



**AGENDA
FOR
221st OCC MEETING**

Date : 27.11.2024

**Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033**

Contents

1. PART-A: CONFIRMATION OF MINUTES	1
1.1. Confirmation of Minutes of 220 th OCC Meeting held on 28 th October 2024 physically at ERPC Secretariat, Kolkata	1
2. PART-B: ITEMS FOR DISCUSSION.....	1
2.1 Utilization and upgradation of STU-owned inter-regional lines at 132 kV and 220 kV level: NLDC	1
2.2 Reconductoring of ISTS lines under Eastern Region Expansion Scheme-44:ERPC.....	1
2.3 Bus split operationalization at NTPC Kahalgaon: ERPC	3
2.4 Proposal for retirement of 02 X 315 MVA ICTs against Kahalgaon Transmission System (KTPS) from Maithon SS: Powergrid ER-II	5
2.5 Proposal for procurement of 50 MVA, 132/66 KV Spare ICT for Gangtok SS: Powergrid ER-II.....	5
2.6 Non-Implementation of SPS at Baripada : ERLDC	5
2.7 No load charging for Rajarhat(PG) to New Town IIC circuit II for R,Y phase from Rajarhat(PG) end upto LA at New Town IIC end: WB SLDC	6
2.8 Modification in the existing S/C LILO arrangement between Siliguri (PG) – NBU – NJP sub-stations: WB SLDC.....	7
2.9 Commissioning of (2x500 MVA+ 2x160 MVA) 400/220/132 KV GIS Sub-Station at Bakhtiyarpur: BSPTCL.....	7
2.10 Update on Patna Islanding scheme: ERPC.....	8
2.11 Provision of construction power supply for FGD and New Nabinagar 3 X 800 MW project from existing commercialized units of Nabinagar (3 X 660 MW): NTPC	8
2.12 Non-reporting of signals of BSPTCL Owned Bays (220kV GIS bays 212 - Goroul-2) at Muzaffarpur: Powergrid ER-I	9
2.13 Review of AUFLS in Eastern region: ERPC	9
2.14 Delay in implementation of load relief under AUFLS by IPCL: WB SLDC	12
2.15 Shutdown proposal of generating units for the month of November'2024-ERPC	12
2.16 Approval for carrying out inspection of 400KV LILO-2 installation of Vedanta Aluminium & Power Ltd, associated with 4X600MW TPP at Jharsuguda(odisha) under Regulation 30 of Central Electrical Authority (Measures Relating to Safety and Electrical Supply), Regulations:Vedanta.....	14
2.17 Utilizing the Asset in the Deployment of the OPGW Network: Powerlinks....	15
2.18 Periodic Testing of power system elements: ERPC.....	17
2.19 Periodic Mock Drill Exercises in areas of generation, transmission and distribution of the power sector: ERPC	19

3. PART-C: ITEMS FOR UPDATE/FOLLOW-UP/INFORMATION	20
3.1. ER Grid performance during October 2024.....	20
3.2. Update on Restoration of 132kV Rangit-Kurseong & 132kV Siliguri-Melli-Rangpo lines: ERLDC	20
3.3. Update on actions taken to prevent repeated tripping of 132 kV Chuzachen-Rangpo D/C: ERPC.....	21
3.4. Update on Restriction of Talcher-Kolar HVDC Bi-pole: ERPC.....	22
3.5. Update on Implementation of AGC in Intra-state generating units: ERLDC .	23
3.6. Regarding Non-Submission of Forecasting Data from States: ERLDC	25
3.7. Non-Submission of FRC data in stipulated timeframe: ERLDC	28
3.8. Mock Black Start:ERLDC.....	29
3.9. Commissioning Status of ADMS: ERLDC	30
3.10. FTC of Station Transformer-3: MPL	31
4. PART-D: OPERATIONAL PLANNING.....	32
4.1. Anticipated power supply position during December-2024.....	32
4.2. Major Thermal Generating Units/Transmission Element outages/shutdown in ER Grid (as on as on 19-11-2024)	32
4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of October -2024.....	35
4.4. UFR operation during the month of October 2024.	37

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 221st OCC MEETING TO BE HELD ON 27.11.2024 (WEDNESDAY) AT 10:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 220th OCC Meeting held on 28th October 2024 physically at ERPC Secretariat, Kolkata

The minutes of 220th Operation Coordination Sub-Committee meeting held on 28.10.2024 was circulated vide letter dated 06.11.2024.

