



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

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

(A Government of India Enterprise)

Ref. No.: CTUIL/OM/18/22nd NCT

02nd September 2024

As per distribution list

Sub: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 22nd meeting held on 23rd August 2024 under Regulated Tariff Mechanism (RTM).

NCT vide letter dated 02.09.2024 has awarded various ISTS Transmission/Communication schemes for its implementation under RTM mode by the respective implementing agencies as indicated in the table below:

| Sl. No. | Transmission Schemes | Implementing Agency |
|---|---|---------------------|
| I. ISTS Transmission schemes approved by NCT | | |
| 1. | Eastern Region Expansion Scheme-43 (ERES-43) | POWERGRID |
| 2. | Additional Transmission System proposed for redundant power supply to Dholera area | POWERGRID |
| II. ISTS Communication schemes approved by NCT | | |
| 1. | Scheme for requirement of Additional FOTE for redundancy at AGC locations in NER: Revised | POWERGRID |
| 2. | Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi | POWERGRID |

NCT approved the modification in the earlier approved/notified transmission schemes as follows:

1. Modification in timeframe of one of the elements in the scope of "Transmission system for offshore wind zone phase-I (500 MW VGF off coast of Gujarat for subzone B3)"

| Sl. No. | Scope | Approved Timeline of Transmission Scheme (As per 20 th NCT) | Revised Timeline |
|---------|---|---|------------------|
| 1. | Creation of 400kV switchyard along with Installation of 2*1500MVA, 765/400kV ICTs at Vataman (AIS) with 2*125 MVar (420kV) Bus Reactors <ul style="list-style-type: none">• 765/400kV, 1500MVA, ICTs – 2 nos. (7*500MVA incl. Spare unit)• 765kV ICT Bays – 2 nos.• 400kV ICT Bays – 2 nos.• 125 MVar, 420kV Bus Reactor – 2 nos.• 400kV Bus Reactor bay – 2 nos. | March -2029 | 18 Months |

2. NCT approved the Time Extension for Communication Scheme "Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos" approved in 14th NCT from 12 Months from the date of allocation to 18 Months from the date of allocation i.e. 07.07.2023

Copy of NCT letter dated 02.09.2024 is enclosed. The detailed scope of work along with implementation time frame for the above Transmission/Communication Schemes shall be as per the enclosed NCT letter and Minutes of the 22nd meeting of NCT.

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

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

Thanking you.

Yours faithfully,



(Partha Sarathi Das)
Sr. General Manager

Encl.: as stated.

Distribution List:

| | |
|--|--|
| 1. The Chairman & Managing Director Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001 | 2. CGM (TBCB) POWERGRID Bhuj Transmission Ltd. (a subsidiary of Power Grid Corporation of India Ltd.) Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001. |
|--|--|



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

सेवा में / To

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

विषय/Subject: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 22nd meeting held on 23.08.2024- regarding

महोदय/Sir,

The undersigned is directed to inform that NCT has approved implementation of the following ISTS Transmission and Communication Schemes in its 22nd meeting held on 23.08.2024, in line with MoP office order dated 28.10.2021 and MoP Guidelines dated 09th March, 2022, to be implemented through Regulated Tariff Mechanism (RTM) route by agency as indicated below:

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

- 1. Modification in timeframe of one of the elements in the scope of "Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)"**

MoP vide OM dated 20.08.2024 has awarded the transmission system for 500 MW offshore wind in Gujarat to CTUIL for their implementation under RTM mode by POWERGRID. CTUIL vide letter dated 20.08.2024 to POWERGRID forwarded MoP's referred OM and informed regarding allocation of the offshore 500 MW Scheme under RTM mode

NCT approved the modifications in timeframe of one of elements in the scope of "Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3):

| Scope | Approved Timeline of Transmission Scheme (As per 20 th NCT) | Revised timeline |
|-------|--|------------------|
| | | |

| | | |
|--|------------|-----------|
| Creation of 400kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) with 2x125 MVAR (420 kV) Bus Reactors <ul style="list-style-type: none"> • 765/400kV, 1500 MVA, ICTs – 2 nos. (7x500MVA incl. spare unit) • 765kV ICT bays – 2 nos. • 400kV ICT bays – 2 nos. • 2x125 MVAR, 420kV Bus Reactor – 1 no. • 400 kV Bus Reactor bay – 2 no. | March-2029 | 18 Months |
|--|------------|-----------|

CTUIL is requested to incorporate the changed timeline.

2. Time extension for Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT

NCT approved the Time extension for Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT from 12 months from the date of allocation to **18 months** from the date of allocation i.e. 07.07.23.

CTU is requested to intimate the implementing Agency

II. ISTS schemes costing between Rs. 100 Crs. To Rs. 500 Crs. approved by NCT under RTM route:

| Sl. No. | Name of Transmission Scheme | Implementation Mode | Implementation timeframe | Estimated Cost (₹ Cr) |
|---------|--|-----------------------|---|-----------------------|
| 1. | Eastern Region Expansion Scheme-43 (ERES-43) | RTM through POWERGRID | 18 months (15 months on best effort basis) | 310.28 |
| 2. | Additional Transmission System Proposed for redundant power supply to Dholera area | RTM through POWERGRID | 18 months matching with Creation of 400 kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) S/s being implemented | 110 |

| | | | | |
|--|--|--|---|--|
| | | | under “Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)” scheme. | |
|--|--|--|---|--|

III. ISTS Communication schemes approved by NCT:

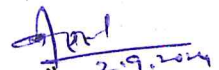
| Sl. No. | Name of Transmission Scheme | Implementa- tion Mode | Tentative Implementat ion timeframe | Implementing Agency | Estimated Cost (Rs. Crs) |
|---------|---|--------------------------|--|------------------------|--------------------------------|
| 1. | Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised | RTM | 6 months from the date of allocation | POWERGRID | 0.90 |
| 2. | Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi | RTM | 12 months from the date of allocation | POWERGRID | 7.2 |

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

CTU is requested to intimate the implementing Agency. Detailed scope of the schemes are as per minutes of the meeting. Copy of the minutes are enclosed.

Encl.: As above.

भवदीय / Yours faithfully,


(बी.एस. बैरवा/ B.S. Bairwa)

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

Copy to:

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



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 बाईसवीं बैठक के कार्यवृत्त – के सम्बन्ध में ।

Subject: Minutes of the 22nd Meeting of National Committee on Transmission (NCT) – regarding.

महोदया (Madam) / महोदय (Sir),

The 22nd meeting of the "National Committee on Transmission" (NCT) was held on 23rd August, 2024, at CEA, New Delhi. Minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

**Signed by Bhagwan Sahay
Bairwa**

Date: 01-09-2024 07:20:24

(बी.एस.बैरवा/ B.S. Bairwa)

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

प्रतिलिपि / Copy to:

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

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. Lalit Bohra, Joint Secretary Room no 602, Atal Akshay Urja Bhawan Opposite CGO Complex, Gate No. 2, Lodhi Road, New Delhi – 110003 | 6. | Chief Operating Officer, CTUIL, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001. |
| 7. | Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001. | 8. | CMD, Grid Controller of India, B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016 |
| 9. | Sh. Ravinder Gupta Ex. Chief Engineer CEA | | |

Special Invitee

Chief Engineer (PCD), CEA

Table of Agenda

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Minutes of the 22nd meeting of National Committee on Transmission (NCT)

The 22nd meeting of NCT was held on 23rd August, 2024 at CEA, New Delhi. List of participants is enclosed at **Annexure-I**. Agenda wise deliberations are given below:

1 Confirmation of the minutes of the 21st meeting of National Committee on Transmission.

1.1 The minutes of the 21th meeting of NCT held on 06.08.2024 were issued on 21.08.2024 vide CEA letter No. CEA-PS-12-13/3/2019-PSPA-II. No comments have been received on the minutes.

1.1 Members confirmed the minutes.

2 Status of the transmission schemes noted/approved/recommended to MoP in the 21st meeting of NCT:

2.1 Status of new transmission schemes approved/recommended:

| Sr. No | Name of the Transmission Scheme | Noted/ Recommended / Approved | Mode of Implementation | BPC | Award/ Gazette notification |
|---------------|--|--------------------------------------|-------------------------------|----------------|------------------------------------|
| 1. | Augmentation of transformation capacity at Banaskantha (Raghanesda) PS (GIS) | Approved | TBCB | RECPDCL | Under process |
| 2. | Augmentation of transformation capacity at KPS1 (GIS) Part B1; and KPS2 (GIS) Part B2 (Phase-V) scheme | Approved | TBCB | RECPDCL | Under process |
| 3. | Augmentation at Fatehgarh-II PS, Fatehgarh-IV PS(Section-II) and Barmer-I PS | Approved | TBCB | PFCCL | Under process |
| 4. | Transmission System for supply of power to Green Hydrogen/Ammonia manufacturing potential in Kandla area of Gujarat (Ph-I: 3.0 GW) | Recommended | TBCB | PFCCL | Under process |
| 5. | Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1: 4 GW) [Sirohi/Nagaur] Complex | Recommended | TBCB | RECPDCL | Under process |
| 6. | North-Eastern Region Expansion Scheme-XXV Part-A (NERES-XXV Part-A) | Recommended | TBCB | PFCCL | Under process |
| 7. | Augmentation of transformation capacity by 2x500 MVA (9th & | Approved | RTM | Not applicable | Informed to CTUIL vide |

Minutes of the 22nd meeting of National Committee on Transmission (NCT)

| Sr. No | Name of the Transmission Scheme | Noted/ Recommended / Approved | Mode of Implementation | BPC | Award/ Gazette notification |
|--------|--|-------------------------------|------------------------|----------------|--|
| | 10th), 400/220 kV ICTs at Tumkur (Pavagada) 400/220 kV Pooling Station in Karnataka and Implementation of 1 Nos. of 220 kV line bay at Tumkur (Pavagada) 400/220 kV PS for providing Connectivity to RE generation project | | | | letter dated 21.08.2024 CTUIL forwarded the recommendations on 21.08.2024 |
| 8. | North-Eastern Region Expansion Scheme-XXV Part-B (NERES-XXV Part-B) | Approved | RTM | Not applicable | |

