



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग- II

Power System Planning & Appraisal Division-II

सेवा में /To

As per list of Addresses

विषय: ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की सैंतीसवी बैठक का कार्यवृत्त ।

Subject: Minutes of the 37th Meeting of the National Committee on Transmission (NCT)-reg.

महोदया (Madam) / महोदय (Sir),

The 37th meeting of the National Committee on Transmission (NCT) was held on 19th January, 2026 at New Delhi. The minutes of the meeting are enclosed herewith.

भवदीय / Yours faithfully

(बी.एस. बैरवा / B.S. Bairwa)

मुख्य अभियन्ता एवं सदस्य सचिव, (एन.सी.टी.)/
Chief Engineer & Member Secretary (NCT)

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. | Additional Secretary (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. Abhay Choudhary Expert Member | 10. | Managing Director, Jammu Power Distribution Corporation Limited (JPDCL) Gladni Narwal, Jammu, Jammu & Kashmir, India - 180006 |
| 11. | Sh. S.R Narasimhan Expert Member | 12. | Shri. Shivdas.S, Director (Transmission & System Operation) Vydyuthi Bhavanam, Pattom, Thiruvananthapuram, Kerala- 695004 |
| 13. | Sh. Sabyasachi Roy, Director (Operations), WBSETCL | 14. | Chairperson, North Eastern Region Power Committee Hon'ble Minister of Power, Govt. of Assam, Guwahati – 781 006 |
| 15. | Chairperson, Western Region Power Committee 2nd Floor, Vidyut Seva Bhavan, P.O. Sunder Nagar, Danganiya, Raipur: 492 013 | | |

Special Invitee

- i) Chief Engineer (PCD), CEA
- ii) CEO, RECPDCL
- iii) CEO, PFCCL

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Minutes of the 37th meeting of National Committee on Transmission (NCT)

1. Confirmation of the minutes of the 36th meeting of National Committee on Transmission

- 1.1. The minutes of the 36th meeting of NCT held on 30.12.2025 were issued on 15.01.2026 vide CEA letter no. CEA-PS-12-13/3/2019-PSPA-II Division/ I/53063/2025.
- 1.2. It was pointed out that ‘redundant’ word has been used in the minutes at point 4.1, while schemes are planned for reliable power supply. Members agreed that in the minutes of 36th meeting of NCT, transmission scheme at 4.1 may be renamed as “Transmission System for Reliable Power Supply to Dholera”. Further, the word ‘redundant’ to be replaced with ‘reliable’ at all places in the paragraphs.
- 1.3. Members confirmed the minutes of 36th meetings of NCT with above amendment.

2. Modifications in the earlier approved/notified transmission schemes

2.1. Modification in Configuration of Proposed Siot Substation from AIS to GIS

- 2.1.1. The transmission scheme “Creation of 400/220 kV, 2×315 MVA Substation at Siot, Jammu & Kashmir” was approved in the 5th NCT meeting held on 25.08.2021 and 02.09.2021 and PFCCCL vide Gazette notification dated 06.12.2021 had been notified as the Bid Process Coordinator (BPC) for implementation of the transmission scheme through TBCB route.
- 2.1.2. The substation was originally conceptualized and approved with Air Insulated Substation (AIS) configuration for drawl of power from Siot Substation by intra-state new substations namely Rajouri-II, Akhnoor and Katra by JKPTCL. Accordingly, the completion schedule of Siot (ISTS) Substation was aligned with the implementation timeframe of the associated intra-state transmission scheme as deliberated and agreed in the meeting held on 07.02.2023 among CEA, CTUIL, BPC and JKPTCL.
- 2.1.3. In order to finalize the tentative location of Siot Substation a meeting was held on 09.06.2022 based on location proposed by PFCCCL. Subsequently, team of officials from CEA, CTUIL and PFCCCL visited the site along with JKPTCL officials. Further, two more meetings were held on 27.07.2022 and 30.09.2022. Proposed location near Bakhar village, Rajouri could not be finalized due to presence of a naala, nearby and the concern of placement of dead end towers over the proposed land. As a result, JKPTCL was directed to suggest alternate route and survey was again carried out by with officials from PFCCCL and JKPTCL. After deliberation in the meeting held on 13.01.2023, the proposed 400/220 kV Siot substation was finalized.
- 2.1.4. Siot (ISTS) transmission scheme was kept on hold due to non-finalization of the downstream network by JKPTCL. National Committee on Transmission (NCT) in its 25th meeting held on 28.11.2024 directed PFCCCL to proceed the bidding process of Siot (ISTS) transmission scheme in the matching timeframe of intra-state scheme as the

bidding process of downstream network was awarded to PFCCL.

- 2.1.5. The project is presently under the bidding stage, and approximately 33 acres of land is required to establish proposed Siot substation. Survey report was reissued to the participating bidders on 06.03.2025 with same Substation location which was finalized in the meeting held on 13.01.2023.
- 2.1.6. Bidders have expressed concerns with regard to feasibility of implementing AIS configuration at the proposed finalized Substation location due to terrain level difference of 60 meters including deep valley on one side of proposed substation land due to which extensive wall construction would be required. Due to this construction risks increased with higher civil costs and difficulty in mobilization of equipment leads to potential delays in achieving project milestones.
- 2.1.7. In order to deliberate upon the issues raised by the bidders, a meeting was held on 23.12.2025 under the chairmanship of Member (Power System), CEA. During the meeting, BPC and JKPTCL were directed to conduct a joint site survey to assess the technical viability of the proposed AIS substation and to examine the genuineness of the concerns raised by the bidders.
- 2.1.8. As per the directions, Joint site visit was conducted on 26.12.2025 and it was observed that the terrain level difference at the proposed site was 60 meters approx. which can be evident through videos clips as supporting evidence. Further, additional meeting was held on 02.01.2026 under the Chairmanship of Member (Power System) and it was decided that the proposal for the change in configuration of the substation from AIS to GIS may be taken up as an agenda item in the upcoming NCT meeting.
- 2.1.9. Representative of PFCCL stated that landowner are ready to sell their land if acquisition is completed within 6 months.
- 2.1.10. Representative of CTUIL informed that cost of GIS configuration would be higher than that of AIS. Representative of PFC (BPC) stated that due to huge civil works required to for preparing the land in case of AIS, cost of GIS configuration would be instead cheaper.
- 2.1.11. After detailed deliberations, it was decided to change the configuration of Siot Substation from AIS to GIS and BPC (PFCCL) was directed to go ahead for bidding with this modified configuration. Details of modified scheme “Creation of 400/220 kV, 2x315 MVA (GIS) S/S at Siot, Jammu & Kashmir” with change the configuration of Siot Substation from AIS to GIS is as under :

| S.No. | Scope of the Transmission Scheme | Capacity /km |
|-------|---|--|
| 1 | <p>Establishment of 7x105 MVA, 400/220kV Siot (GIS) S/s with 1x80 MVAR (420 kV) bus reactor</p> <p>Future provisions:</p> <p>Space for</p> <ul style="list-style-type: none"> 400/220kV ICTs along with (GIS)bays: 2nos. | <ul style="list-style-type: none"> 315 MVA, 400/220 kV ICT(7x105 MVA, including one spare) 400 kV ICT (GIS)bays - 2 nos. 220 kV ICT (GIS) bays - 2 nos. 400 kV line (GIS)bays - 4 nos. 220 kV line (GIS)bays - 6 nos. |

| | | |
|---|--|---|
| | <ul style="list-style-type: none"> • 400 kV line (GIS)bays along with switchable line reactor: 4 nos. • 220 kV line (GIS) bays: 4 nos. | <ul style="list-style-type: none"> • 80 MVA, 420kV bus reactor - 1 no. • 420 kV reactor (GIS)bay - 1 no. • 220kV Bus coupler (GIS)bay- 1 no. |
| 2 | LILO of 400kV D/C Amargarh (Kunzer)-Samba line at 400/220 kV Siot (GIS) S/s | Length – 15 kms |