Members may confirm the minutes of 220th OCC meeting.

2. PART-B: ITEMS FOR DISCUSSION

2.1 Utilization and upgradation of STU-owned inter-regional lines at 132 kV and 220 kV level: NLDC

- The inter-regional transmission corridors have played an instrumental role in harnessing the diversity of demand and generation resources to enhance reliability and economy of operation. A list of STU-owned inter-regional transmission links at 132 kV and 220 kV levels, along with their current status and utilization, is attached as Annexure -1. It is seen that several of these inter-regional links remain under-utilized due to commercial, or technical issues. It is important to mention that several of these lines are old and therefore in the absence of desired Renovation and Modernization (R&M), their availability is comparatively lower. The Operations and Maintenance (O&M) of lines becomes difficult as it requires coordination between two STUs that are in different regions. Also, there have been proposals to dismantle some of these lines in the recent past. With the rapidly increasing penetration of VRE sources in Northern, Western and Southern regions and ROW constraints in the construction of new transmission corridors, it is suggested to rejuvenate the existing lines by re-conductoring or by upgrading to higher voltage or utilising the Right-of-Way (ROW) for planning high capacity IR lines.
- Retaining and upgrading these inter-regional lines can provide significant benefits in the following areas:
 - ✓ Addressing the future ROW issue
 - ✓ Voltage and reactive power support
 - ✓ Restoration of supply and provide black-start support
 - ✓ Alignment with future demand and RE growth

Details of STU Owned Inter-Regional Lines at 132 kV & 220 kV Level attached at **Annex B.2.1**

Member may discuss.

2.2 Reconductoring of ISTS lines under Eastern Region Expansion Scheme-44:ERPC

- ❖ Several 220 kV transmission lines and substations were implemented in Indian grid along with cross border lines for importing power from Chukha Hydro Electric Plant in Bhutan. The generating station was commissioned in years 1986-88 and the

transmission system is now more than 35 years old. Considering the age of conductors and increase in conductor snapping incidences, reconductoring of these transmission lines has become necessary.

- ❖ The matter was deliberated in various OCC forums as well as in 52nd TCC meeting of ERPC.
- ❖ In a meeting was convened by CEA under the chairpersonship of Member (Power System) on 27-08-2024, it was decided that matter of reconductoring of cross border lines will be separately taken up with Bhutan.
- ❖ However, reconductoring of ISTS portion of 220 kV corridor viz. Alipurduar (POWERGRID) – Falakata (WBSETCL) – Birpara (POWERGRID) – Binaguri (POWERGRID) – Siliguri (POWERGRID) – Kishanganj (POWERGRID) – Dalkhola (POWERGRID) – Gazole (WBSETCL) – Malda (POWERGRID), may be taken up under ISTS. Further, reconductoring of intra-state LILO portion of Birpara (POWERGRID) – Alipurduar (POWERGRID) 220 kV D/c line at Falakata (WBSETCL) and Dalkhola – Malda 220 kV D/c line at Gazole (WBSETCL) shall be carried out by WBSETCL matching with HTLS conductor of the main ISTS line in the matching timeframe.

Name of the scheme	Implementation timeframe	Implementation mode	Implementing agency	Estimated Cost(Rs. in Cr)
ERES-44	18 months(15 months on best effort basis) from the date of allocation	RTM	Powergrid	385.77

WBSETCL works associated with reconductoring of ISTS lines

- ❖ In the NCT(National Committee on Transmission) meeting dated 23.10.2024 , the following were decided:
 - ✦ WBSETCL shall reductor their following lines sections under intra-state scheme matching with completion of ISTS scheme namely ERES-44:
 - ✓ About 4 km intra-state portion of Alipurduar (POWERGRID) Falakata (WBSETCL) 220 kV Die line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
 - ✓ About 4 km intra-state portion of Birpara (POWERGRID) - Falakata (WBSETCL) 220 kV Die line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
 - ✓ About 2 km intra-state portion of Dalkhola (POWERGRID) - Gazole (WBSETCL) 220 kV Die line at Gazole end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).
 - ✓ About 2km intra-state portion of Gazole (WBSETCL) - Malda (POWERGRID) 220 kV Die line at Gazole end with HTLS conductor of ampacity 1250 A along with

necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).

