent amendments thereof)</p>	
3.	<p>Installation of 2 Nos. of Synchronous Condensers (SynCon) units at 765/400/220kV Fatehgarh-II PS</p> <p>Implementation Timeframe: 30 months</p>	<p>2 Nos. of Synchronous Condensers (SynCon) units* at 400kV level of 765/400/220kV Fatehgarh-II PS along with 2 Nos. of 400kV bays</p> <p><i>*1 No. of SynCon unit comprises dynamic support of +300MVar/-200MVar (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) (Value of inertia (MW-secs) shall be provided in RfP document</i></p> <ul style="list-style-type: none"> • Synchronous Condenser 	RECPDCL

		units- 2 Nos. • 400kV Bay- 2 Nos. (Detailed scope as approved by 33rd NCT and subsequent amendments thereof)	
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III. Communication schemes approved by NCT

Sl. No.	Name of Transmission Scheme	Implementation Mode	Tentative Implementation timeframe	Implementing Agency	Estimated Cost (Rs. Crs)
1.	Redundant communication for Narora Atomic Power Plant (NPCIL)	RTM	24 months from the date of allocation	POWERGRID	6.45
2.	Redundant communication for Saharanpur S/s (PG)	RTM	12 months from the date of allocation	POWERGRID	2.1
3.	Redundant communication for Manesar S/s	RTM	24 months from the date of allocation	POWERGRID	2.1
4.	Communication requirement incidental to upcoming CN'Halli ISTS S/s	RTM	24 months from the date of allocation	POWERGRID	2.5
5.	Replacement of 15 no. of FOTE at critical ISTS location in Southern Region	RTM	18 months from the date of allocation	POWERGRID	10.21

List of participants of the 33rd meeting of NCT

CEA:

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

MoP:

1. Sh. Sai Baba, Joint Secretary (Trans.)

RPCs:

1. Sh. N.S. Mondal, MS(ERPC)
2. Sh. Asit Singh, MS(SRPC)
3. Sh. P D Lone, SE, WRPC
4. Director (T&SO), KSEBL

MNRE:

1. Sh. Tarun Singh, Scientist E

SECI:

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

CTUIL:

1. Sh. Dilip Nagesh Rozekar , COO
2. Sh. Vikas Bagadia, CGM
3. Sh. P.S. Das, Sr. GM
4. Smt. Nutan Mishra, Sr GM
5. Sh. Shiv Kumar Gupta, Sr. DGM
6. Sh. Sandeep Kumawat, DGM
7. Sh. Bhaskar Wagh, DGM
8. Sh. Ajay Dahiya, DGM
9. Sh. Anshul Gupta, DGM
10. Sh. T P Verma, DGM
11. Sh. Mahendra Nath Malla, Chief Manager
12. Sh. Venkatesh Gorli, Chief Manager

13. Sh. Rakesh Kumar, Chief Manager
14. Sh. Pratyush Singh, Chief Manager

GRID India:

1. Sh. S.C. Saxena, CMD
2. Sh. Vivek Pandey, CGM (SO)
3. Sh. Saibal Ghosh, Chief Manager
4. Sh. Priyam Jain, Chief Manager

POWERGRID:

1. Puneet Tyagi (for agenda 4.1)

RECPDCL

1. Sh. Vijay Kulkarni, Sr. GM
2. Sh. Anil Kumar Parela, Chief Manager

PFCCL

1. Smt. Nirmala Meena, Chief Manager
2. Sh. Dharmender , Asst Manager