2.2. Modification of completion schedule of WR-ER Inter-Regional Network Expansion Scheme-Part C

- 2.2.1. Representative of CTUIL stated that the transmission scheme WR-ER Inter-Regional Network Expansion Scheme (Part-A, Part-B, and Part-C) was agreed for implementation through TBCB route in the 32nd meeting of NCT held on 12-08-2025. MoP vide Gazette notification no. CG-DL-E-23092025-266305 dated 18-09-2025 has notified implementation of Part-A and Part-C of the subject scheme through TBCB route and has appointed RECPDCL as the BPC for both Part-A and Part-C.
- 2.2.2. He also informed that the Part-C of the scheme inter alia includes Jamshedpur (New) – Balasore (OPTCL) 400kV D/c (Quad) line and Extension at Jamshedpur (New) 765/400kV (ISTS) substation with SCOD of 31-03-2029 (matching with expected commissioning of Balasore (OPTCL) 400kV S/s being implemented by OPTCL under intra-state). Establishment of 2x1500MVA, 765/400kV S/s at Jamshedpur (New) in Jharkhand is under Part-A of the scheme with completion schedule of 30 months.
- 2.2.3. Now, OPTCL vide letter Ref. No CP-CEA-27/2020/11(5) dated 06-01-2026 has informed CEA that the completion timeline for 400/220kV Balasore S/s shall be March 2028 instead of March 2029 to support and cater to the upcoming load requirement in the area. OPTCL has requested for completion of Jamshedpur (New) – Balasore (OPTCL) 400kV D/c (Quad) line by March 2028.
- 2.2.4. The BPC of both Part-A and Part-C of the scheme is RECPDCL. As per bidding calendar, the SPV transfer for both parts of the scheme is expected by 30-04-2026. As Jamshedpur (New) S/s is being taken up under Part-A with completion schedule of 30 months and commissioning of Part-C is contingent upon successful completion of Jamshedpur (New) S/s under Part-A, it was proposed that considering the request of OPTCL, completion schedule of Part-C of the scheme may be revised to 30 months instead of March 2029. Further, as BPC of both schemes is same, it was also proposed that RECPDCL may be advised to strive to award both parts of the scheme viz. Part-A and Part-C together as utilisation of Part-C is linked with completion of Jamshedpur (New) S/s under Part-A.
- 2.2.5. Representative of RECPDCL informed that the transfer of SPV for the scheme is expected to be completed in April 2026 for both Part-A and Part-C.
- 2.2.6. GRID-INDIA stated that it is recommended to terminate incoming and outgoing feeder in the same dia. to enhance the reliability in the event of bus tripping. Therefore, at 765

kV New Jamshedpur station, the possibility of keeping each circuit of the New Ranchi D/C line in same dia. of Medinipur D/C line, and each circuit of Tamnar D/C line in the dia. of the Jeerat D/C line may be explored. Similar approach may be considered in the future system also.

2.2.7. After detailed deliberations, it was decided that the completion schedule of Part-C of the scheme “WR–ER Inter-Regional Network Expansion Scheme” shall be revised to 30 months from SPV transfer. Further, RECPDCL was directed to complete the bidding process at the earliest and strive to award both parts of the scheme viz. Part-A and Part-C together as utilisation of Part-C is linked with completion of Jamshedpur (New) S/s under Part-A.

2.3. Addition of 220kV bus coupler in North Eastern Region Generation Scheme-III Siang Basin (NERGS-III Siang Basin)

2.3.1. Representative of CTUIL stated that the NERGS-III Siang Basin scheme was planned for providing 426 MW ISTS connectivity to NEEPCO for its Heo Hydro Electric Project (3x80 MW) and Tato-I Hydro Electric Project (3x62 MW) with completion timeframe of 28-02-2029. The scheme was agreed by the NCT in 32nd meeting held on 12-08-2025 and further modified in the 34th meeting held on 10-10-2025 (on account of additional scope i.e. implementation of 400/220kV level at Niglok S/s in Arunachal Pradesh). The scheme inter-alia includes establishment of a new 400/220kV S/s at Niglok to cater to the upcoming industrial demand and to relieve the loading on intra-state transmission system of Arunachal Pradesh.

2.3.2. Now, it has been observed that considering the Double Main switching scheme for 220kV GIS bus at Niglok S/s, there is a need for 1 No. of 220kV bus coupler to be included in the present scope of works.

2.3.3. It was also mentioned that the cost implication is about 0.343%. The BPC of the scheme is PFCCL and the scheme is under bidding. It was proposed to make suitable amendment in the RfP.

2.3.4. After detailed deliberations, following modification was approved in the transmission scheme “NERGS-III Siang Basin”:

| Sl. No. | Scope of works agreed in 34 th NCT meeting | | | Revised scope of works proposed | | |
|---------|---|--|------------------------|---------------------------------|---|------------------------|
| | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) |
| 1. | Establishment of new 2x500MVA, 400/220kV GIS Pooling station at | 420kV, 80MVAr bus reactor: 2 Nos. 400kV GIS Bus reactor bays: 2 Nos. | 339.11 | No Change | | 339.11 |

| Sl. No. | Scope of works agreed in 34 th NCT meeting | | | Revised scope of works proposed | | |
|---------|---|--|------------------------|---------------------------------|---|------------------------|
| | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) |
| | Kaying in Arunachal Pradesh Additional space for future expansion: 400/220kV, 2x500MVA ICTs along with associated ICT bays at both voltage levels 420kV, 1x80MVA bus reactor along with associated bay 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. | 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 (Quad) line] 220kV GIS line bays: 2 Nos. [for termination of DTL of 1840A or more per circuit] 420kV, 50MVA 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 | 400/220kV, 500MVA | 425.38 | Establishment of | 400/220kV, | 432.18 |

| Sl. No. | Scope of works agreed in 34 th NCT meeting | | | Revised scope of works proposed | | |
|---------|---|--|------------------------|--|---|------------------------|
| | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) |
| | 400/220kV GIS substation at Niglok in Arunachal Pradesh (with a provision for 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, 2x500MVA ICTs along with associated ICT bays at both voltage levels 420kV, | ICT: 2 nos 400kV GIS ICT bays: 2 Nos. 220kV GIS ICT bays: 2 Nos. 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] 220kV GIS line bays: 2 Nos. [for termination of Niglok (ISTS) | | new 400/220kV GIS substation at Niglok in Arunachal Pradesh (with a provision for 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 | 500MVA ICT: 2 nos 400kV GIS ICT bays: 2 Nos. 220kV GIS ICT bays: 2 Nos. 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 – Gogamukh 400kV D/c (Quad) line & 2 for Niglok PS – Gogamukh 400kV D/c (Quad) | |

| Sl. No. | Scope of works agreed in 34 th NCT meeting | | | Revised scope of works proposed | | |
|---------|--|--|------------------------|---|--|------------------------|
| | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) |
| | 1x80MVA bus reactor along with associated bays 12 Nos. of 400kV line bays (along with space for switchable line reactor) for future lines 6 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. | – Niglok (new) (DoP, AP) 220kV D/c line] | | rd & all associated equipment (incl. filters)/buses extension, etc. 400/220kV, 2x500MVA ICTs along with associated ICT bays at both voltage levels 420kV, 1x80MVA bus reactor along with associated bays 12 Nos. of 400kV line bays (along with space for switchable line reactor) for future lines 6 Nos. of 220kV | line] 420kV, 50MVA switchable line reactor with GIS bays: 2 Nos. [one in each circuit of Niglok PS – Gogamukh 400kV D/c (Quad) line] 220kV GIS line bays: 2 Nos. [for termination of Niglok (ISTS) – Niglok (new) (DoP, AP) 220kV D/c line] 220kV bus coupler bay: 1 no. | |

| Sl. No. | Scope of works agreed in 34 th NCT meeting | | | Revised scope of works proposed | | |
|---------|---|---|------------------------|---|---|---------------------------------|
| | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) | Scope of works | Capacity (MVA) / Line length (km)/ Nos. | Estimated cost (₹ Cr.) |
| | | | | line bays for future lines 400kV bus sectionaliser bay: 1 set 220kV bus sectionaliser bay :1 set 220kV bus coupler bay: 1 no. | | |
| 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 | No Change | | 29.44 |
| 4. | Kaying PS – Niglok PS 400kV D/c (Quad) line | 100km | 527.29 | No Change | | 527.29 |
| 5. | Niglok PS – Gogamukh 400kV D/c (Quad) line | 125km | 681.21 | No Change | | 681.21 |
| | | Total | 2002.43 | | Total | 2009.23 (2002.43 + 6.80) |

2.4. Augmentation with 400/220 kV 5x500 MVA (6th to 10th) ICTs at Bhadla-III PS, 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs & 400/220 kV, 2x500 MVA (3rd & 4th) ICTs at Ramgarh PS and 765/400 kV, 1x1500 MVA (3rd) ICT at Kanpur (PG) S/s

2.4.1. Representative of CTUIL stated that the Transmission System requirement for additional

20 GW REZ in Northern Region (Phase-III) was approved in 5th NCT meeting held on 25.08.21 & 02.09.21. As part of above scheme, establishment of 765/400/220KV Bhadla-III PS, 765/400/220KV Ramgarh along with associated EHVAC system was approved in Phase-III Part B1 package & Part C1 package of scheme respectively which is under implementation with Feb'26 schedule.