- ✦ WBSETCL will LILO the Dhalkola - Gazole 220 kV Die line with 1250 A HTLS under their intra-state scheme for establishment of 220 kV level at their existing 132/33kV Raiganj (WBSETCL) S/S.
- ✦ ISTS licensee and WBSETCL shall coordinate for reconductoring of their respective portion of the lines matching with completion schedule of this scheme.
- It is kindly requested that WBSETCL may note the scope of works (as provided in the minutes of NCT) and coordinate with POWERGRID for matching implementation of their works.
- The **progress report** may be shared on **monthly** basis to **CEA, ERPC and CTU**.
- ◆ MOM of NCT meeting dated 23.10.2024 along with CTU letter attached at **Annex-B.2.2**

WBSETCL and Powergrid may respond. Members may discuss.

2.3 Bus split operationalization at NTPC Kahalgaon: ERPC

As decided in 219th OCC Meeting, a committee comprising of members from ERPC and ERLDC visited NTPC Kahalgaon on 17-10-2024 to assess the status of Bus splitting at 400 kV level and way forward for operationalization of 400 KV Bus sectionalizer.

Following works need to be done to complete the installation of ICT 3 & 4:

1. Determination of underground cable conduit path for 400/132 kV ICT-3, 4 and 5 allocated for stage 2 supply.
2. Excavating the existing cable and relaying from Stage-1 132kV to New Stage-2 132 kV switchyard, where ICT 3 & 4 will be connected.
3. Laying of additional 22.8 ckt. km control cable for STs.
4. Jumpering of ICTs in 132kV & 400kV level.
5. Bay equipment testing.
 - NTPC apprised that determination of underground power cables is one of the major challenges to proceed further with laying of cables between two 132kV switchyards. The tentative time to complete the ICT commissioning is **25th May 2025**.
 - Meanwhile in view of increased fault level of NTPC Kahalgaon and to facilitate interim arrangement of standby ISTS connectivity to Godda Thermal Power project of M/s Adani Power (Jharkhand) Ltd. (APJL) with Indian grid, Bus splitting at 400KV Kahalgaon needs to be done on priority.

220th OCC deliberation:

- ERPC and ERLDC jointly outlined the key observations regarding implementation of bus split at NTPC Kahalgaon:
 - ✓ In the existing configuration(with bus sectionalizer closed), the committee advised NTPC to explore possible solutions as suggested. NTPC affirmed that the solutions suggested by committee i.r.o existing voltage difference are being examined.
 - ✓ Old 132 kV cable may be replaced in the PVC conduit or an alternate path may be explored for laying of new 132 kV cable.
 - ✓ Procurement and laying of control cables should be initiated with immediate effect.
 - ✓ Upon completion of all pending interconnection and jumpering works , testing of all bay equipment of ICT 3 & 4 needs to be carried out on priority.

- ✓ Sustained operation of 400 kV system with sectionalizers closed in high fault scenario is detrimental to grid security.

OCC Decision

- OCC advised NTPC to abide by the recommendations of the committee as interim measures .In this regard, NTPC has to submit the study results on opening of bus sectionalizer to ERPC/ERLDC within 15 days.
- The final bus split scheme must be put to service by March 2025.
- NTPC was also advised to submit fortnightly progress report on status update.

In compliance to 220th OCC decision, NTPC has submitted status i.r.o implementation of Committee recommendations as follows:

✓ **Healthiness of Bus CVTs:**

Based on daily monitoring results , secondary side voltages (110VAC) are indicated within acceptable range.

✓ **Constraints on Opening of 400kV Bus section breakers in present condition:**

- Post-opening of both 400kV bus sectionlizer breakers, Kahalgaon generation switchyard will operate as two separate 400kV switchyards with differing voltage and phasor angles [delta] with respect to each other.
- During closing of Station-Unit Tie, inadvertent power flow owing to angular difference between the 400kV sections, may result in equipment safety issues in 11 kV Auxiliary power network.
- For achieving smooth Live changeover between Station bus (derived from grid)and Unit bus as well as safety of the Auxiliary power network, it is necessary to derive Station Supply for stage-II through its own Step-up Switchyard (400kV Bus-3 & 4) so that Unit and Station bus Voltage Vectors are closely coupled together.
- A separate 132 kV station supply has been envisaged for stage-II (3XS00MW) by providing 2 nos. 400/132 kV Inter Bus transformer (ICT-3 & ICT-4) from 400kV Bus-3 & 4 under bus splitting scheme wherein power supply of all the station transformer of stage-II (ST-3,4 &5) are being shifted to new 132 kV switchyard of stage-II.