2.2 Status of transmission schemes where modifications was suggested by NCT:

| S. No. | Scheme where modifications was suggested | Status |
|--------|---|--|
| 1. | Modification of implementation schedule of one of the 400 kV bay of M/s Indosol Solar Pvt. Ltd. under the scheme “Transmission system strengthening at Kurnool-III PS for integration of additional RE generation projects” | Informed to PFCCL vide letter dated 21.08.2024 |
| 2. | Change in Implementation time-frame of Eastern Region Expansion Scheme-XXXIX (ERES-XXXIX) | Informed to RECPDCL vide letter dated 21.08.2024 |
| 3. | Modification in the scope of works of the transmissions scheme "Transmission Scheme for integration of Davanagere / Chitradurga REZ." | Informed to PFCCL vide letter dated 21.08.2024 |
| 4. | Modification in the Transmission scheme “Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-4: 3.5 GW): Part B”. | Informed to RECPDCL vide letter dated 21.08.2024 |
| 4. | Denotification of the transmission scheme “Transmission system for evacuation of power from Chhatarpur SEZ (1500 MW) in Madhya Pradesh” | Informed to MoP vide letter dated 21.08.2024 |

3 Modifications in the earlier approved/notified transmission schemes:**3.1 Modification in Transmission system for evacuation of power from Luhri Stage-I HEP**

- 3.1.1 Transmission system for evacuation of power from Luhri Stage-I HEP was discussed and agreed in the 8th NCT meeting held on 25.03.2022. Scheme was notified in Gazette dated 02.06.2022 with RECPDCL as the BPC of the transmission scheme. The transmission scheme is currently under bidding. Based on survey, location of ISTS Pooling station had been identified in Ogli Village.
- 3.1.2 During the course of bidding, the logistics issues in transportation of large size equipment was highlighted by bidders. In a meeting taken by Addl. Secretary (Trans), MoP on 07.06.2024 to discuss the Logistics issues in transportation of equipment for sub-station, SJVN suggested to shift the location of Nange (ISTS) Pooling Station (presently proposed at Ogli village) to a suitable location near Koldam (GIS) S/s adjacent to National Highway (NH) in order to remove the hurdles associated with transportation of heavy equipment. SJVN had also informed that they would bring 220 kV dedicated line from Luhri-I and Sunni Dam HEP to the new ISTS Pooling station near Koldam. Further, SJVN informed that the new location of ISTS Pooling station would be about 6-7 kms (BEE length) from Koldam HEP switchyard as per initial survey. Accordingly, MoP directed that the location of pooling station may be kept as per suggestions of SJVNL. Based on preliminary survey by BPC in association with SJVNL, some locations for the pooling station were identified near Koldam (GIS) S/s.
- 3.1.3 The proposal was further deliberated in 20th NCT meeting held on 25.06.24, wherein it was stated that in view of revised location of Pooling station (near Koldam), line length of Pooling station (near Koldam)-Ropar section is reduced and therefore 50 MVAR line reactor at Ropar S/s is not required due to reactive over compensation (~95%). Overall there will be reduction in cost of the scheme from Rs. 432 Cr to Rs. 305 Cr. After deliberations, NCT approved modified Transmission system for evacuation of power from Luhri Stage-I HEP scheme.
- 3.1.4 Subsequently, the proposal for finalisation of the location of pooling station was deliberated with HPPTCL, as HPPTCL may draw power from the proposed pooling station in future. HPPTCL had apprehension that the proposed locations near Koldam (GIS) S/s have openings only on two sides and it will be very difficult to construct line in future from the proposed location. Accordingly, HPPTCL suggested to locate the pooling station in Bilaspur area. Hence, BPC carried out detailed survey and identified the location of pooling station in Bilaspur. The proposed location was jointly agreed in a meeting between CEA, CTUIL, SJVNL, HPPTCL and BPC. Accordingly, modification in the transmission scheme was proposed wherein instead of Nange (GIS) Pooling Station – Koldam 400 kV D/c line (only one circuit is to be terminated at Koldam while second circuit would be connected to bypassed circuit of Koldam – Ropar/Ludhiana 400 kV D/C line), LILO of one circuit of Koldam – Ropar/Ludhiana 400 kV D/C line at Pooling station (now near Bilaspur) was proposed.
- 3.1.5 As per HPM Division, CEA, Luhri I HEP is likely to be commissioned in May, 2027.

3.1.6 After deliberations, NCT approved the modifications in transmission scheme “Transmission system for evacuation of power from Luhri Stage-I HEP” as follows with implementation timeframe of May, 2027:

| Sl. No. | Approved Scope of Transmission Scheme (As per 20 th NCT) | Modified Transmission Scheme |
|---------|--|---|
| 1 | <p>Establishment of 7x105 MVA, 400/220 kV Pooling Station near Koldam (GIS) along with 125 MVAR (420 kV) Bus Reactor (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 315MVA, 400/220 kV ICT: 2 Nos. (7x105 MVA including 1 spare ICT) 400 kV ICT bays: 2 Nos. 220 kV ICT bays: 2 Nos. 400 kV, 125 MVAR Bus Reactor – 1 No. 400 kV Bus Reactor bay- 1 Nos. 400 kV Line Bays- 2 Nos. <p>Future provisions: Space for</p> <ul style="list-style-type: none"> 400/220 kV ICTs (315 MVA with single phase units) along with associated bays: 3 Nos. 400 kV line bays along with switchable line reactor: 3 Nos. 220 kV line bays: 10 Nos. 220 kV bus sectionalizer: 1 set | <p>Establishment of 7x105 MVA, 400/220 kV Pooling Station near Bilaspur (GIS) along with 125 MVAR (420 kV) Bus Reactor (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 315MVA, 400/220 kV ICT: 2 Nos. (7x105 MVA including 1 spare ICT) 400 kV ICT bays: 2 Nos. 220 kV ICT bays: 2 Nos. 400 kV, 125 MVAR Bus Reactor – 1 No. 400 kV Bus Reactor bay- 1 Nos. 400 kV Line Bays- 2 Nos. <p>Future provisions: Space for</p> <ul style="list-style-type: none"> 400/220 kV ICTs (315 MVA with single phase units) along with associated bays: 3 Nos. 400 kV line bays along with switchable line reactor: 3 Nos. 220 kV line bays: 8 Nos. 220 kV bus sectionalizer: 1 set |
| 2 | <p>Pooling Station near Koldam (GIS)– Koldam (NTPC) 400 kV D/C line (Triple snowbird) (only one circuit is to be terminated at Koldam(NTPC) while second circuit would be connected to bypassed circuit of Koldam(NTPC) – Ropar/Ludhiana 400 kV D/C line) – 7 km</p> | <p>LILO of one ckt of 400 kV Koldam (NTPC) – Ropar (Triple snowbird) D/c line at Pooling Station near Bilaspur (GIS)– 1 km</p> |
| 3 | <p>1 no. of 400 kV line bay at Koldam S/s for termination of Pooling Station near Koldam (GIS)– Koldam(NTPC) 400 kV line along with 125 MVAR (420 kV) Bus Reactor at Koldam(NTPC) S/s (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 400 kV Line Bay- 1 no. 400 kV, 125 MVAR Bus Reactor# - 1 no. (to be terminated in existing line bay at Koldam(NTPC), which would be available due to bypassing of one circuit of Koldam – Ropar/Ludhiana | <p>1x125 MVAR (420 kV) Bus Reactor at Koldam(NTPC) S/s (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 125 MVAR, 420 kV Bus Reactor – 1 No. 400 kV Bus Reactor bay – 1 No. |

| Sl. No. | Approved Scope of Transmission Scheme (As per 20 th NCT) | Modified Transmission Scheme |
|---------|---|-----------------------------------|
| | 400 kV D/c line at Koldam(NTPC) S/s) | |
| 4 | Bypassing one ckt of Koldam(NTPC) – Ropar/Ludhiana 400 kV D/C line (Triple snowbird) at Koldam(NTPC) and connecting it with one of the circuit of Pooling Station near Koldam (GIS)– Koldam(NTPC) 400 kV D/c line (Triple snowbird), thus forming Pooling Station near Koldam – Ropar/ Ludhiana one line (Triple snowbird) | -To be Deleted - |
| | Estimated Cost : Rs 305 Cr | Estimated Cost : Rs 242 Cr |

3.2 Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)

3.2.1 MoP vide Gazette Notification dated 13.04.2023 has notified the transmission scheme “Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)”. The scheme was agreed in two phases and the broad scope of the transmission scheme is as follows:

Phase I (with Tidong HEP (150 MW): 1st July, 2026)-

- (i) Establishment of 2x315 MVA (7x105 MVA 1-ph units including a spare unit) 400/220 kV GIS Pooling Station at Jhangi
- (ii) 400 kV Jhangi PS – Wangtoo D/c line

Phase-II (with Shongtong HEP (450 MW): 31st July, 2026)-

- (i) LILO of one circuit of Jhangi PS – Wangtoo 400 kV D/c (Quad) at Shongtong HEP Switchyard
- (ii) Panchkula- Point PW** 400 kV D/c (twin HTLS) along with 80 MVAR switchable line reactor at Panchkula end on each circuit
- (iii) Point PW** – Wangtoo (HPPTCL) 400 kV D/c line (Quad)

** Point PW : First point of 2000 m altitude of Panchkula-Wangtoo line from Panchkula end

3.2.2 Bidders and EPTA have been requesting to increase the implementation timeframe of the scheme from 24 months to 36-40 months, stating that only 6-7 months working period is available in a year, hilly terrain, logistics issue, forest clearance required for sub-station land etc.

- 3.2.3 The matter had been deliberated by CEA with BPC, CTUIL and HPPTCL and further by BPC with the prospective bidders, HPPTCL and CTUIL. HPPTCL had informed that the working period is about 10 months in a year and regarding logistics issues in transportation of heavy equipments, it was informed that strengthening of road may be required at 1-2 locations which can be done in association with State PWD as had been done for transportation of equipments for Wangtoo sub-station (commissioned) of HPPTCL which lies in the same area.
- 3.2.4 As per HPM Division, CEA, the latest commissioning schedule of Tidong HEP is October, 2025 and that of Shongtong HEP is February, 2027.
- 3.2.5 Considering the request of prospective bidders and urgency of the transmission scheme for evacuation of power from associated Hydro projects, the implementation time frame of the transmission scheme had been extended from given schedule (July'26) months to 30 months from SPV transfer and the same had been conveyed to BPC vide email dated 19.08.2024. It was also mentioned that upon commissioning, Tidong HEP shall use intra- state transmission system for evacuation of power, till availability of above ISTS system.
- 3.2.6 NCT noted the same.
- 3.3 Time extension for Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT**
- 3.3.1 Representative of CTUIL stated that the communication scheme “*Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos*” was approved in 14th NCT meeting and allocated to M/s Powergrid Bhuj Transmission Limited (PBTL) for implementation vide NCT letter dated 07.07.2023. Implementation Time frame for the scheme was 12 months from the date of allocation i.e upto 06.07.2024 and Implementation mode was RTM.
- 3.3.2 M/s PBTL approached the CERC for a grant of the separate transmission licence towards the implementation of the subject communication scheme through the Petition no 44/TL/2024 during the month of January, 2024. CERC gave its order on 10th July 2024 on the petition filed by M/s PBTL. As the implementation time of the subject communication scheme is 12 months from the date of allocation by the NCT, i.e., up to 06.07.2024 was already expired, CERC directed the CTUIL to communicate the implementation schedule to M/s PBTL, keeping in view the timeframe of requirement of the subject scheme. Further, M/s PBTL vide their letter dtd 06.08.2024 requested CTUIL for new Implementation schedule of the subject Communication scheme.
- 3.3.3 Representative of CTUIL further informed that from the M/S PBTL petition in January'24 to CERC order dtd 10/07/24 period of approximate six months lapsed and that much extension may be provided to PBTL.