- 2.4.2. Further, agenda for Augmentation with 765/400 kV, 1x1500 MVA, Transformer (3rd) at Kanpur (GIS) S/s was taken up for approval in in 5th NCT meeting as part of Phase-III, Part J scheme. In the meeting, it was decided that augmentation of 1x1500MVA ICT at 765/400kV Kanpur (GIS) substation is linked with HVDC system (LILO of Varanasi-Kanpur at Fatehpur) and since the timeframe of HVDC has now been delayed, therefore, this item could also be taken up later.
- 2.4.3. Further, it was informed that this system is linked with Bhadla-Fatehpur HVDC scheme (Pole 1) which has commissioning schedule of Jan 2029 so subject system is being planned in matching timeframe with Bhadla-Fatehpur HVDC scheme (Pole 1).
- 2.4.4. As Connectivity application has already been granted at Ramgarh and Bhadla-III PS. with fulfilment of connectivity grant process (Intimation, BGs etc.), additional no. of ICTs along with line bays (400kV and 220kV) are required for RE interconnection in matching timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III scheme (Bhadla-Fatehpur HVDC scheme (Pole 1)).
- 2.4.5. Further, this transmission scheme was discussed in 36th NCT meeting held on 30.12.2025. In the meeting, issue of high short circuit level at 220kV bus section of Bhadla-III PS was highlighted and it was decided that scheme may be reviewed and put up in next NCT meeting linked with same HVDC scheme (Bhadla-Fatehpur). The scheme was reviewed and proposed with an additional 400/220kV ICT at Bhadla-III PS as part of the subject scheme.
- 2.4.6. After detailed deliberations, NCT recommended the transmission scheme “Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)” for implementation through TBCB mode.

| Sl. No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹ Crore) | Remarks |
|---------|---|--------------------------|-------------------------------------|
| 1. | Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG) Implementation timeframe: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1)) | 1014.62 | Approved under TBCB through RECPDCL |

2.4.7. Detailed scope is as follows:

| Sl. No. | Scope of the Transmission Scheme | Item Description | Estimated Cost |
|---------|----------------------------------|------------------|----------------|
| | | | |

| | | | |
|----|--|--|-----------------------|
| 1. | Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220kV Bhadla-III PS | <ul style="list-style-type: none"> • 500 MVA, 400/220 kV ICT - 5 nos. (4 nos. ICTs in 220kV Sec-2 (6th to 9th) and 1 no. ICT in 220kV Sec-1 (10th)) • 400kV ICT bays – 5 nos. • 220 kV ICT bay – 4 nos. • 220 kV ICT (GIS) bay – 1 no. (for 10th ICT) • 220kV GIS bus duct/Cable for interconnection of 220 kV side of ICT (10th) to 220kV GIS bay (Section-1) | ₹ 366.67 Crore |
| 2. | Implementation of 5 nos. of 220kV line bays at 765/400/220kV Bhadla-III PS. | <ul style="list-style-type: none"> • 220kV line bay – 5 nos. | |
| 3. | Implementation of 1 no. of 400kV line bay at 765/400/220kV Bhadla-III PS. | <ul style="list-style-type: none"> • 400kV line bay – 1 no. | |
| 4. | Implementation of 2 sets 400kV sectionlizer bay at 765/400/220kV Bhadla-III PS | <ul style="list-style-type: none"> • 400kV sectionlizer bay – 2 sets | |
| 5. | Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS | <ul style="list-style-type: none"> • 1500 MVA, 765/400 kV ICT - 2 nos. • 765kV ICT bays – 2 nos. 400 kV ICT bay – 2 nos. | ₹ 403.86 Crore |
| 6. | Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS | <ul style="list-style-type: none"> • 500 MVA, 400/220 kV ICT - 2 nos. • 400kV ICT bays – 2 nos. • 220 kV ICT bay – 2 nos. | |

| | | | |
|------------------------------|---|---|------------------|
| 7. | Implementation of 2 nos. of 220kV line bays at 765/400kV Ramgarh PS | <ul style="list-style-type: none"> • 220kV line bay – 2 nos. | |
| 8. | Implementation of 1 no. of 400kV line bay at 765/400kV Ramgarh PS | <ul style="list-style-type: none"> • 400kV line bay – 1 no. | |
| 9. | Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400kV Kanpur (PG) substation | <ul style="list-style-type: none"> • 1500 MVA(3x500MVA), 765/400 kV ICT - 1 no. • 765kV ICT bay (GIS) including completion of diameter. • 400 kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations. | ₹ 244.09 Crore |
| Total Estimated Cost: | | | ₹ 1014.62 |

2.5. Implementation of "Augmentation of 1x500 MVA, 400/230 kV ICT (7th) at Tuticorin-II GIS Substation" awarded under RTM Mode to POWERGRID

- 2.5.1. Representative of CTUIL stated that the transmission scheme "Augmentation of 1x500MVA, 400/230kV ICT (7th) at Tuticorin-II GIS Substation" was approved for implementation with SCoD of 31.03.2027 (24 months) under RTM through POWERGRID by NCT in its 28th meeting held on 06.03.2025. CTUIL vide letter dated 21.03.2025 intimated to POWERGRID to process with the implementation of above scheme in line with the NCT.
- 2.5.2. Subsequently, during the 30th NCT meeting held on 30.05.2025, CTUIL informed that the transmission scheme has been approved as Associated Transmission System (ATS) for grant of connectivity to 03 nos. of applicants. Applicants were required to submit consent for implementation of transmission scheme as ATS and followed by Conn-BG2 (towards cost of ATS) on pro-rata basis of the connectivity quantum. In case the applicant(s) fails to submit the Connectivity Bank Guarantees, the grant of connectivity is liable to be revoked and augmentation of ICT (7th) may not be required. Applicant(s) still have timeline for submission of Consent for implementation of 7th ICT as ATS and submission of Conn-BG2. CTUIL has already requested POWERGRID to keep implementation of the scheme "on Hold" till further communications from CTUIL.

Members noted the same.

- 2.5.3. Now the requisite Conn-BGs has been received from the applicants in the month of Dec'25 & Jan'26 respectively. Accordingly, the implementation of "Augmentation of 1x500 MVA, 400/230 kV ICT (7th) at Tuticorin-II GIS Substation" may be resumed with implementation schedule of 24 months from date of allocation.
- 2.5.4. CTUIL informed that the communication for resumption of implementation of the scheme is being issued to POWERGRID.
- 2.5.5. NCT noted the same.

2.6. Transmission System for integration of Ananthapuram-III REZ

- 2.6.1. Representative of CTUIL stated that transmission system for integration of Ananthapuram-III REZ – Phase-I was recommended in the 32nd NCT meeting held on 12.08.2025 for implementation through TBCB mode and PFCCL was identified as BPC for the subject transmission scheme. The scope mainly includes establishment of 4x1500 MVA, 765/400 kV and 9x500 MVA, 400/220kV Ananthapuram-III Pooling Station, Ananthapuram-III – Krishnagiri (Kurnool-V) 765kV D/c line and Ananthapuram-III – Bidadi 765kV D/c line .
- 2.6.2. In the 33rd NCT meeting 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 Ananthapuram-III REZ-Phase-1 (4.5 GW) 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. The scheme was referred back to NCT in light of the optimum utilization of the existing/under implementation transmission lines in those REZs. NCT opined that possibility may be explored for grant of additional connectivity for optimal utilization of the transmission system during non-solar hours.
- 2.6.3. In the 35th NCT meeting, it was decided that the transmission system for Ananthapuram-III shall be discussed again in the next NCT meeting as the location of Ananthapuram-III was not finalized yet.
- 2.6.4. The scheme was again deliberated in 36th NCT meeting, wherein it was informed that, PFCCL vide email dated 24.11.2025 to CTUIL communicated that requisite land for upgradation of existing 400/220 kV Bidadi GIS to 765 kV level is not available in the proximity . It was also mentioned that, KPCL informed that entire land has been allocated to various entities for waste-to-energy power plant, setting up of 20 MW solar power plant and future expansion of above projects and land is not available for any further allocations. Further, severe RoW are envisaged for implementation of 765 kV transmission lines from Bidadi S/s which was identified to facilitate reliable power supply to increasing demand of Bangalore and nearby area. Therefore, implementation of 765 kV lines from Bidadi seems to be difficult. Accordingly, proposed transmission system including location of 765 kV Bidadi S/s is required to be reviewed. After deliberations, it was decided that a meeting with KPTCL and other stakeholders may be convened for firm commitment towards land or alternate location instead of Bidadi. Based on the

outcome of the meeting, the matter will be again taken up in the NCT.

2.6.5. As per the discussions in the 36th NCT meeting, a meeting was held under Member (PS) on 02.01.2026 through VC to discuss the location of Bidadi / alternate location under the transmission scheme "Transmission System for integration of Ananthapuram-III REZ - Phase-I". During the meeting, it was decided that a physical joint study meeting may be held with SR constituents for selection of suitable alternate location to Bidadi and finalization of "Transmission System for integration of Ananthapuram-III REZ".