3.3.4 NCT opined that TSPs should immediately approach CERC for grant of licence. In this case, the scheme was awarded in July, 2023, but the TSP approached CERC in January, 2024.

3.3.5 After deliberations, NCT approved time extension for the Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT as below:

| Name of Scheme: Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos. | | | |
|--|--------------------------|--|---|
| S. No. | Items | Present | Revised |
| 1. | Implementation timeframe | 12 months from the date of allocation | 18 months from the date of allocation i.e.07.07.23 |

4 New Transmission Schemes:

4.1 **Transmission System for supply of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat under Phase-I: Part B1 scheme (3 GW at Navinal S/s)**

4.1.1 Representative of CTUIL stated that Navinal (Mundra) (GIS) S/s is already under bidding for supply of 3000 MW power to Bulk consumers and for meeting 1500 MW demand for Green Hydrogen/Ammonia projects. The proposed scheme is for meeting additional 3000 MW drawal requirement of Green Hydrogen/Ammonia projects (cumulative upto 4500 MW in Mundra area) at Navinal (Mundra) (GIS) S/s.

4.1.2 Representative of MNRE informed that electricity demand on account of green Hydrogen/Green Ammonia production in Mundra would be 22 GW by 2030 as given below:

| Year | Cumulative Electricity Demand (MW) |
|-------------|---|
| by 2026-27 | 2000 |
| by 2027-28 | 8000 |
| by 2028-29 | 16000 |
| by 2029-30 | 22000 |

4.1.3 As per the direction of NCT in the 21st meeting, the transmission scheme was reviewed in a meeting between CEA, CTUIL and Grid-India on 14.08.2024.

4.1.4 CTUIL informed that application has not been received from any Green Hydrogen/Green Ammonia manufacturer for drawal of power from Navinal S/s.

- 4.1.5 Chairman, NCT requested MNRE to take up the matter with the prospective Green Hydrogen/Green Ammonia manufacturers in the Navinal area to submit application to CTUIL under GNA Regulations, 2022 for drawal of power.
- 4.1.6 Space provision has been kept at Navinal-I S/s for 2 Nos. STATCOM (± 300 MVAR) along with MSC (2x125 MVar) & MSR (1x125 MVar) (with associated bays). It was agreed that STATCOM at Navinal-I S/s may be installed commensurate with available space i.e. 1 No. ± 300 MVar STATCOM along with MSC (2x125 MVar) & MSR (1x125 MVar) each at Navinal (Mundra) (GIS) 400 kV Bus section-I & 400 kV Bus section-II.
- 4.1.7 CMD, Grid-India stated that the following clauses are specified in CEA, Technical Standards for Connectivity to the Grid, Regulations regarding reactive power management by the bulk consumers:

“

- (i) *The distribution licensee and bulk consumer shall provide adequate reactive compensation to compensate reactive power requirement in their system so that they do not depend upon the grid for reactive power support.*
- (ii) *The power factor for distribution system and bulk consumer shall be within ± 0.95 .*

”

He further stated that the billing for the bulk consumers connected at distribution level is on kVAh drawl in place of kWh. Accordingly, at the distribution level, the average tariff for operating at 0.95 power factor comes to around Rs. 7.50/kVAh compared an average tariff of around Rs. 7/kVAh at unity power factor. This additional tariff of 50 paise/kVAh acts as a deterrent for leaning on the grid for reactive power requirements.

However, at the ISTS level, the reactive energy charge specified by CERC in IEGC 2023 to discourage the VAR drawl by regional entities is only 5 paise/kVARh which is on a lower side. These bulk consumers may, therefore, lean on the grid for their reactive power requirements. Addressing the same may require providing excessive reactive power compensation at the ISTS level which is not desirable.

Therefore, there is an urgent requirement of reviewing the above-mentioned provisions in CEA Connectivity Standards as well as the reactive energy charges in IEGC 2023. Further, till the amendment in above provisions, it is suggested that suitable reactive power compensation may be planned at all such ISTS stations being planned for feeding bulk green hydrogen / electrolyzer load.

- 4.1.8 NCT opined that Bulk Consumers, Green Hydrogen/Green Ammonia manufacturers should not depend on the grid for reactive power requirement and exchange of reactive power with the grid should be minimal. NCT directed CEA, CTUIL and Grid India to jointly review the requirement of reactive power by Bulk Consumer/ Green Hydrogen/Ammonia projects from the Grid. The suggestions would be taken up for amendment in the Central Electricity Authority (Technical Standards for connectivity to the Grid).

4.1.9 After deliberations, NCT recommended Transmission system for supply of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat under Phase-I: Part B1 scheme (3 GW at Navinal S/s)” as mentioned below:

4.1.9.1 Summary of the scheme is given below:

| Sl. No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹ Cr) | Remarks |
|---------|--|-----------------------|--|
| 1. | Transmission system for supply of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat under Phase-I: Part B1 scheme (3 GW at Navinal S/s)” Tentative implementation timeframe: 36 Months from date of allocation to implementing agency | ₹ 2817 Cr | Recommended under TBCB route with PFCCL as BPC |

4.1.9.2 Detailed scope of the scheme is given below:

| Sl. No. | Scope of the Transmission Scheme | Capacity/line length km |
|---------|--|---|
| 1. | Augmentation of Transformation capacity at 765/400 kV Navinal(Mundra) S/s (GIS) by 2x1500 MVA ICTs along with 2x330 MVAR, 765 kV & 2x125MVAR, 420 kV bus reactors on Bus Section-II and 1x125MVAR, 420 kV bus reactor on Bus Section-I. This will involve creation of 765 kV & 400 kV Bus Sections 2 through sectionalization arrangement. The 400 kV and 765 kV Sectionalizer shall be normally closed. | Creation of New 765 kV & 400 kV Bus Section-II 765 kV Sectionalizer – 1 Set 400 kV Sectionalizer – 1 set 765/400 kV, 1500 MVA ICT-2 Nos. (on Sec-II) 765 kV ICT bays- 2 Nos. (on Sec-II) 400 kV ICT bays- 2 Nos. (on Sec-II) 330 MVAR 765 kV bus reactor-2 Nos. (Sec-II) 125 MVAR 420 kV bus reactor-3 Nos. (1 no. on Sec-I & 2 Nos. on Sec-II) 765 kV reactor bay- 2 Nos. (Sec-II) 400 kV reactor bay- 3 Nos. (1 no. on Sec-I & 2 Nos. on Sec-II) |
| 2. | Navinal(Mundra) (GIS) – Bhuj 765 kV D/c line | 70 km |
| 3. | 765 kV line bays at each end of Navinal(Mundra) (GIS) – Bhuj 765 kV D/c line | 765 kV line bays-2 Nos. (AIS) (for Bhuj end) |

| Sl. No. | Scope of the Transmission Scheme | Capacity/line length km |
|---|--|--|
| | | 765 kV line bays-2 Nos. (GIS) (for Navinal (Mundra) end) (on Sec-II) |
| 4. | ±300MVA _r STATCOM along with 2x125MVA _r MSC & 1x125MVA _r MSR at Navinal(Mundra) (GIS) 400 kV Bus section-I | <ul style="list-style-type: none"> • ±300MVA_r STATCOM along with 2x125MVA_r MSC & 1x125MVA_r MSR • 400 kV bay – 1 no. |
| 5. | ±300MVA _r STATCOM along with 2x125MVA _r MSC & 1x125MVA _r MSR at Navinal(Mundra) (GIS) 400 kV Bus section-II | <ul style="list-style-type: none"> • ±300MVA_r STATCOM along with 2x125MVA_r MSC & 1x125MVA_r MSR • 400 kV bay – 1 no. |
| Note: <p>(1) Wherever required, TSP shall implement complete Dia consisting of 2 Main Bays & 1 Tie Bay required for completion of diameter (GIS) in one-and-half breaker scheme.</p> <p>(2) TSP of Navinal (Mundra) S/s shall provide space for scope of work at Sl. 1,2, 3 (for Navinal end), 4 & 5 above.</p> <p>(3) TSP of Bhuj PS shall provide space for scope of work at Sl. 3 (for Bhuj end) above.</p> | | |

4.2 Transmission System of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat under Phase-I: Part B2 scheme (7.5 GW at Navinal-II S/s)

- 4.2.1 Representative of CTUIL stated that the proposed transmission scheme is for additional 7,500 MW drawal requirement of Green Hydrogen/Ammonia projects (i.e. cumulative for upto 12,000 MW in Mundra area), which is planned to be accommodated at Navinal-II (Mundra) (GIS) S/s.
- 4.2.2 He also mentioned that presently no application for drawal of power at Navinal S/s from Green Hydrogen/Ammonia manufacturers has been received under GNA Regulations, 2022.
- 4.2.3 After deliberations, NCT decided that initial applications for drawal of power at Navinal from Green Hydrogen/Ammonia manufacturers would be accommodated at Navinal-I S/s (cumulative upto 4.5 GW). Therefore, this scheme may be deferred at present and would be taken up for deliberation subsequently based on receipt of applications from Green Hydrogen/Ammonia manufacturers at Navinal-I S/s.
- 4.2.4 NCT also directed CEA, CTUIL and Grid-India to review the reactive compensation requirement at Navinal II,

4.3 Eastern Region Expansion Scheme-43 (ERES-43)

- 4.3.1 Representative of CTUIL stated that Eastern Region (ER) predominantly has thermal generations. During the peak solar hours in neighbouring regions of ER, backing

down of thermal generations takes place in ER. Under such scenario, constraints are being observed on Kahalgaon (NTPC) – Farakka (NTPC) 400 kV D/c line and Talcher (NTPC) – Meramundali (OPTCL) 400 kV D/c line (one circuit LILOed at Angul and subsequently bypassed) under N-1.