2.6.6. Subsequently, Joint Study meeting for review of the transmission scheme "Transmission System for integration of Ananthapuram-III REZ - Phase-I" was conducted at SRPC, Bangalore from 7th to 8th January, 2026 with participation from CEA, SRPC, CTUIL, SRLDC, KPTCL, KSEBL, APTRANSCO and TNPDC where, following transmission system was agreed as alternate to Bidadi GIS and associated transmission system:

Phase-I

- i. Establishment of 2x1500 MVA, 765/400 kV GIS substation near Malur with 1x240 MVAr (765 kV) bus reactor with space provision for establishment of 220 kV switchyard at Malur
- ii. Ananthapuram-III – Malur 765kV D/c line with 240 MVAr SLR (convertible) at both ends on both circuits (~250 km)
- iii. ± 300 MVAr STATCOM at Malur
- iv. Malur – Somanahalli 400 kV (Quad) D/c line (~80 km) \
- v. Malur – Hosur 400 kV (Quad) D/c line (~60 km)
- vi. Malur – Dommasandra 400 kV (quad) S/c line (~50 km)

Note :

- *Malur – Somanahalli 400 kV (Quad) D/c line may be implemented by utilizing existing RoW of Gooty – Somanahalli 400kV S/c line and conversion of part S/c towers as M/c towers*
- *Malur – Dommasandra 400kV (Quad) S/c line may be implemented by utilizing existing RoW of Kolar – Dommasandra 400kV S/c line by converting S/c towers into M/c towers*
- *Malur – Hosur 400kV (Quad) D/c line may be implemented by converting existing D/c towers of Kolar – Hosur 400kV D/c line near the Hosur S/s into M/c towers at Hosur end.*

Phase-II

- vii. Malur – Yarandahalli 400 kV D/c (Quad) line or Somanahalli – Yarandahalli 400 kV S/c line or Hosur – Yarandahalli 400 kV (Quad) D/c line

Note :

- *Based on the detailed survey and implementation feasibility, any of the above lines may be finalised for further implementation.*

2.6.7. Representative of CTUIL stated the severe RoW issues are also envisaged in Dommasandra Somanahalli and Yarandahalli transmission lines. Further, long shutdown of existing lines will be required. CTU proposed that power evacuation of 3 GW may be taken up under phase-1 for implementation with establishment of 3x1500 MVA, 765 /400 kV Ananthapuram-III PS and Ananthapuram-III PS – Krishnagiri 765 kV D/c line. Further, remaining system for 4.5 GW may be considered under Phase-2 after getting detailed

inputs. Cost of the transmission scheme for Phase-1 (3 GW) is about Rs. 2659.0 Crs.

2.6.8. During the meeting, it was observed that Anantapuram-III PS has been planned with 10x1500 MVA 765/400 kV ICTs and 18x500 MVA 400/220 kV ICTs considering provision of grant of connectivity at 220 kV level, which amounts to considering entire injection at 220 kV level. However, based on trend of application received at 220 kV and 400 kV level in Anantapuram-II PS and Kurnool-IV PS, the connectivity of 6 GW is proposed to be considered at 220 kV level and balance 1.5 GW at 400 kV level, for optimal utilization of transmission system. Accordingly, 14 nos. of 400/220 kV ICTs (including future provisions) have been proposed at Ananthapuram-III PS.

2.6.9. GRID-INDIA stated that the implementation of transmission lines on multi-circuit towers is a good proposal to address Right of Way (RoW) constraints. However, the use of multi-circuit towers may lead to simultaneous outage of multiple lines. Additionally, facilitating outages of lines on such towers would require enhanced coordination. Accordingly, this aspect may be examined on a case-to-case basis while recommending the use of multi-circuit towers.

2.6.10. After detailed deliberations, NCT recommended that the scheme may be modified as “Transmission System for integration of Ananthapuram-III PS REZ Phase-I (3GW)” with following scope:

| Sl. No. | Original scope of the Transmission Scheme | Modified scope of the Transmission Scheme |
|---------|--|---|
| 1. | <p>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 MVA (765 kV) bus reactors at Ananthapuram-III PS with provision of two (2) sections of 4500 MVA each at 400kV level</p> <p>Future Space Provisions:</p> | <p>Establishment of 3x1500 MVA, 765/400 kV and 7x500 MVA, 400/220kV Ananthapuram-III Pooling Station near Urvakonda / Beluguppa / Kalyandurg areas in Anantapur district along with 2x330 MVA (765 kV) bus reactors at Ananthapuram-III PS with provision of two (2) sections of 4500 MVA each at 400kV level</p> <p>Future Space Provisions:</p> |

| | | | | |
|----|---|--|--|---|
| | <ul style="list-style-type: none"> • 765/400kV, 1500 MVA, ICTs – 2 Nos. • 765kV ICT bays – 2 Nos. • 400kV ICT bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 9 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. | <ul style="list-style-type: none"> • 765 kV, 330 MVA, Bus Reactor – 2 Nos. (7x110 MVA 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. | <ul style="list-style-type: none"> • 765/400kV, 1500 MVA, ICTs – 3 Nos. • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 400/220kV, 500 MVA, ICTs – 7 Nos. • 400kV ICT bays – 7 Nos. • 220kV ICT bays – 7 Nos. • 765kV line bays – 12 Nos. (with provision for SLR) • 400kV line bays – 11 Nos. (with provision for SLR) • 220kV line bays – 15 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 | <ul style="list-style-type: none"> both bus reactor and line reactor) • 765 kV Bus Reactor bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 7 Nos. • 400kV ICT bays – 7 Nos. • 220kV ICT bays – 7 Nos. • 220kV line bays – 10 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 MVA, STATCOM at Ananthapuram-III PS | <ul style="list-style-type: none"> • 400kV bay – 1 no. • ± 300 MVA, STATCOM – 1 set | No change | No change |
| 3. | Ananthapuram-III – Kurnool-V 765 kV D/c line (about | ~ 170 km | Ananthapuram-III – Krishnagiri 765 kV D/c line with | ~ 140 km |

| | | | | |
|----|--|---|--|--|
| | 170 km) with 330 MVar SLR (convertible) at Ananthapuram-III end on both circuits | <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Kurnool-V) • 765 kV, 330 MVar SLR at Ananthapuram-III PS – 2 Nos. (6x110 MVar switchable units) • Switching Equipment for 765 kV SLR at Ananthapuram-III PS – 2 Nos. | 240 MVar SLR (convertible) at Ananthapuram-III end on both circuits | <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Krishnagiri) • 765 kV, 240 MVar SLR at Ananthapuram-III PS – 2 Nos. (7x80 MVar inc. 1 switchable spare unit) Switching Equipment for 765 kV SLR at Ananthapuram-III PS – 2 Nos. |
| 4. | <p>Upgradation of existing 400/220kV Bidadi GIS to 765kV level GIS with 3x1500 MVA, 765/400 kV ICTs</p> <p>(Additional land for upgradation to 765kV level to be provided by KPCL)</p> <p>Future Space Provisions:</p> <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • 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) | - | - |
|----|---|---|---|---|

2.6.11. Further, NCT directed CTUIL to firm up a scheme for remaining potential of 4.5 GW under Phase-II within three months in consultation with KPTCL and others.

2.7.Modification in reactive compensation of the transmission lines under the scheme “Transmission System for integration of Krishnagiri REZ Phase-I”

2.7.1. Representative of CTUIL stated that the transmission system for integration of Kurnool-V REZ Phase-I was recommended in the 35th NCT meeting held on 19.11.2025 for implementation through TBCB mode and PFCCL was identified as BPC for the subject transmission scheme. MoP vide Gazette notification dated 26.12.2025 has notified the above transmission scheme for implementation through TBCB route.

2.7.2. Subsequently, a meeting was held on 31.12.2025 through VC among CEA, CTUIL, PFCCL, MNRE, SECI, APTRANSCO, TGTRANSCO and NREDCAP to finalize the location for the proposed Kurnool-V PS and Sagar substation under the subject transmission scheme. During the meeting it was observed that based on the locations finalised for Kurnool-V PS and Sagar S/s, there is significant variation in the line lengths of the transmission lines and there is requirement of review of reactive power compensation of the transmission lines. It was decided that PFCCL will provide the details of the revised line lengths after detailed survey and the reactive power requirement shall be revised by CTUIL accordingly.

2.7.3. It was also informed that the location of Sagar substation has been identified near to Amravati. Further, PFCCL vide email dated 09.01.2026 communicated the tentative line lengths based on the desktop survey of the transmission scheme as below:

| Sl. No. | Transmission Line | NCT length (km) | Desktop Survey Length (Km) |
|---------|---|-----------------|----------------------------|
| 1 | Kurnool-V – Shadnagar 765 kV D/c line | 240 | 178 |
| 2 | Kurnool-V – Raichur New 765 kV D/c line | 150 | 116 |
| 3 | Kurnool-V – Sagar 765 kV D/c line | 240 | 345 |
| 4 | Sagar – Nagarjunasagar 400 kV quad D/c line | 25 | 90 |
| | Total | 655 | 729 |

2.7.4. It was also mentioned by PFCCL that, the above line lengths may vary up to 10% with respect to lengths of Desktop Survey after the preliminary walkover. Based on the above details, the reactive compensation has been revised

- 2.7.5. Further, in the subject scheme 4x1500 MVA, 765/400kV & 5x500 MVA, 400/220kV ICTs are identified at Krishnagiri PS considering 50% injection at 200kV level and 50% injection at 400kV level as standard practice. However, presently CTUIL has received connectivity applications of about 2900 MW at 220kV level. Accordingly, augmentation of 400/220kV ICTs are required at Krishnagiri PS. Therefore, it is proposed to consider augmentation of additional 5x500 MVA, 400/220kV ICTs (6th -10th) at Krishnagiri PS.
- 2.7.6. GRID-INDIA stated that as there is significant change in line lengths w.r.t. earlier approved scheme, the power flow pattern is expected to change. Also, with the previous line lengths, the angular separation between 765 Kurnool-V and Sagar buses was exceeding 25 deg under N-1 contingency. With the increase in line length from 240 to 345 km, the angular separation under N-1 may increase further. Therefore, the scheme may be reviewed holistically in view of significant change in line lengths.
- 2.7.7. After detailed deliberations, it was decided that the modifications in the subject scheme, “Transmission System for integration of Krishnagiri REZ Phase-I”, may be reviewed again and taken up in next meeting of NCT.

3. New Transmission Schemes

3.1. Transmission system for Evacuation of Power from RE Projects for cumulative capacity of 25.5GW in Gujarat

- 3.1.1. Representative of CTUIL stated that transmission system for evacuation of power from RE Projects for cumulative capacity of 25.5GW in Gujarat was taken up for deliberations in the 31st NCT meeting held on 14.07.2025 in the Jam Khambhaliya REZ - Phase II (5500MW), Jamnagar REZ - Phase I (1000MW), Lakadia REZ - Phase II (7500MW), Khavda REZ- Phase VI (5500MW) and Khavda REZ- Phase VII (6000MW) pockets. In that meeting, it was decided that as majority of the transmission schemes pertain to quantum beyond the potential already declared by MNRE/SECI, the schemes will be taken up for approval, only after assessment and declaration of such additional potential by MNRE.
- 3.1.2. Subsequently, MNRE vide letter dated 28.08.2025, declared additional potential to the tune of 69.6GW in the state of Gujarat. The potential was subsequently revised by GETCO / Govt of Gujarat to about 43GW (for planning under ISTS), vide letter dated 17.11.2025, which was shared by MNRE vide letter dated 08.12.2025 (comprising 20.2GW in Kutch area (namely Bhuj, Lakadia & Khavda); 7GW in Jamnagar, Porbandar and Dwarka areas and balance 15.74GW in Amreli, Junagarh, Rajkot, Bhavnagar areas). With the declaration of this additional potential in Gujarat, sufficient potential now exists against the above planned transmission system for 25.5GW.
- 3.1.3. Accordingly, the schemes were again taken up for deliberations in the 36th NCT meeting held on 30.12.2025, wherein it was observed that the transmission system in Gujarat was planned considering 9.25 GW of Green Hydrogen/Green Ammonia load out of the total anticipated 35.19 GW capacity projected by MNRE by 2031, however, till date only one application of 0.575 GW from M/s L&T at Kandla Substation has been received, and

therefore MNRE needs to indicate tentative timelines for integration of about 9–10 GW of Green Hydrogen/Green Ammonia capacity in the Kandla and Mundra areas.

- 3.1.4. Subsequently, a meeting was held under the chairmanship of Member(PS), CEA on 05.01.2026 with GETCO and RE developers, wherein RE developers stated that they wish to continue with ISTS connectivity, due to various reasons, such as requirement of power sale to other states, waiver of transmission charges, regulatory issues, no clarity of In-STS development in the area, etc. Further, GETCO stated that they are developing the first 765kV line under Intra-state i.e., Rajkot (Saurashtra)(GETCO) – Vataman 765kV D/c line and are contemplating various challenges in implementation. Hence, they suggested to implement Kalyanpur (ISTS) – Rajkot (Saurashtra)(GETCO) 765kV D/c line under ISTS. CEA requested GETCO to prepone the commissioning of Rajkot (Saurashtra)(GETCO) S/s along with Rajkot (Saurashtra)(GETCO) – Vataman 765kV D/c line, to an early date (in 2028-29 time-frame) instead of 2029-30 timeframe, which they have last communicated to CTU, as it is impacting ISTS scheme at Kalyanpur. GETCO stated that they shall revert back on exact implementation time schedule of the above works to CEA/CTU.
- 3.1.5. In view of the above developments, the Transmission system for Jam Khambhaliya, Jamnagar and Lakadia area was reviewed, without considering Transmission System for Khavda Area- Phase VI (5.5GW) & Phase VII (6GW) and 9.25GW Green Hydrogen/Green Ammonia loads in Mundra & Kandla area and about 1.9GW load in Jamnagar area (for which application(s) are yet to be received). While reviewing the transmission system with above considerations, few Transmission constraints like non-compliance of reliability criteria were observed. The issue of overloading of 765/400kV ICTs at Lakadia-II (with 400kV Bus Sectionalizer open) was observed as HVDC system from Lakadia-II to Alephata (under Khavda Ph-VII) was turned off, which led to entire 7.5GW RE power from Lakadia-II 400kV level to flow to 765kV level via the available ICTs.
- 3.1.6. CTU proposed that in order to manage the high loading on the Vataman–Navsari (New) corridor, instead of earlier proposed Navsari (New)–Nasik 765 kV D/c line an alternate corridor from South Olpad–Nasik 765 kV D/c line (New) has been proposed. Further, to enhance short-circuit strength and MVAR support at Lakadia-II Substation two Synchronous condensers in place of the earlier proposed STATCOMs has been proposed. It was also informed that at Lakadia-II, 220 kV sectionaliser shall be kept normally open, while 400 kV and 765 kV sectionalisers be kept under normally closed condition to ensure N-1 compliance of 765/400kV, 6x1500MVA ICTS until proposed HVDC Lakadia-II to Alephata System is implemented, after which bus operation may be reviewed by the Grid Operator. With the present proposal, it was noted that Navsari (New)– Boisar-II 765 kV D/c line has emerged as the limiting constraint with N-1 loading of about 3650 MW, which shall be taken up for resolution while planning future transmission schemes of Khavda Area- Phase VI (5.5GW) & Phase VII (6GW) schemes.
- 3.1.7. Representative of CTUIL stated that it is planned to evacuate power from Jam Khambhaliya REZ Phase-II (5.5 GW) and Jamnagar REZ Phase-I (1 GW) through Rajkot

(Saurashtra)(GETCO) Substation, which has a scheduled completion of March 2030. Accordingly, the associated transmission system should be aligned with the commissioning timeline of Rajkot (Saurashtra)(GETCO) Substation, i.e., March 2030. Further, Lakadia-II (7.5GW) transmission scheme requires LILO of Halvad – Kandla 765kV D/c line which is presently under bidding process. M/s L&T has applied for 0.575 GW Green Hydrogen/Green Ammonia load at Kandla S/s with schedule of April 2029. Hence, it is expected that the above scheme shall be implemented by April 2029 only. In view of the same, the Lakadia-II S/s can only be implemented on or after April 2029 and a schedule of 36 months may be considered for the same. However, same may be reviewed before award based on bidding status of Kandla Green Hydrogen transmission Scheme.

3.1.8. Additional Secretary, MoP stated that Gujarat may be requested to expedite and commission the Rajkot (Saurashtra)(GETCO) S/s along with Rajkot (Saurashtra)(GETCO) -Vataman 765kV D/c line by March 2029.

3.1.9. GRID-INDIA stated that there are significant changes in the current scheme w.r.t. the earlier proposed scheme and may be discussed again with the stakeholders before final approval. GRID-INDIA also mentioned that SCR at Lakadia-II is observed to be less than 5, even after considering synchronous condensers.