- 4.3.2 He further informed that Kahalgaon – Farakka 400 kV D/c line has thermal limit of about 850 MVA/ckt. During the peak solar generation hours, the line loading is observed to be about 650MW/ckt, which violates thermal limit under N-1. Further, during high thermal generation at Talcher along with power transfer constraints in Talcher – Kolar HVDC, N-1 violation is observed on the Talcher – Meramundali 400 kV D/c line.
- 4.3.3 On a query about ownership of terminal bay equipment, representative of CTUIL stated that both NTPC and OPTCL have requested that upgradation of bay equipment at their ends should be done under ISTS as the lines are ISTS and the reconductoring requirement is to cater to ISTS power transfer requirement.
- 4.3.4 CTU also informed that keeping in view urgent requirement of the scheme, the implementation timeframe of the scheme has been planned as 18 months with best effort basis schedule as 15 months in consultation with all stakeholders including ISTS licensee owning the lines (viz. POWERGRID).
- 4.3.5 After deliberations, NCT approved the scheme “Eastern Region Expansion Scheme-43 (ERES-43)” under RTM route as mentioned below

4.3.5.1 Summary of the scheme is given below:

| Sl. No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹ Crore) | Remarks |
|---------|--|--------------------------|---|
| 1. | Eastern Region Expansion Scheme-43 (ERES-43) Implementation timeframe: 18 Months (15 months on best effort basis) | ₹ 310.28 Cr | Approved under RTM route through POWERGRID. |

4.3.5.2 Detailed scope of the scheme is given below:

| Sl. No. | Scope of the Transmission Scheme | Capacity (MVA) / Line length (km)/ Nos. |
|---------|--|--|
| 1. | Reconductoring of Kahalgaon (NTPC) – Farakka (NTPC) 400 kV D/c (Twin Moose) line with Twin HTLS conductor (with ampacity of single HTLS as 1228A) | 190 ckm |
| 2. | Reconductoring of Talcher (NTPC) – Meramundali (OPTCL) 400 kV D/c (Twin Moose) line (one circuit via Angul and bypassed at Angul) with Twin HTLS conductor (with ampacity of single HTLS as 1228A) | 140 ckm |
| 3. | Upgradation of associated 400 kV bay equipment at Kahalgaon (NTPC) | Associated bay equipment with line capacity 3150 A (as per standard equipment rating). |
| 4. | Upgradation of associated 400 kV bay equipment at Farakka (NTPC) | Associated bay equipment with line capacity 3150 A (as per |

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| Sl. No. | Scope of the Transmission Scheme | Capacity (MVA) / Line length (km)/ Nos. |
|---------|---|--|
| | | standard equipment rating). |
| 5. | Upgradation of associated 400 kV bay equipment at Talcher (NTPC) | Associated bay equipment with line capacity 3150 A (as per standard equipment rating). |
| 6. | Upgradation of associated 400 kV bay equipment at Meramundali (OPTCL) | Associated bay equipment with line capacity 3150 A (as per standard equipment rating). |

Note:

- (a) NTPC and OPTCL to provide unconditional access to the ISTS licensee for upgradation of identified bay equipment at their respective substation / generation switchyard. The equipment released after replacement shall be handed over to NTPC and OPTCL on as is where is basis by the ISTS licensee.
- (b) NTPC has already awarded R&M works for diameter 19-20-21 and 22-23-24 for some bay equipment at Farakka switchyard. Further, at Kahalgaon switchyard, R&M for some equipment of diameter 31-32-33 has also been awarded. ISTS licensee needs to coordinate with NTPC for replacement of balance equipment at Farakka and Kahalgaon switchyards as identified from Annexure-VII and Annexure-VIII (comprising of SLD and bay equipment details) respectively of the minutes of the 31st CMETS-ER.
- (c) ISTS licensee needs to coordinate with NTPC and OPTCL for replacement of equipment at Talcher switchyard and Meramundali S/s respectively as identified from Annexure-V and Annexure-VI respectively (comprising of SLD and bay equipment details) of the minutes of the 31st CMETS-ER.

4.4 Transmission system to provide redundant power supply to Dholera area

- 4.4.1 Representative of CTUIL stated that GETCO vide letter dated 22.07.2024, has requested to provide power supply to semiconductor manufacturing industries in Dholera SIR area, GETCO has already established 220/33 kV Dholera S/s along with Panchham – Dholera 400 kV D/c line (presently charged at 220 kV level). To provide a redundant (2nd) power source, GETCO has proposed ISTS connectivity from Vataman substation in January, 2026 time-frame, for drawal of 150-200 MW at the new proposed Dholera-2 S/s of GETCO (about 30-35 km from Vataman).
- 4.4.2 In this respect, it may be noted that 765 kV Vataman Switching Substation is under implementation by M/s Vataman Transmission Limited (a subsidiary of POWERGRID) under Khavda Phase-III scheme with an SCOD of Dec'25.
- 4.4.3 2x1500 MVA, 765/400 kV ICTs and 2 Nos. 400 kV bays at Vataman S/s have already been discussed and recommended in the 20th NCT meeting on 25.06.2024 for evacuation of power from offshore wind projects in Gujarat (being pooled at Mahuva Onshore PS) in March, 2029 time-frame, matching with commissioning of offshore wind projects. MoP vide OM dated 20.08.2024 has awarded the transmission system for 500 MW offshore wind in Gujarat to CTUIL for their implementation under RTM mode by POWERGRID. CTUIL vide letter dated 20.08.2024 to POWERGRID forwarded MoP's referred OM and informed regarding allocation of the offshore 500 MW Scheme under RTM mode.
- 4.4.4 Representative from CTUIL mentioned that the proposed interconnection of Vataman S/s (ISTS) with 220 kV Dholera-2 S/s of GETCO would require preponement of 2x1500 MVA, 765/400 kV ICTs (agreed for offshore wind projects), from March 2029 to an earlier time-frame as well as installation of 2x500 MVA, 400/220 kV ICTs and 2 Nos. 220 kV line bays at Vataman S/s.
- 4.4.5 After deliberations, NCT approved the change in timeframe of one of the elements in the scope of "Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)" scheme as follows:

| Scope | Earlier timeline | Revised timeline |
|---|-------------------|------------------|
| Creation of 400 kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) with 2x125 MVAR (420 kV) Bus Reactors <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 2 Nos. (7x500MVA incl. spare unit) • 765 kV ICT bays – 2 nos. • 400 kV ICT bays – 2 nos. • 125 MVAR, 420 kV Bus Reactor – 2 Nos. • 400 kV Bus Reactor bay – 2 Nos. | March-2029 | 18 Months |

The MoP OM No. 15/3/2018-Trans-Part (1) dated 20.08.2024 would also need to be revised accordingly.

4.4.6 NCT further approved the scheme “Additional Transmission System Proposed for redundant power supply to Dholera area” under RTM route as mentioned below:

4.4.6.1 Summary of the scheme is given below:

| Sl. No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹ Crore) | Remarks |
|---------|--|--------------------------|--|
| 1. | Additional Transmission System Proposed for redundant power supply to Dholera area Implementation timeframe: 18 Months matching with creation of 400 kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) S/s being implemented under “Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)” scheme. | ₹ 110 Cr | Approved under RTM route to POWERGRID. |

4.4.6.2 Detailed scope of the scheme is given below:

| Sl. No. | Scope of the Transmission Scheme | Capacity (MVA) / Line length (km)/ Nos. |
|---|--|--|
| 1. | Creation of 220 kV switchyard along with Installation of 2x500 MVA, 400/220 kV ICTs at Vataman (AIS) | <ul style="list-style-type: none"> • 400/220 kV, 500 MVA, ICTs – 2 Nos. • 400 kV ICT bays – 2 Nos. • 220 kV ICT bays – 2 Nos. |
| 2. | 2 Nos. 220 kV line bays for Vataman – Dholera-2 (GETCO) 220 kV D/c line | <ul style="list-style-type: none"> • 220 kV line bays – 2 Nos. |
| <p><i>Note:</i></p> <ol style="list-style-type: none"> 1. GETCO shall implement Vataman – Dholera-2(GETCO) 220 kV D/c line in matching time-frame 2. TSP of Vataman S/s shall provide space for the associated works at Vataman S/s | | |

4.5 Transmission System for Integration of Kurnool-IV REZ - Phase-I (for 4.5 GW)

4.5.1 Representative of CTUIL stated that a comprehensive transmission system for integration of 51 GW RE Potential in Andhra Pradesh have been identified by CEA and a report on Transmission System for Integration of over 500 GW RE Capacity has been published by CEA on 07.12.2022. Presently, Connectivity of about 7,740 MW (2390 MW at 220 kV level & 5,350 MW at 400 kV level) has been granted / agreed for grant at Kurnool-III PS and is closed for further grant of Connectivity.

4.5.2 CTUIL informed that applications for grant of connectivity for 4,750 MW at Kurnool -IV have been received, out of which about 3,200 MW applications is considered at

400 kV level from PSPs generation projects. Remaining 1,530 MW (RE) connectivity applications are considered at 220 kV level.