3.1.10. After detailed deliberations, the following transmission schemes were recommended by NCT for implementation through TBCB mode:

| Sl. No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹ Crore) | Remarks |
|---------|--|--------------------------|----------------------------|
| I. | Transmission system for Integration of Power from RE Projects in Jam Khambhaliya REZ in Gujarat - Phase II (5500MW) and Jamnagar Phase-I (1000 MW) Implementation timeframe: 31.03.2030 (To be reviewed prior to award, based on the best-effort schedule received from GETCO for Rajkot (Saurashtra) substation and Rajkot (Saurashtra)(GETCO) - Vataman 765kV D/c) | 7688 | under TBCB through PFCCCL |
| II. | Transmission system for Integration of Power from RE Projects in Lakadia REZ in Gujarat-Phase II (7500MW) Implementation timeframe: 36 Months (To be reviewed prior to award, based on the bidding status of the Transmission System for supply of power to Green | 7506 | under TBCB through RECPDCL |

| | | | |
|-------------------|--|--------------|-----------------------------|
| | <i>Hydrogen/Ammonia manufacturing potential in Kandla area of Gujarat (Phase-I: 3 GW)</i> | | |
| III. | Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) | Part A: 2252 | under TBCB through: PFCCL |
| IV | Implementation timeframe: 36 Months (To be reviewed prior to award, based on the bidding status of the Transmission System for supply of power to Green Hydrogen/Ammonia manufacturing potential in Kandla area of Gujarat (Phase-I: 3 GW)) | Part B: 3839 | under TBCB through: RECPDCL |
| V | | Part C: 2763 | under TBCB through: PFCCL |
| Total Cost | | 24048 | |

3.1.11. Detailed scope is as below:

I. Transmission system for Integration of Power from RE Projects in Jam Khambhaliya REZ in Gujarat - Phase II (5500MW) and Jamnagar Phase-I (1000 MW)

| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Estimated cost (₹ Cr.) |
|---------|--|--|---|
| 1. | <p>Establishment 4x1500 MVA, 765/400 kV & 10x500MVA, 400/220kV Substation near Kalyanpur (GIS) with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor</p> <p>Future provision (space for):</p> <ul style="list-style-type: none"> ➤ 765/400 kV, 1500MVA ICT along with bays- 2 Nos. (on Sec-II) ➤ 765 kV line bays along with | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA ICT – 4 Nos. (13x500 MVA single phase units including one spare ICT Unit) (3 on Sec-I & 1 on Sec-II) • 400/220kV, 500MVA ICT – 10 Nos. (5 on Sec-I & 5 on Sec-II) • 765 kV ICT bays – 4 Nos. • 400 kV ICT bays – 14 Nos. • 220kV ICT bays – 10 Nos. • 765 kV Line bays – 4 Nos. (2 on Sec-I & 2 on | 7688 (Sl. 1 to 7: 7431 & Sl. 8-9: 257) |

| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Estimated cost (₹ Cr.) |
|---------|--|--|------------------------|
| | <p>switchable line reactors – 8 Nos. (4 Nos. on Sec-I & 4 Nos. on Sec-II)</p> <ul style="list-style-type: none"> ➤ 765 kV, 330MVA Bus Reactor along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 12 Nos. (4 Nos. on Sec-I & 8 Nos. on Sec-II) ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV line bays: 3 No. on Sec-I & 3 Nos. on Section-II ➤ Establishment of 6000 MW, ± 800 kV Kalyanpur (GIS) (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. (2x1500MW Poles on each 400kV bus section) ➤ ±400MVA STATCOM with 400kV bay – 2 No. (1 on Sec-I & 1 on Sec-II) | <p>Sec-II)</p> <ul style="list-style-type: none"> • 765 kV Sectionalizer bay: 1 -set • 400 kV Sectionalization bay: 1- set • 220 kV Sectionalization bay: 1 set • 1x330 MVA, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactors) (1 on Sec-I & 1 on Sec-II) • 765 kV Bus reactor bay – 2 Nos. • 125 MVA, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) • 400 kV Reactor bay- 2 Nos. • 220kV BC Bay-2 No. • 400 kV line bay – 1 No. (for interconnection of RE Project at Sec-I) • 220kV line bays – 12 Nos. (for interconnection of RE Projects, 6 on Sec-I & 6 on Sec-II) | |
| 2. | Kalyanpur (GIS) – Jamnagar (GIS) 765 kV D/c line | 95 km | |

| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Estimated cost (₹ Cr.) |
|---------|--|---|------------------------|
| 3. | 2 Nos. 765 kV line bays at Jamnagar (GIS) S/s | 765 kV line bays – 2 Nos. (GIS) | |
| 4. | Kalyanpur (GIS) – Saurashtra (near Rajkot) (GETCO) 765 kV D/c line | 225km. | |
| 5. | 330MVA Switchable line reactors on each circuit at Kalyanpur (GIS) end of Kalyanpur (GIS) – Saurashtra (near Rajkot) (GETCO) 765 kV D/c line (with NGR bypass arrangement) | <ul style="list-style-type: none"> • 330 MVA, 765 kV switchable line reactor- 2 Nos. • Switching equipment for 765 kV line reactor- 2 Nos. | |
| 6. | 2 Nos. 765 kV line bays at Saurashtra (near Rajkot) (GETCO) S/s | <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. | |
| 7. | Installation of Synchronous Condenser (+300/-200MVA) (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) at Jam Kalyanpur (GIS)– 2 Nos. Value of Inertia (MW-s) shall be defined in RfP document. | <ul style="list-style-type: none"> • Synchronous Condenser along with associated 400kV Bay-2 Nos. (one on each Sec-I & II) | |
| 8. | Creation of 220kV switchyard along with Installation of 3x500MVA, 400/220kV ICTs at Jamnagar (GIS) S/s | <ul style="list-style-type: none"> • Creation of 220kV Bus Section-I • 220kV BC Bay – 1 No. • 400/220 kV, 500 MVA ICT – 3 Nos. (on 400kV & 220kV Sec-I) • 400 kV ICT bays – 1 No. (2 Nos. ICTs to be terminated in 2 nos. GIS bays being implemented as part of Diameter completion at Jamnagar S/s under “Network Expansion scheme in Gujarat for drawl of | |

| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Estimated cost (₹ Cr.) |
|---------|---|--|------------------------|
| | | <i>about 3.6 GW load under Phase-I in Jamnagar area" scheme)</i> <ul style="list-style-type: none"> • 220kV ICT bays – 3 Nos. | |
| 9. | 4 nos. 220kV line bays for RE interconnection | 220kV line bays – 4 Nos. | |

Note:

- TSP of Jamnagar S/s shall provide space for above scope of work at Sl. 3, 8 & 9 on free of cost basis
- GETCO shall provide space for above scope of work at Sl. 6 on free of cost basis
- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- Above Syncons (at Sl. 7) shall be considered as 'transmission asset' similar to STATCOM & SVC for its tariff mechanism.

II. Transmission system for Integration of Power from RE Projects in Lakadia REZ in Gujarat-Phase II (7500MW)

| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Estimated cost (₹ Cr.) |
|---------|--|--|------------------------|
| 1. | <p>Establishment of 765/400 kV, 6x1500MVA & 10x500MVA, 400/220kV Lakadia-II (Near Chitrod) with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor.</p> <p><i>[765kV, 400kV & 220kV levels to be established in two sections with Sectionaliser arrangement. The 220kV Sectionaliser shall be kept normally open and may be closed under contingency condition. The 400kV and 765kV Sectionaliser shall be kept normally closed. The bus operation may be reviewed after proposed HVDC implementation as per requirement of Grid</i></p> | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA ICT – 6 Nos. (19x500 MVA single phase units including one spare ICT Unit) • 400/220 kV ICTs - 10 Nos. (5 on Sec-I & 5 on Sec-II) • 765 kV ICT bays – 6 Nos. • 400 kV ICT bays – 16 Nos. • 220kV ICT bays – 10 Nos. • 1x330 MVAR, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) (1 on Sec-I & 1 on Sec-II) | 7506 |

| | | | |
|--|--|---|--|
| | <p>operator. (3x1500MVA 765/400kV ICTs, 5x500MVA 400/220kV ICTs, 1x330MVA 765kV BR & 1x125MVA 420kV BR shall be on Sec-I & 3x1500MVA 765/400kV ICTs, 5x500MVA 400/220kV ICTs, 1x330MVA 765kV BR & 1x125MVA 420kV BR shall be on Sec-II)]</p> <p>Future provision (space for):</p> <ul style="list-style-type: none"> ➤ 765 kV line bays along with switchable line reactors – 6 Nos. (2 Nos. on Sec-I & 4 Nos. on Sec-II) ➤ 765 kV Bus Reactor along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 7 Nos. (3 on Sec-I & 4 on Sec-II) + 4 Nos. 400kV bays (2 nos. on each section) for HVDC Interconnection ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV line bays: 2 No. on Sec-I & 1 Nos. on Section-II ➤ Establishment of 6000 MW, ± 800 kV Lakadia-II (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment | <ul style="list-style-type: none"> ● 765 kV Bus reactor bay – 2 Nos. ● 765kV line bays: 8 nos. (4 Nos. on Sec-I (2 for Halvad D/c & 2 for Ahmedabad D/c) and 4 Nos. on Sec-II (2 for Kandla D/c and 2 for Vataman)) ● 765 kV Sectionaliser bay: 1 -set ● 400 kV Sectionaliser bay: 1- set ● 220 kV Sectionaliser bay: 1- set ● 220kV BC– 2 No. ● 220kV TBC – 2 No. ● 125 MVA, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) ● 400 kV Reactor bay- 2 Nos. ● 400 kV line bays - 3 Nos. (2 nos. on Section-I & 1 No. on Sec-II for interconnection of RE Projects) ● 220 kV line bays - 15 Nos. (7 nos. on Sec-I & 8 nos. on Sec-II for interconnection of RE Projects) | |
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|----|---|---|--|
| | (incl. filters)/bus extension, etc. (2x1500MW poles on each 400kV section) ➤ Synchronous Condenser (+300/-200MVA) along with 400kV bay – 2 Nos. (1 on Sec-I & 1 on Sec-II) | | |
| 2. | Installation of Synchronous Condenser (+300/-200MVA) (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) at Lakadia-II – 2 Nos. Value of Inertia (MW-s) shall be defined in RfP document. | Synchronous Condenser along with associated 400kV Bay-2 Nos. (one each on Sec-I & II) | |
| 3. | LILO of Halvad – Kandla 765kV D/c line at Lakadia-II | LILO route length ~22km. (88ckm) | |
| 4. | Lakadia-II – Ahmedabad 765kV D/c line | 190 km (380 ckm) | |
| 5 | 2 Nos. 765 kV line bays at Ahmedabad S/s for Lakadia-II – Ahmedabad 765kV D/c line | 765 kV line bays – 2 Nos. (AIS) | |
| 6 | 765kV, 330MVA Switchable line reactors on each circuit at Ahmedabad end of Lakadia-II – Ahmedabad 765kV D/c line | <ul style="list-style-type: none"> • 330 MVA, 765 kV switchable line reactor- 2 Nos. • 765 kV Switchable Line Reactor Bay - 2 Nos. • 110MVA spare single phase reactor at Ahmedabad S/s is already available and same shall be used for subject Sw LR. | |
| 7 | Lakadia-II – Vataman 765kV D/c line (220km.) | 220 km (440 ckm) | |
| 8 | 2 Nos. 765 kV line bays at Vataman S/s for Lakadia-II – Vataman 765kV D/c line | 765 kV line bays – 2 Nos. (AIS) | |