- 4.5.3 He further stated that Transmission System for Integration of Kurnool-IV REZ is proposed for 7.5 GW total capacity, which have been bifurcated in two phases for implementation depending of receipt of Connectivity applications. The present transmission scheme is proposed under Phase-I, the details are mentioned as below:

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|----------------|--|---|
| 1. | <p>Establishment of 4x1500 MVA, 765/400 & 4x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVar (765 kV) bus reactors at Kurnool-IV PS with provision of two (2) sections of 4500 MVA each at 400 kV level</p> <p>Future Space Provisions:</p> <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 2 Nos. • 765 kV ICT bays – 2 nos. • 400 kV ICT bays – 2 nos. • 400/220 kV, 500 MVA, ICTs – 14 nos. • 400 kV ICT bays – 14 nos. • 220 kV ICT bays – 14 nos. • 765 kV line bays – 8 Nos. (with provision for SLR) • 400 kV line bays – 12 Nos. (with provision for SLR) • 220 kV line bays – 20 nos. • 220 kV Bus Sectionalizer : 2 sets • 220 kV Bus Coupler (BC) Bay – 2 nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 nos. • 400 kV Bus Sectionalizer : 1 set | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765 kV ICT bays – 4 nos. • 400 kV ICT bays – 4 nos. • 400/220 kV, 500 MVA, ICTs – 4 nos. • 400 kV ICT bays – 4 nos. • 220 kV ICT bays – 4 nos. • 765 kV line bays – 4 Nos. (at Kurnool-IV PS for termination of Kurnool-IV – Bidar and Kurnool-IV – Kurnool-III 765 kV D/c lines) • 765 kV, 330 MVar Bus Reactor – 2 Nos. • 765 kV Bus Reactor bays – 2 nos. • 220 kV line bays – 6 nos. • 220 kV Bus Sectionalizer : 1 set • 220 kV Bus Coupler (BC) Bay – 2 nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 nos. |
| 2. | Kurnool-IV – Bidar 765 kV D/c line (about 330 kms) with 330 MVAR SLR (convertible) at both ends on both circuits | <p>~ 330 km</p> <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Bidar PS) • 765 kV, 330 MVar SLR at Kurnool-IV PS – 2 Nos. (7x110 MVar inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV, 330 MVar SLR at Bidar PS – 2 Nos. (7x110 MVar inc. 1 switchable spare unit) |
| 3. | Kurnool-IV – Kurnool-III PS 765 kV D/c line (about 150 kms) with 240 MVAR SLR (convertible) at Kurnool-IV end on both circuits | <p>~ 150 km</p> <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Kurnool-III PS) • 765 kV, 240 MVar SLR at Kurnool-IV |

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| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|---|--|
| | | PS – 2 Nos. (7x80 MVA inc. 1 switchable spare unit) |
| 4. | ± 300 MVAR STATCOM at Kurnool-IV PS along with 2x125 MVA MSR | • 400 kV bay – 1 no. |
| 5. | Augmentation of 1x1500 MVA, 765/400 kV ICT (3 rd) at C’Peta | • 765/400 kV, 1500 MVA, ICT – 1 no. • 765 kV ICT bays – 1 no. • 400 kV ICT bays – 1 no. |
| 6. | LILO of Vijayawada-Nellore 400 kV D/c line at C’Peta (about 20 kms) | ~ 20 km • 400 kV line bays – 4 Nos. (at C’Peta for termination of LILO of Vijayawada-Nellore 400 kV D/c line at C’Peta) |

4.5.4 It was informed that SRPC has approved the transmission scheme during the meeting held on 03.08.2024, however subsequently APTRANSCO have submitted its views that the Kurnool-IV – Bidar 765 kV D/c line is very long line (about 330 km) and it would be advisable to provide anchoring at a suitable location in Telangana for full utilisation of the capacity of the line.

4.5.5 CMD, Grid-India stated that few inter-regional lines such as 765 kV Bidar – Parli D/C and 765 kV Angul/Gopalpur – Srikakulam D/C line were also agreed in the joint study meeting. It is suggested that the same may also be brought up for discussion in NCT at the earliest. This will help in avoiding any possible constraints in export of RE power from SR.

4.5.6 NCT opined that a comprehensive plan for evacuation of power from RE potential in Kurnool-IV RE Zone should be prepared and put up in the next meeting of NCT

4.6 **Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW)**

4.6.1 Representative of CTUIL stated that a comprehensive transmission system for integration of 51 GW RE Potential in Andhra Pradesh have been identified by CEA and a report on Transmission System for Integration of over 500 GW RE Capacity has been published by CEA on 07.12.2022.

4.6.2 CTUIL informed that connectivity applications of about 3.5 GW have been received at Anantapur-II out of which 2.5 GW is at 220 kV level and 1 GW is at 400 kV level. It was also informed that SRPC in its meeting held on 03.08.2024 have approved the transmission scheme.

4.6.3 After deliberations, NCT recommended transmission scheme “Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW) under TBCB with implementation time frame of 24 months and estimated cost of ₹4679 Cr.

4.6.3.1 Summary of the scheme is given below:

| SI No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹Cr) | Remarks |
|--------|---|----------------------|---------|
|--------|---|----------------------|---------|

| | | | |
|----|--|-----------|--|
| 1. | Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW) Tentative implementation timeframe: 24 months from date of allocation to implementing agency | ₹ 4679 Cr | Recommended Under TBCB route with PFCCL as BPC |
|----|--|-----------|--|

4.6.3.2 Detailed scope of the scheme is given below:

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|--|---|
| 1. | Establishment of 4x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Ananthapuram-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVA (765 kV) bus reactors at Ananthapuram-II PS with provision of two (2) sections of 4500 MVA each at 400 kV level Future Space Provisions: <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 2 Nos. • 765 kV ICT bays – 2 nos. • 400 kV ICT bays – 2 nos. • 400/220 kV, 500 MVA, ICTs – 12 nos. • 400 kV ICT bays – 12 nos. • 220 kV ICT bays – 12 nos. • 765 kV line bays – 8 Nos. (with provision for SLR) • 400 kV line bays – 12 Nos. (with provision for SLR) • 220 kV line bays – 20 nos. • 220 kV Bus Sectionalizer : 2 sets • 220 kV Bus Coupler (BC) Bay – 2 nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 nos. • 400 kV Bus Sectionalizer : 1 set | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) • 765 kV ICT bays – 4 nos. • 400 kV ICT bays – 4 nos. • 400/220 kV, 500 MVA, ICTs – 6 nos. • 400 kV ICT bays – 6 nos. • 220 kV ICT bays – 6 nos. • 765 kV line bays – 4 Nos. (at Ananthapuram-II PS for termination of Ananthapuram-II – Davanagere and Ananthapuram-II – Cuddapah 765 kV D/c lines) • 765 kV, 330 MVA Bus Reactor – 2 Nos. • 765 kV Bus Reactor bays – 2 nos. • 220 kV line bays – 6 nos. • 220 kV Bus Sectionalizer : 1 set • 220 kV Bus Coupler (BC) Bay – 2 no. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 no. |
| 2. | Ananthapuram-II – Davanagere 765 kV D/c line (about 150km) with 240 MVAR SLR (convertible) at Ananthapuram-II end on both circuits | ~ 150 km <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Davanagere PS) • 765 kV, 240 MVA SLR at Ananthapuram-II PS – 2 Nos. (7x80 MVA inc. 1 switchable spare unit) |
| 3. | Ananthapuram-II – Cuddapah 765 kV D/c line (about 200km) with 330 MVAR SLR (convertible) at Ananthapuram-II end on both circuits | ~ 200 km <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Cuddapah) • 765 kV, 330 MVA SLR at Ananthapuram-II PS – 2 Nos. (7x110 MVA inc. 1 switchable spare unit for both bus reactor and line reactor) |

| <i>Sl. No.</i> | <i>Scope of the Transmission Scheme</i> | <i>Capacity /km</i> |
|----------------|---|----------------------|
| 4. | ±300 MVAR STATCOM at Ananthapuram-II PS along with 2x125 MVar MSR | • 400 kV bay – 1 no. |

Note:

- i. POWERGRID shall provide space for 2 Nos. of 765 kV line bays at Cuddapah for termination of Ananthapuram-II PS – Cuddapah 765 kV D/c line
- ii. Developer of Davanagere PS shall provide space for 2 Nos. of 765 kV line bays at Davanagere PS for termination of Ananthapuram-II PS – Davanagere 765 kV D/c line

4.7 Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area

- 4.7.1 Representative of CTUIL informed that as per the Communication from MNRE about 7000 MW demand has been envisaged for the Green Hydrogen/ Green Ammonia projects in Tuticorin area. The details of the phased development are as follows:

| Year | Cumulative Electricity Demand (MW) |
|-------------|---|
| by 2027 | 2900 |
| by 2028 | 2900 |
| by 2029 | 5645 |
| by 2030 | 7015 |

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- 4.7.2 He further informed that GNA applications for 2460 MW have been received as bulk consumers from M/s AM Green Ammonia (India) Pvt. Ltd. (1660 MW with start date as Dec,2026) and Green Infra Renewable Energy Farms Pvt. Ltd. (800 MW with start dated as Dec, 2028).
- 4.7.3 NCT opined that the gestation period of Green Hydrogen/Green Ammonia plants is about 30-36 months, hence, implementation timeframe of the transmission scheme may be considered as 30 months.
- 4.7.4 On a query about views of Sothern Region Constituents/SRPC on the proposed transmission system, CTUIL informed that the transmission system was agreed for technical requirements during the SRPC meeting held on 03.08.2024. However, TANGEDCO during the SRPC meeting have raised certain objections regarding grant of GNA by CTUIL to Green Hydrogen / Green Ammonia as bulk consumers without these manufacturers being a consumer of the concerned Distribution licensee as per the provisions of Electricity Act, 2003. CTUIL representative further informed that during SRPC meeting, it was clarified that CTUIL is processing the applications and granting GNA in accordance with the CERC GNA Regulations.
- 4.7.5 During NCT meeting, CTU representative submitted that they are processing the applications and granting GNA to Green Hydrogen / Green Ammonia project developers as bulk consumers under CERC GNA Regulations. In case of any conflict regarding grant of GNA to bulk consumers between CERC GNA Regulations, 2022 and Electricity Act, 2003, the matter may be taken-up with CERC by TANGEDCO.
- 4.7.6 After deliberations, NCT recommended the transmission scheme “Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area” under TBCB route with implementation time frame of 30 months and estimated cost of ₹ 2617 Cr.

4.7.6.1 Summary of the scheme is given below:

| SI No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹Cr) | Remarks |
|--------|---|----------------------|--|
| 1. | Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area) Tentative implementation timeframe: 30 months from date of allocation to implementing agency | ₹ 2617 Cr | Recommended Under TBCB route with RECPDCL as BPC |

4.7.6.2 Detailed scope of the scheme is given below:

| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|---------|--|---|
| 1. | Establishment of 3x1500 MVA, 765/400 kV Tuticorin (GH) S/s with 1x240 MVAR bus Reactor | • 765/400 kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA including 1 spare unit) |

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| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|----------------|--|---|
| | Future Space Provisions: <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 3 Nos. • 765 kV ICT bays – 3 nos. • 400 kV ICT bays – 3 nos. • 765 kV line bays – 6 Nos. (with provision for SLR) • 400 kV line bays – 16 Nos. (with provision for SLR) • 400 kV Bus Sectionalizer : 1 set | <ul style="list-style-type: none"> • 765 kV ICT bays – 3 Nos. • 400 kV ICT bays – 3 Nos. • 765 kV line bays – 2 Nos. (at Tuticorin (GH) S/s for termination of Tuticorin (GH) – Tuticorin PS 765 kV D/c line) • 765 kV, 240 MVar Bus Reactor – 1 No. (4x80 MVar including 1 switchable spare unit) • 765 kV Bus Reactor bays – 1 No. |
| 2. | Tuticorin PS – Tuticorin (GH) 765 kV D/c line | ~ 50 km <ul style="list-style-type: none"> • 765 kV line bays – 2 Nos. (at Tuticorin PS) |
| 3. | Upgradation of Tuticorin PS - Dharmapuri (Salem New) 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level with 1x330 MVar switchable Line Reactor on both ends of each circuit | <ul style="list-style-type: none"> • 765 kV line bays Tuticorin PS – 2 Nos. • 765 kV, 330 MVar SLR at Tuticorin PS – 2 Nos. (7x110 MVar including 1 spare unit for both bus reactor and line reactor) • 765 kV line bays at Dharmapuri (Salem New) – 2 Nos. • 765 kV, 330 MVar SLR at Dharmapuri (Salem New) – 2 Nos. (7x110 MVar including 1 spare unit for both bus reactor and line reactor) |
| 4. | Transmission line for change of termination from 400 kV switchyard to 765 kV switchyard for Tuticorin PS – Dharmapuri (Salem New) 765 kV D/c line at Tuticorin PS & Dharmapuri (Salem New) | Approx. 1-2 km at each end |
| 5. | Upgradation of Tuticorin PS to its rated voltage of 765 kV level alongwith 3x1500 MVA, 765/400 kV ICTs and 1x330 MVar, 765 kV bus reactors Future Space Provisions: <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 1 no. • 765 kV ICT bays – 1 no. • 400 kV ICT bays – 1 no. • 765 kV line bays – 6 Nos. (with provision for SLR) | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA including 1 spare unit) • 765 kV ICT bays – 3 Nos. • 400 kV ICT bays – 3 Nos. • 765 kV, 330 MVar Bus Reactor – 1 No. • 765 kV Bus Reactor bays – 1 No. |
| 6. | Upgradation of Dharmapuri (Salem New) | <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA including 1 spare |

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| Sl. No. | Scope of the Transmission Scheme | Capacity /km |
|----------------|--|--|
| | to its rated voltage of 765 kV level alongwith 3x1500 MVA, 765/400 kV ICTs and 1x330 MVAr, 765 kV bus reactor Future Space Provisions: <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 1 no. • 765 kV ICT bays – 1 no. • 400 kV ICT bays – 1 no. • 765 kV line bays – 6 Nos. (with provision for SLR) | unit) <ul style="list-style-type: none"> • 765 kV ICT bays – 3 Nos. • 400 kV ICT bays – 3 Nos. • 765 kV, 330 MVAr Bus Reactor – 1 No. • 765 kV Bus Reactor bays – 1 No. |
| 7. | 400 kV line reactors on Tuticorin PS - Dharmapuri (Salem New) 765 kV D/c line shall be utilized as bus reactors at respective 400 kV substations based on availability of bays. | |
| 8. | Upgradation of Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c lines (presently charged at 400 kV) to its rated voltage at 765 kV with 1x330 MVAr switchable Line Reactor on Dharmapuri (Salem New) end of each circuit | <ul style="list-style-type: none"> • 765 kV line bays at Dharmapuri (Salem New) – 2 Nos. • 765 kV, 330 MVAr SLR at Dharmapuri (Salem New) – 2 Nos. (6x110 MVAr switchable units) • 765 kV line bays at Madhugiri – 2 Nos. |
| 9. | Transmission line for change of termination from 400 kV switchyard to 765 kV switchyard for Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c line at Dharmapuri (Salem New) & Madhugiri | Approx. 1-2 km at each end |
| 10. | 400 kV line reactors on Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c lines shall be utilized as bus reactors at respective 400 kV substations based on availability of bays. | |

Note:

- POWERGRID shall provide space for upgradation of Tuticorin PS to its rated voltage level of 765 kV level
- POWERGRID shall provide space for upgradation of Dharmapuri (Salem New) to its rated voltage level of 765 kV level
- POWERGRID / TSP shall provide space for 2 Nos. of 765 kV line bays at Madhugiri 765 kV for termination of Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c lines

4.8 **Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS**

4.8.1 Representative of CTUIL stated that presently, Bidar 765/400/220 kV PS is under implementation by POWERGRID through TBCB route and is likely to be commissioned by February '26. The broad scheme under implementation is as given below:

- Establishment of 765/400 kV 3x1500 MVA, 400/220 kV 5x500 MVA Bidar PS with 765 kV (1x240 MVAR) and 400 kV (1x125 MVAR) Bus Reactor
- Bidar PS – Maheshwaram (PG) 765 kV D/C line with 240 MVAR SLR at both ends of each circuit
- 220 kV line bays – 8 Nos.

4.8.2 He further mentioned that connectivity of about 2500 MW at 220 kV level have already been granted at Bidar PS with the above under implementation transmission system. Further, CTUIL has received additional connectivity applications for 600 MW seeking connectivity at Bidar PS. With this, the total connectivity quantum granted / under process at Bidar PS shall become about 3100 MW. However, Bidar PS is being implemented with 3x1500 MVA, 765/400 kV and 5x500 MVA, 400/220 kV ICTs. Therefore, grant of connectivity for additional 600 MW shall require augmentation of 1x1500 MVA, 765/400 kV ICT (4th) and 3x500 MVA, 400/220 kV ICTs (6th - 8th) at Bidar PS to enable evacuation of power and satisfy N-1 criteria.

4.8.3 After deliberations, NCT approved the transmission scheme “Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS” under TBCB route with implementation time frame progressively from 24 months to 30.06.2027 and estimated cost of ₹ 288 Cr.

4.8.3.1 Summary of the scheme is given below:

| SI No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (₹Cr) | Remarks |
|--------|--|----------------------|---|
| 1. | Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS Tentative implementation timeframe: progressively from 24 months to 30.06.2027 | ₹ 288 Cr | Approved Under TBCB route with RECPDCL as BPC |

4.8.3.2 Detailed scope of the scheme is given below:

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| Sl. No. | Scope of the Transmission Scheme | Capacity /km | Schedule | Est. Cost (crs.) |
|----------------|--|--|-----------------|-------------------------|
| 1 | Augmentation of transformation capacity of 1x1500 MVA (4 th), 765/400 kV ICT at Bidar PS | <ul style="list-style-type: none"> • 1x1500 MVA, 765/400 kV ICT • 765 kV ICT bay – 1 No. • 400 kV ICT bay – 1 No. | 24 months | 276 |
| 2 | Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6 th – 8 th) at Bidar PS | <ul style="list-style-type: none"> • 3x500 MVA, 400/220 kV ICTs • 400 kV ICT bay – 3 Nos. • 220 kV ICT bay – 3 Nos. | 24 months | |
| 3 | 1 no. of 220 kV line bay at Bidar PS for termination of dedicated transmission lines of M/s Quest Hybren Pvt. Ltd. | <ul style="list-style-type: none"> • 220 kV line bay – 1 No. | 30.06.27 | 12 |
| | 1 no. of 220 kV line bay at Bidar PS for termination of dedicated transmission lines of M/s Pulse Hybren Pvt. Ltd. | <ul style="list-style-type: none"> • 220 kV line bay – 1 No. | 31.05.27 | |
| | Total Cost | | | 288 |

Note :

- i. POWERGRID shall provide space for implementation of above works at Bidar PS.

4.9 Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised

4.9.1 Representative of CTUIL stated that the additional FOTE scheme for AGC locations Loktak and Bongaigaon was deliberated in 25th NETeST meeting held on 25.05.2023 wherein the members agreed for the same. This scheme was thereafter discussed and reviewed in 24th TCC & NERPC meeting and approved in 16th NCT meeting. He further mentioned that this revised scheme was put up for NERPC review in the 26th TCC and NERPC meeting held on 04.07.2024 and 05.07.2024 respectively wherein NERPC forum approved the scheme.

4.9.2 After deliberations, NCT approved the transmission Scheme “Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised” under RTM mode:

4.9.2.1 Summary of the scheme is given below:

| SI No. | Name of the scheme and tentative implementation timeframe | Estimated Cost | Remarks |
|--------|---|----------------|--|
| 1. | Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised Tentative implementation timeframe: 6 months from the date of allocation | ₹ 90 Lakh | Approved Under RTM route through POWERGRID |

4.9.2.2 Detailed scope of the scheme is given below:

| S.No | Scope of the Transmission Scheme | | | |
|------|---|------------|--|--|
| 1. | Requirement of three Nos. STM-16 FOTE at AGC locations of North Eastern Region for redundancy | | | |
| | SI No. | Name | Required FOTE as per input provided by POWERGRID/ISGS (Qty in No.) | Remark |
| | 1 | Loktak | 0 | Already approved in 16 th NCT |
| | 2 | Bongaigaon | 0 | Already approved in 16 th NCT |
| | 3 | Kopili | 0 | NERLDC suggested additional stations for AGC in 4 th CPM, already available |
| | 4 | Khandong | 0 | |
| | 5 | Kathalguri | 0 | |

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| | | | | |
|--|--|--------------------------|-----------|---|
| | 6 | Kopili Stage-2 | 0 | |
| | 7 | Doyang HEP (NTPC+NEEPCO) | 1 | |
| | 8 | Kameng (NEEPCO) | 0 | NERLDC suggested additional stations for AGC in 26 th NE TeST, already available |
| | 9 | Pallatana (OTPC) | 1 | NERLDC suggested additional stations for AGC in 26 th NE TeST |
| | 10 | Lower Subansiri (NHPC) | 1 | NERLDC suggested additional stations for AGC in 26 th NE TeST, Upcoming Plant |
| | Total FOTE quantity required in this scheme | | 03 | |

4.10 Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi

4.10.1 Representative of CTUIL stated that Grid-India has request to CTU for planning of fiber optic connectivity to the new building of National Load Dispatch Centre (NLDC) located at “Grand Rue” Ayur Vigyan Nagar, August Kranti Marg, New Delhi.