| | | | |
|---|---|---|--|
| 9 | 765kV, 240MVA Switchable line reactors on each circuit at both ends of Lakadia-II – Vataman 765kV D/c line | <ul style="list-style-type: none"> • 240 MVA, 765 kV switchable line reactor- 4 Nos. (2 for Lakadia-II end and 2 for Vataman end) • 765 kV switchable Line Reactor Bay - 4 Nos (2 for Lakadia-II end and 2 for Vataman end) • 80MVA spare single-phase reactor at Lakadia-II for above 240MVA Sw LR. • 80MVA spare single-phase reactor at Vataman S/s is already available and same shall be used for subject Sw LR. | |
|---|---|---|--|

Note:

- TSPs of Ahmedabad S/s & Vataman S/s to provide space for above scope of work in their respective substations (free of cost)
- Above Syncons (at Sl. No. 2) shall be considered as ‘transmission asset’ similar to STATCOM & SVC for its tariff mechanism.

III. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-A (Est. Cost: 2252 Cr.)

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|---|--|
| 1. | Augmentation of transformation capacity at South Olpad (GIS) S/s by 1x1500MVA, 765/400kV (3 rd) ICT | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA ICT – 1 No. • 765 kV ICT bays – 1 No. (GIS) (Being constructed as a part of diameter completion under Khavda Ph-IV Part-C Scheme) • 400 kV ICT bays – 1 No. (GIS) |
| 2. | Vadodara(GIS) – Halvad 765kV D/c line to be terminated into Lakadia – Halvad 765kV D/c line (near Halvad S/s) so as to form Lakadia – Vadodara (GIS) 765kV D/c line | <p>250 km (500 ckm)</p> <p><i>(Length of complete Lakadia – Vadodara (GIS) 765kV D/c line after implementation of above line section between Vadodara and Halvad is expected to be around 350km.)</i></p> |

| | | |
|----|---|--|
| 3. | 765kV line bays at Vadodara (GIS) end for termination of Lakadia – Vadodara 765kV D/c line (formed as per details above at Sl. 2) | <ul style="list-style-type: none"> 765kV line bays – 2 nos. (GIS) (being constructed as a part of diameter completion under “Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B”. Line side equipment for termination of the line at these bays to be implemented under the subject transmission scheme) |
| 4. | 765kV, 240MVA _r Switchable line reactors on each circuit at Vadodara (GIS) end of Lakadia – Vadodara (GIS) 765kV D/c line (formed as per details above at Sl. 2) | <ul style="list-style-type: none"> 240 MVA_r, 765 kV switchable line reactor- 2 Nos. 765 kV switchable Line Reactor Bay- 2 Nos. (being constructed as a part of diameter completion under “Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B”) 80MVA_r, 1-Ph spare reactor at Vadodara S/s is already available and same shall be utilized for subject switchable LR. |
| 5. | 765kV, 330MVA _r Switchable Mid-point reactors at the bypass point at Halvad Switching Station on Lakadia – Vadodara (GIS) 765kV D/c line (<i>refer Note d</i>) | <ul style="list-style-type: none"> 330 MVA_r, 765 kV switchable line reactor- 2 Nos. 765 kV switchable Line Reactor Bay - 2 Nos. 110MVA_r spare single phase reactor at bypass point near Halvad S/s |

Note:

- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- TSP of South Olpad S/s to provide space for above scope of work as Sl. 1 (Free of cost)
- TSP of Vadodara (GIS) to provide space for above scope of work as Sl. 3 & 4 (Free of cost)
- As the provision for 765kV, 330MVA_r switchable mid-point reactor at the bypass point at Halvad Switching Station on Lakadia – Vadodara (GIS) 765kV D/c line was not envisaged while allocating space for future scope at Halvad Switching Station under the **“Transmission Scheme for evacuation of additional 7GWE of RE power from Khavda RE Park under Phase III Part A”** project (under implementation by Halvad Transmission Ltd-AESL), the reactor shall be installed at Halvad Switching Station by utilizing the space reserved for other transmission elements, which will be specified in the RfP document.

IV. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-B (Est. Cost: 3839 Cr.)

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|---|--|
| 1. | <p>Establishment of 765/400 kV, 3x1500MVA & 400/220kV, 3x500MVA Nasik S/s (towards South of Nasik) with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor.</p> <p>Future provision (space for):</p> <ul style="list-style-type: none"> ➤ 765/400 kV, 1500MVA ICT along with bays- 3 Nos. (on Sec-II) ➤ 765 kV line bays along with switchable line reactors – 10 Nos. (4 Nos. on Sec-I & 6 Nos. on Sec-II) ➤ 765 kV, 330MVAR Bus Reactor along with bay: 2 Nos. (on Sec-II) ➤ 765 kV Sectionaliser bay: 1 -set ➤ 400 kV Sectionaliser bay: 1- set ➤ 400/220 kV, 500MVA ICT along with bays - 7 Nos. (2 on Sec-I & 5 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 10 Nos. (4 on Sec-I & 6 on Sec-II) ➤ 420 kV, 125MVAR Bus Reactor along with bays: 2 Nos. (on Sec-II) ➤ 220 kV Sectionaliser bay: 1- set ➤ 220kV BC & TBC – 1 No. each ➤ 220 kV line bays: 2 No. on Sec-I & 8 Nos. on Section-II | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA ICT – 3 Nos. (10x500 MVA single phase units including one spare ICT Unit) • 400/220 kV ICTs - 3 Nos. • 765 kV ICT bays – 3 Nos. • 400 kV ICT bays –6 Nos. • 220kV ICT bays – 3 Nos. • 765 kV Line bays – 2 Nos. • 1x330 MVAR, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) • 765 kV Bus reactor bay – 2 Nos. • 220kV BC– 1 No. • 220kV TBC – 1 No. • 125 MVAR, 420 kV reactor- 2 Nos. • 400 kV Reactor bay- 2 Nos. • 400 kV line bays - 2 Nos. • 220 kV line bays - 6 Nos. (for MSETCL 220kV lines: Adwadi 220kV D/c, Nasik GCR 220kV D/c & Nasik OCR 220kV D/c) |
| 2. | South Olpad (GIS) – Nasik 765kV D/c line (240km.) | <ul style="list-style-type: none"> • 240 km (480 ckm) |
| 3. | 2 Nos. 765 kV line bays at South Olpad (GIS) S/s (Sec-II) for South Olpad – Nasik 765kV D/c line | <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (GIS) (Sec-II) along with 1 Set of 765kV sectionaliser so as to establish 765kV Sec-II. |
| 4. | 765kV, 240MVAR Switchable line reactors on each circuit at both ends of South Olpad – Nasik 765kV D/c line | <ul style="list-style-type: none"> • 240 MVAR, 765 kV switchable line reactor- 4 Nos. (2 for South Olpad end and 2 for Nasik end) • 765 kV switchable Line Reactor Bay - 4 Nos. (2 for South Olpad end and 2 for Nasik end) |

| | | |
|----|--|---|
| | | <ul style="list-style-type: none"> • 80MVA_r spare single-phase reactor at Nasik for above 240MVA_r switchable LR. • 80MVA_r spare single-phase reactor at South Olpad S/s is already available and same shall be used for subject switchable LR. |
| 5. | Nasik – Pimpalgaon (MSETCL) 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) (<i>Line to be routed from near Sinner TPP / Raymond i.e. from eastern side of Nasik</i>). | 80km. (160ckm) |
| 6. | 2 Nos. 400 kV line bays at Pimpalgaon S/s for Nasik – Pimpalgaon (MSETCL) 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) | 400 kV line bays – 2 Nos. |

Note:

- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- TSP of South Olpad(GIS) to provide space for above scope of work (Free of cost)
- MSETCL to provide space for above scope of work at Pimpalgaon S/s (Free of cost)
- MSETCL to implement 220kV downstream system from Nasik S/s in matching time-frame.

V. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-C (Est. Cost: 2763 Cr.)

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|---|---|
| 1. | <p>Establishment of 765/400 kV, 2x1500MVA & 400/220kV, 3x500MVA Alephata S/s with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor. [765kV & 400kV Bus sectionalisers to be kept normally closed. May be opened based on Grid conditions]</p> <p>Future provision (space for):</p> <ul style="list-style-type: none"> ➤ 765/400 kV, 1500MVA ICT along with bays- 4 Nos. (2 on Sec-I & 2 on Sec-II) ➤ 765 kV line bays along with switchable line reactors – 6 Nos. (2 Nos. on Sec-I & 4 Nos. on Sec-II) ➤ 765 kV, 330MVA_r Bus Reactor along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA single phase units including one spare ICT Unit) (1 on Sec-I & 1 on Sec-II) • 400/220 kV ICTs - 3 Nos. (on Sec-I) • 765 kV ICT bays – 2 Nos. • 400 kV ICT bays –5 Nos. • 220kV ICT bays – 3 Nos. • 765 kV Line bays – 6 Nos. (4 on Sec-I: Nasik D/c, Pune (Shikrapur) & Padghe S/c & 2 on Sec-II: Pune (Shikrapur) & Aurangabad) • 1x330 MVA_r, 765 kV bus |

| | | |
|----|---|--|
| | <ul style="list-style-type: none"> ➤ 400/220 kV, 500MVA ICT along with bays - 7 Nos. (2 on Sec-I & 5 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 10 Nos. (4 on Sec-I & 6 on Sec-II) + 4 nos. 400kV bays (2 nos. on each section) for HVDC Interconnection ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV Sectionaliser bay: 1- set ➤ 220kV BC & TBC – 1 No. each ➤ 220 kV line bays: 4 No. on Sec-I & 8 Nos. on Section-II ➤ Establishment of 6000 MW, ± 800 kV Alephata (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. (2x1500MW poles on each 400kV section) | <p>reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) (1 on Sec-I & 1 on Sec-II)</p> <ul style="list-style-type: none"> • 765 kV Bus reactor bay – 2 Nos. • 220kV BC– 1 No. • 220kV TBC – 1 No. • 125 MVA, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) • 400 kV Reactor bay- 2 Nos. • 400 kV line bays - 2 Nos. (on Sec-I) • 220 kV line bays - 4 Nos. (for MSETCL 220kV lines: Alephata(M) 220kV D/c & Bridgestone 220kV D/c) • 765 kV Sectionaliser bay: 1 -set • 400 kV Sectionaliser bay: 1- set |
| 2. | Alephata – Lonikand-I 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) (~70km.) | 70 km (140 ckm) |
| 3. | 2 Nos. 400 kV line bays at Lonikand-I (MSETCL) S/s for Alephata – Lonikand-I 400kV D/c line | 400 kV line bays – 2 Nos. |
| 4. | LILLO of Aurangabad – Pune (Shikrapur) (GIS) 765kV S/c line and Padghe (GIS) – Pune (Shikrapur) (GIS) 765kV S/c line at Alephata S/s (LILLO route length ~ 20km.) | LILLO route length – 20 km. (80ckm) |
| 5. | Nasik – Alephata 765kV D/c line (~100km.) | 100 km (200 ckm) |
| 6. | 2 Nos. 765kV bays at Nasik for Nasik – Alephata 765kV D/c line | 765 kV Line bays – 2 Nos. |

Note-1:

- a) TSP of Nasik S/s to provide space for above scope of work as Sl. 6 (Free of cost)
- b) MSETCL to provide space for above scope of work as Sl. 3 (Free of cost)
- c) MSETCL to implement 220kV downstream system from Alephata S/s in matching time-frame.

Note-2:

- a) 240MVA line reactor at Pune(GIS) end of Pune(GIS) – Aurangabad 765kV line is already switchable. Since length of the line will reduce after the LILLO at Alephata (Pune(GIS) –

Alephata), NGR Bypassing along with Inter tripping scheme would need to be implemented to avoid parallel resonance phenomena due to overcompensation on the short line. NGR bypassing also helps in utilization of switchable LR as Bus Reactor when line is out of service. As confirmed by POWERGRID vide e-mail dated 02.12.2024, NGR bypass arrangement in 240MVAR line reactor at Pune(GIS) end of 765kV Pune(GIS) – Aurangabad line is available. Hence, only Inter tripping scheme to trip switchable LR along with main line breaker would need to be enabled after implementation of LILO, which shall be ensured by TSP in coordination with POWERGRID.

After the LILO, Alephata – Aurangabad line length is expected to be ~190-200km, Alephata – Padghe: ~140km. & Alephata – Pune(GIS): ~70km. The lengths are tentative and subject to change.

- b) Alephata – Pune(West) 765kV D/c line has been proposed by MSETCL in its master plan for 2030. Same may be implemented by MSETCL along with associated bays at both ends as per requirement. Line shall be terminated at 765kV Sec-II of Alephata S/s.*
- c) After implementation of Alephata – Lonikand-I 400kV D/c line by TSP under subject scheme and Pune(East)(Karjat-II) S/s – Lonikand-II 400kV D/c line by MSETCL under In-STS scheme, 400kV interconnector between Lonikand-I and Lonikand-II may be kept normally open (for fault level control) and may be closed based on requirement of Grid Operation. TSP to sensitize MSETCL after completion of above lines.*

3.1.12. Further, NCT directed CTUIL that transmission system for Khavda Phase-VI and Phase-VII may be taken up upon receipt MNRE inputs of regarding visibility on Green Hydrogen/Green Ammonia applications to the tune of 9-10 GW in Mundra and Kandla areas of Gujarat.

List of participants of the 37th meeting of NCT

CEA/MoP:

1. Sh. Ghanshyam Prasad, Chairperson
2. Sh. V. K. Singh, Member (PS)
3. Sh. Praveen Gupta, Member (E&C)
4. Sh. B. S. Bairwa, Chief Engineer (PSPA-II)
5. Smt. Ammi R Toppo, Chief Engineer (PSPA-I)
6. Sh. Farooque Iqbal, Director (PSPA-II)
7. Smt. Kavita Jha, Director (PSPA-I)
8. Sh. Ganeshwar Rao Jada, Director (PSPA-I)
9. Sh. Kanhaiya S Kushwaha, DD (PSPA-I)
10. Smt. Naghma Furqan, Director (PSCD)
11. Sh. Ajay Malav, AD (PSPA-II)
12. Sh. Prateek Jadaun, AD (PSPA-II)

MoP:

1. Sh. D. Sai Baba, Additional Secretary (Trans.)

MNRE:

1. Sh. Prasad Chaphekar, Dy. Secretary
2. Sh. Abhay Bakre, MD(NGHM)
3. Sh. Manoj Kr. Upadhyay, Dy Adviser
4. Sh. Shafiqur Rahman, DGM

CTUIL:

1. Sh. K.K. Gupta, COO
2. Sh. Vikas Bagadia, CGM
3. Sh. RVMM Rao, CGM
4. Sh. K. K. Sarkar, Sr. GM
5. Sh. Rajesh Kumar, Sr. GM
6. Sh. Anil Kr. Meena, GM
7. Sh. Sandeep Kumawat, DGM
8. Sh. Bhaskar Wagh, DGM
9. Sh. Ajay Dahiya, DGM
10. Sh. Anupam Kumar, Ch. Manager
11. Sh. Venkatesh Gorli, Ch. Manager
12. Sh. Pratyush Singh, Ch. Manager
13. Sh. Manish Ranjan Keshari, Ch. Manager

GRID India:

1. Sh. S.C. Saxena, CMD
2. Sh. Rajiv Porwal, Dir. (SO)
3. Sh. Vivek Pandey, CGM (NLDC)
4. Sh. Priyam Jain, Chief Manager (NLDC)
5. Sh. Raj Kishan, Deputy Manager (NLDC)

OPTCL

1. Director (Projects)

PFCCL

1. Sh. Sanjiv Kumar, DGM
2. Smt. Nirmala Meena, Ch. Manager
3. Sh. Deepak Kumar, Dy. Manager

Expert Members

1. Sh. S. R. Narasimhan
2. Sh. Abhay Choudhary

SECI

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

RECPDCL

1. Sh. Anil Kumar Perala, Chief Manager

RPCs

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