4.10.2 After deliberations, NCT approved the transmission Scheme “Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi” under RTM mode:

4.10.2.1 Summary of the scheme is given below:

| SI No. | Name of the scheme and tentative implementation timeframe | Estimated Cost (in Cr.) | Remarks |
|--------|--|-------------------------|--|
| 1. | Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi Tentative implementation timeframe: 12 months from the date of allocation | ₹ 7.2 Cr | Approved Under RTM route through POWERGRID |

4.10.2.2 Detailed scope of the scheme is given below:

| S.No | Scope of the Transmission Scheme |
|------|--|
| 1. | Supply and installation of (1x48F) Underground Optical Fibre for 35 kms including RoW charges, 3 no. of FOTE and 2 no. of 48V DCPS |

5 Status of the bids under process by BPCs

5.1.1 Both the Bid Process Coordinators [BPCs], i.e, PFCCL and RECPDCL made presentations on under bidding Inter State Transmission Schemes. Salient points of the discussion were as under:

5.1.2 Representative from PFCCL informed that total 27 schemes are under bidding process. Detailed summary of the schemes is as under:

| S.N. | Region(s) | No. of projects under bidding |
|--------------|--------------------------------------|---|
| 1. | SPV transferred | 2 |
| 2. | LoI issued and SPV to be transferred | 2 (SPV transfer expected by August, 2024) |
| 3. | e-RA completed | 3 |
| 4. | Bids Under Evaluation | 4 |
| 5. | RfP issued and bids to be submitted | 8 |
| 6. | RfP to be issued | 7 (20 th NCT & 21 th NCT) |
| 7. | RfP bid submission on hold | 01 |
| Total | | 27 |

5.1.3 Representative from RECPDCL informed that total 17 schemes are under bidding process. Detailed summary of the schemes is as under:

| S.N. | Region(s) | Nos. of projects under bidding |
|--------------|--------------------------------|--------------------------------|
| 1 | Bidding Concluded | 4 |
| 2 | Bids Opened & Under Evaluation | 1 |
| 3 | Bids Under Evaluation | 9 |
| 4 | RfP to be issued | 3 |
| Total | | 17 |

5.1.4 Representative of CTUIL stated that in Rajasthan Ph-IV Part-2 (5.5 GW) scheme, it was agreed in the NCT meeting that all the packages Part A, B, C, D, E, F, H1, H2 to be aligned and awarded at same time. However, three packages Part F, H1 and H2 are not yet ready. In a meeting in MoP, it was directed to award remaining five packages (Part A, B, C, D, E, F,). This may be noted by NCT.

5.1.5 It was further mentioned that Part C & Part-E were transferred to the successful bidder on 19.08.2024 (REC), Part-A was transferred to the successful bidder on 21.08.2024 (REC) whereas Part B and Part D were transferred to the successful bidder on 22.08.2024 (PFC). CERC may raise the issue of 1-2 days mismatch in transfer of these schemes at the time of granting transmission license as the same issue had been highlighted earlier in two cases.

5.1.6 CTU stated that before SPV transfer they had informed both BPCs that all the packages (A to E) should have TSA signing/SPV transfer on same date as such SPV transfer on different dates for 5 packages may create natural timeline mismatch causing non-utilisation of transmission system due to its inter-dependency. This will also result in question of payment of transmission charges for period of mismatch. For

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example, it was informed that for Part-E package (765 kV Sirohi-Rishabdeo D/c line) [19/08/26], there is a requirement of Substation in Part-B (765/400 kV kV Sirohi S/s) [22/08/26] without which line under Part-E (765 kV Sirohi-Rishabdeo D/c line) can't be terminated & utilised.

- 5.1.7 CEA indicated that as per TSA condition, RLDC at the stage of commissioning, may take care of such minor mismatch as per the stipulated conditions.
- 5.1.8 After deliberations, NCT decided that RECPDCL may align its packages (Part-A,C & E) to Part-B &D package i.e. 22/08/24.

Summary of the deliberations of the 22nd meeting of NCT held on 23rd August, 2024**I. Modification in the earlier approved/notified transmission schemes:****1. Modification in Transmission system for evacuation of power from Luhri Stage-I HEP**

NCT approved the modifications in transmission scheme “Transmission system for evacuation of power from Luhri Stage-I HEP” as follows:

| Sl. No. | Approved Scope of Transmission Scheme (As per 20th NCT) | Modified Transmission Scheme |
|----------------|--|---|
| 1 | <p>Establishment of 7x105 MVA, 400/220 kV Pooling Station near Koldam (GIS) along with 125 MVAR (420 kV) Bus Reactor (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 315MVA, 400/220 kV ICT: 2 Nos. (7x105 MVA including 1 spare ICT) 400 kV ICT bays: 2 Nos. 220 kV ICT bays: 2 Nos. 400 kV, 125 MVAR Bus Reactor – 1 No. 400 kV Bus Reactor bay- 1 Nos. 400 kV Line Bays- 2 Nos. <p>Future provisions: Space for</p> <ul style="list-style-type: none"> 400/220 kV ICTs (315 MVA with single phase units) along with associated bays: 3 Nos. 400 kV line bays along with switchable line reactor: 3 Nos. 220 kV line bays: 10 Nos. 220 kV bus sectionalizer: 1 set | <p>Establishment of 7x105 MVA, 400/220 kV Pooling Station near Bilaspur (GIS) along with 125 MVAR (420 kV) Bus Reactor (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 315MVA, 400/220 kV ICT: 2 Nos. (7x105 MVA including 1 spare ICT) 400 kV ICT bays: 2 Nos. 220 kV ICT bays: 2 Nos. 400 kV, 125 MVAR Bus Reactor – 1 No. 400 kV Bus Reactor bay- 1 Nos. 400 kV Line Bays- 2 Nos. <p>Future provisions: Space for</p> <ul style="list-style-type: none"> 400/220 kV ICTs (315 MVA with single phase units) along with associated bays: 3 Nos. 400 kV line bays along with switchable line reactor: 3 Nos. 220 kV line bays: 8 Nos. 220 kV bus sectionalizer: 1 set |
| 2 | <p>Pooling Station near Koldam (GIS)– Koldam (NTPC) 400 kV D/C line (Triple snowbird) (only one circuit is to be terminated at Koldam(NTPC) while second circuit would be connected to bypassed circuit of Koldam(NTPC) – Ropar/Ludhiana 400 kV D/C line) – 7 km</p> | <p>LILO of one ckt of 400 kV Koldam (NTPC) – Ropar (Triple snowbird) D/c line at Pooling Station near Bilaspur (GIS)– 1 km</p> |
| 3 | <p>1 no. of 400 kV line bay at Koldam S/s for termination of Pooling Station near Koldam (GIS)– Koldam(NTPC) 400 kV line along with 125 MVAR (420 kV) Bus Reactor at Koldam(NTPC) S/s (1-Ph units along with one spare unit)</p> | <p>1x125 MVAR (420 kV) Bus Reactor at Koldam(NTPC) S/s (1-Ph units along with one spare unit)</p> <ul style="list-style-type: none"> 125 MVAR, 420 kV Bus Reactor – 1 no. 400 kV Bus Reactor bay – 1 no. |

| Sl. No. | Approved Scope of Transmission Scheme (As per 20 th NCT) | Modified Transmission Scheme |
|---------|--|---|
| | <ul style="list-style-type: none"> 400 kV Line Bay- 1 no. 400 kV, 125 MVAR Bus Reactor# - 1 no. (to be terminated in existing line bay at Koldam(NTPC), which would be available due to bypassing of one circuit of Koldam – Ropar/Ludhiana 400 kV D/c line at Koldam(NTPC) S/s) | |
| 4 | <p>Bypassing one ckt of Koldam(NTPC) – Ropar/Ludhiana 400 kV D/C line (Triple snowbird) at Koldam(NTPC) and connecting it with one of the circuit of</p> <p>Pooling Station near Koldam (GIS)– Koldam(NTPC) 400 kV D/c line (Triple snowbird), thus forming Pooling Station near Koldam – Ropar/ Ludhiana one line (Triple snowbird)</p> | -To be Deleted - |
| | Implementation Time Frame: August, 2026 | Implementation Time Frame: May, 2027 |
| | Estimated Cost : Rs 305 Cr | Estimated Cost : Rs 242 Cr |

2. Change in Implementation time-frame of Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)

NCT noted the change in implementation time frame of Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW) from defined schedule (July'26) to 30 months from SPV transfer.

3. Modification in timeframe of one of the elements in the scope of “Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)”

NCT approved the modifications in timeframe of one of elements in the scope of “Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3):

| Scope | Approved Timeline of Transmission Scheme (As per 20 th NCT) | Revised timeline |
|---|--|------------------|
| Creation of 400 kV switchyard along with Installation of 2x1500 | March-2029 | 18 Months |

| | | |
|--|--|--|
| MVA, 765/400 kV ICTs at Vataman (AIS) with 2x125 MVA _r (420 kV) Bus Reactors <ul style="list-style-type: none"> • 765/400 kV, 1500 MVA, ICTs – 2 Nos. (7x500MVA incl. spare unit) • 765 kV ICT bays – 2 nos. • 400 kV ICT bays – 2 nos. • 2x125 MVAR, 420 kV Bus Reactor – 1 no. • 400 kV Bus Reactor bay – 2 no. | | |
|--|--|--|

4. Time extension for Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT

NCT approved the Time extension for Communication Scheme “Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos” approved in 14th NCT from 12 months from the date of allocation to **18 months** from the date of allocation i.e. 07.07.23.

II. ISTS Transmission schemes, costing between Rs 100 Crore to Rs 500 Crore, approved by NCT:

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

| Sl. No. | Name of Transmission Scheme | Implementation Mode | Implementation timeframe | Estimated Cost (₹ Cr) |
|---------|--|-----------------------|--|-----------------------|
| 1. | Eastern Region Expansion Scheme-43 (ERES-43) | RTM through POWERGRID | 18 months (15 months on best effort basis) | 310.28 |
| 2. | Additional Transmission System Proposed for redundant power supply to Dholera area | RTM through POWERGRID | 18 months matching with Creation of 400 kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) S/s being implemented under “Transmission system for offshore wind zone phase -1 (500 MW VGF off | 110 |

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| | | | | |
|--|--|--|---|--|
| | | | coast of Gujarat for subzone B3)” scheme. | |
|--|--|--|---|--|

The broad scope of above schemes are given below

| Sl. No. | Name of Scheme & Tentative implementation timeframe | Broad Scope |
|---------|---|--|
| 1. | Eastern Region Expansion Scheme-43 (ERES-43) Implementation timeframe: 18 Months (15 months on best effort basis) | i. Reconductoring of Kahalgaon (NTPC) – Farakka (NTPC) 400 kV D/c (Twin Moose) line with Twin HTLS conductor (with ampacity of single HTLS as 1228A) ii. Reconductoring of Talcher (NTPC) – Meramundali (OPTCL) 400 kV D/c (Twin Moose) line (one circuit via Angul and bypassed at Angul) with Twin HTLS conductor (with ampacity of single HTLS as 1228A) iii. Upgradation of associated 400 kV bay equipment at Kahalgaon (NTPC) iv. Upgradation of associated 400 kV bay equipment at Farakka (NTPC) v. Upgradation of associated 400 kV bay equipment at Talcher (NTPC) vi. Upgradation of associated 400 kV bay equipment at Meramundali (OPTCL). (Detailed scope as approved by 22nd NCT and subsequent amendments thereof) |
| 2. | Additional Transmission System Proposed for redundant power supply to Dholera area Implementation timeframe: 18 Months matching with Creation of 400 kV switchyard along with Installation of 2x1500 MVA, 765/400 kV ICTs at Vataman (AIS) S/s being implemented under “Transmission system for offshore wind zone phase -1 (500 MW VGF off coast of Gujarat for subzone B3)” scheme. | i. Creation of 220 kV switchyard along with Installation of 2x500 MVA, 400/220 kV ICTs at Vataman (AIS) ii. 2 Nos. 220 kV line bays for Vataman – Dholera-2(GETCO) 220 kV D/c line (Detailed scope as approved by 22nd NCT and subsequent amendments thereof) |

2. The transmission schemes approved by NCT under TBCB route is given below:

| Sl. No. | Name of Transmission | Implementati on Mode | Implementation timeframe | BPC | Estimated Cost (₹ Crs) |
|---------|----------------------|----------------------|--------------------------|-----|------------------------|
|---------|----------------------|----------------------|--------------------------|-----|------------------------|

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| | Scheme | | | | |
|----|--|------|--|---------|-----|
| 1. | Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS | TBCB | progressively from 24 months to 30.06.2027 | RECPDCL | 288 |

The broad scope of above schemes is given below

| Sl. No. | Name of Scheme & Tentative implementation timeframe | Broad Scope | Bid Process Coordinator |
|---------|---|--|-------------------------|
| 1. | Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS Implementation timeframe: progressively from 24 months to 30.06.2027 | <ol style="list-style-type: none"> Augmentation of transformation capacity of 1x1500 MVA (4th), 765/400 kV ICT at Bidar PS Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th – 8th) at Bidar PS (a) 1 no. of 220 kV line bay at Bidar PS for termination of dedicated transmission lines of M/s Quest Hybren Pvt. Ltd (b) 1 no. of 220 kV line bay at Bidar PS for termination of dedicated transmission lines of M/s Pulse Hybren Pvt. Ltd <p>(Detailed scope as approved by 22nd NCT and subsequent amendments thereof)</p> | RECPDCL |

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

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

| Sl. No. | Name of Transmission Scheme | Implementation Mode | Tentative Implementation timeframe | BPC | Estimated Cost (₹ Crs) |
|---------|---|---------------------|------------------------------------|-------|------------------------|
| 1. | Transmission system for supply of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat | TBCB | 36 Months | PFCCL | 2817 |

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| | | | | | |
|----|---|------|-----------|----------|------|
| | under Phase-I: Part B1 scheme (3 GW at Navinal S/s)” | | | | |
| 2. | Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW) | TBCB | 24 Months | PFCCCL | 4679 |
| 3. | Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area) | TBCB | 30 Months | RECPDC L | 2617 |

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. | Transmission system for supply of power to Green Hydrogen/Ammonia manufacturing potential in Mundra area of Gujarat under Phase-I: Part B1 scheme (3 GW at Navinal S/s)” Implementation timeframe: 36 Months from the date of allocation | <p>i. Augmentation of Transformation capacity at 765/400 kV Navinal(Mundra) S/s (GIS) by 2x1500 MVA ICTs along with 2x330 MVAR, 765 kV & 2x125MVar, 420 kV bus reactors on Bus Section-II and 1x125MVar, 420 kV bus reactor on Bus Section-I. This will involve creation of 765 kV & 400 kV Bus Sections 2 through sectionalization arrangement. The 400 kV and 765 kV Sectionaliser shall be normally closed.</p> <p>ii. Navinal(Mundra) (GIS) – Bhuj 765 kV D/c line</p> <p>iii. 765 kV line bays at each end of Navinal(Mundra) (GIS) – Bhuj 765 kV D/c line</p> <p>iv. ±300MVar STATCOM along with 2x125MVar MSC & 1x125MVar MSR at Navinal(Mundra) (GIS) 400 kV Bus section-I</p> <p>v. ±300MVar STATCOM along with 2x125MVar MSC & 1x125MVar MSR at Navinal(Mundra) (GIS) 400 kV Bus section-II</p> <p>(Detailed scope as approved by 22nd</p> | PFCCCL |

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| | | NCT and subsequent amendments thereof) | |
|----|--|--|---------|
| 2. | <p>Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW)</p> <p>Implementation timeframe: 24 months from the date of allocation</p> | <p>i. Establishment of 4x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Ananthapuram-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAR (765 kV) bus reactors at Ananthapuram-II PS with provision of two (2) sections of 4500 MVA each at 400 kV level</p> <p>ii. Ananthapuram-II – Davangere 765 kV D/c line (about 150km) with 240 MVAR SLR (convertible) at Ananthapuram-II end on both circuits</p> <p>iii. Ananthapuram-II – Cuddapah 765 kV D/c line (about 200km) with 330 MVAR SLR (convertible) at Ananthapuram-II end on both circuits</p> <p>iv. +300 MVAR STATCOM at Ananthapuram-II PS along with 2x125 MVAR MSR</p> <p>(Detailed scope as approved by 22nd NCT and subsequent amendments thereof)</p> | PFCCL |
| 3. | <p>Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area)</p> <p>Implementation timeframe: 30 months from date of allocation</p> | <p>i. Establishment of 3x1500 MVA, 765/400 kV Tuticorin (GH) S/s with 1x240 MVAR bus Reactor</p> <p>ii. Tuticorin PS – Tuticorin (GH) 765 kV D/c line</p> <p>iii. Upgradation of Tuticorin PS - Dharmapuri (Salem New) 765 kV D/c line (presently charged at 400 kV level) at its rated 765 kV voltage level with 1x330 MVAR switchable Line Reactor on both ends of each circuit</p> <p>iv. Transmission line for change of termination from 400 kV switchyard to 765 kV switchyard for Tuticorin PS – Dharmapuri (Salem New) 765 kV D/c line at Tuticorin PS & Dharmapuri (Salem New)</p> <p>v. Upgradation of Tuticorin PS to its</p> | RECPDCL |

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|--|--|--|--|
| | | <p>rated voltage of 765 kV level alongwith 3x1500 MVA, 765/400 kV ICTs and 1x330 MVar, 765 kV bus reactors</p> <p>vi. Upgradation of Dharmapuri (Salem New) to its rated voltage of 765 kV level alongwith 3x1500 MVA, 765/400 kV ICTs and 1x330 MVar, 765 kV bus reactor</p> <p>vii. 400 kV line reactors on Tuticorin PS - Dharmapuri (Salem New) 765 kV D/c line shall be utilized as bus reactors at respective 400 kV substations based on availability of bays.</p> <p>viii. Upgradation of Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c lines (presently charged at 400 kV) to its rated voltage at 765 kV with 1x330 MVar switchable Line Reactor on Dharmapuri (Salem New) end of each circuit</p> <p>ix. Transmission line for change of termination from 400 kV switchyard to 765 kV switchyard for Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c line at Dharmapuri (Salem New) & Madhugiri</p> <p>x. 400 kV line reactors on Dharmapuri (Salem New) – Madhugiri 765 kV 2xS/c lines shall be utilized as bus reactors at respective 400 kV substations based on availability of bays.</p> <p>(Detailed scope as approved by 22nd NCT and subsequent amendments thereof)</p> | |
|--|--|--|--|

IV. ISTS communication schemes approved by NCT:

| Sl. No. | Name of Transmission Scheme | Implemen tation Mode | Tentative Implementat ion | Implementing Agency | Estimated Cost (Rs. Crs) |
|---------|-----------------------------|----------------------|---------------------------|---------------------|--------------------------|
|---------|-----------------------------|----------------------|---------------------------|---------------------|--------------------------|

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| | | | timeframe | | |
|----|---|-----|---------------------------------------|-----------|------|
| 1. | Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised | RTM | 6 months from the date of allocation | POWERGRID | 0.90 |
| 2. | Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi | RTM | 12 months from the date of allocation | POWERGRID | 7.2 |

(Detailed scope as approved by 22nd NCT and subsequent amendments thereof)

Annexure-I**List of participants of the 22nd meeting of NCT****CEA:**

1. Sh. Ghanshyam Prasad, Chairperson, CEA & Chairman, NCT
2. Sh. Ajay Talegaonkar, Member (E&C)
3. Sh. A.K. Rajput, Member (Power Systems)
4. Sh. Ishan Sharan, Chief Engineer (PSPA-I)
5. Ms. Priyam Srivastava, Deputy Director (PCD)
6. Sh. Pranay Garg, Deputy Director (PSPA-II)
7. Sh. Manish Kumar Verma, Assistant Director (PSPA-II)

MoP:

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

MNRE:

1. Sh. Tarun Singh, Scientist E
2. Sh. Prasad Chaphekar, Deputy Secretary

SECI:

1. Sh. R.K. Agarwal, Consultant

NITI Aayog:

1. Sh. Jawahar Lal, GM (Energy)

CTUIL:

1. Sh. Ashok Pal, Deputy COO
2. Sh. K K Sarkar, Sr GM
3. Sh. Anil Kumar Meena, GM
4. Sh. Kashish Bhambhani, GM
5. Sh. Bhaskar Wagh, DGM
6. Sh. Venkatesh Gorli, Chief Manager
7. Shashank Shekhar, Manager
8. Abhilash Thakur, Asst. Manager

GRID India:

1. Sh. S.R. Narasimhan, CMD
2. Sh. Rajiv Porwal, Director (SO)
3. Sh. Vivek Pandey, Senior GM
4. Sh. Priyam Jain, Chief Manager
5. Sh. Gaurab Dash, Dy. Manager
6. Raj Kishan, Dy. Manager

RECPDCL

1. Sh. T.S.C. Bosh, CEO
2. Sh. Satyaban Sahu, GM (Tech)

PFCCL

1. Sh. Navin Phogat, GM (Tech)
2. Sh. Dharmender, AM

Expert Member

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