✓ **Status of Bus Splitting Package:**

- Identification of existing 132kV underground cable routes for Stage-II Station Transformers (ST-3, ST-4, and ST-5) is complete.
- Testing, revival of defective bay equipment, and jumper connection works are ongoing. c. Earthing work for ICT-3, ICT-4, and bay equipment is in progress.
- Required Control cables are being arranged by NTPC through internal resources and by the agency.

Details of status enclosed at **Annex-B.2.3**

NTPC may confirm timeline and feasibility of Bus splitting with current configuration. Member may discuss.

2.4 Proposal for retirement of 02 X 315 MVA ICTs against Kahalgaon Transmission System (KTPS) from Maithon SS: Powergrid ER-II

- Against KTPS system, 02 Nos 315 MVA, 400220 KV ICTs are commissioned at Maithon SS back in year 1991-1992. Subject ICTs continued to be in service till 2016, until vide ERSS-IX, both ICTs proposed for upgradation by 500 MVA ICTs in view of system requirement. During in service condition, both ICTs are subjected to tremendous load flow, and subsequently faced many loading related maintenance/forced maintenance activities.
- This includes major maintenance, like on-site repairing of 315 MVA ICT-1 was also carried out at Maithon SS around 2008-09 and after certain rectification with calculated way, ICT was in service until removed from service due to system augmentation.
- POWERGRID, has maintained both 315 MVA removed ICTs at its best, and even after elapsing 33 Years , both ICTs are tried to be maintained as per specified guidelines available.
- However, as it is imperative to say that, ageing has an effect on in service highly loaded ICTs and both are not different from that aspect. Moreover, recent test reports indicates deteriorating trends for both ICTs and having certain permanent ageing related deformities and can be more detrimental if subjected to Transportation.
- In view of above, and considering ageing related issues, both 315 MVA ICTs are proposed to be retired from books of KTPS w.e.f 01.11.2024. On approval necessary Decap intimation shall be circulated among beneficiaries.

Powergrid ER-II may explain. Members may discuss..

2.5 Proposal for procurement of 50 MVA, 132/66 KV Spare ICT for Gangtok SS: Powergrid ER-II

- At Gangtok SS of ER-II, 02 X 50 MVA, 132/66 KV ICTs are in service for catering the load of capital city of Gangtok and its associated area. In recent past during peak loading period (Nov-Feb), it is observed that each ICTs are almost loaded around 100% and N-1 criteria are not maintained. Apart, from 02 Nos in service ICT's, there is another 50 MVA spare ICT also available as cold spare at Gangtok SS.
- In view of above criticality, CTU has recommended for installation of 3rd 50 MVA ICT at Gangtok. Vide, project ERES-XXX, POWERGRID is presently executing the installation of 3rd ICT at Gangtok. However, as per project schedule, available spare ICT is now being used for installation as 3rd ICT of Gangtok SS and after installation of the subject ICT, no spare will be available further.
- To meet further contingency and CEA spare norms, it is prudent to have atleast 01 No spare ICT at Gangtok SS of same rating (50 MVA).
- In view of above, it is proposed for in-principal approval for procurement of 01 No 50 MVA ICT for Gangtok SS as Regional spare. Necessary cost implication shall be placed on subsequent CCM meeting for further deliberation.

Powergrid ER-II may explain. Members may discuss..

2.6 Non-Implementation of SPS at Baripada : ERLDC

- In 216th OCC meeting dated 29th June 2024 it was decided that a suitable SPS would be required at Baripada to avoid large scale blackouts in Odisha system following the near-miss event in the Odisha System on 29th May 2024 due to a simultaneous outage of 400 kV Jamshedpur-TISCO & 400 kV Lapanga-Meramundali D/C.

➤ Accordingly, ERLDC conducted necessary studies with SLDC Odisha and suggested the required SPS scheme. Subsequently, several meetings took place and SLDC Odisha was advised to expedite SPS implementation at Baripada. However, via letter ref no: GRIDCO/377/2024-SGM(TRADING) dated 11.11.2024 Odisha has expressed their difficulties in implementing the above scheme citing the following reasons (Letter enclosed in **Annexure-B.2.6**)

- Any load restriction is against the policy of the Government of Odisha, especially during peak summer.
- Load restrictions cannot be enforced when there is no overdrawl by the State of Odisha.
- The intra-state transmission network of Odisha has been built to cater to Odisha's own power

However, during SPS design stage in every meeting, ERLDC clarified that SPS will act only when the issue arises due to drawl by Odisha and shared supporting study. The said SPS is a defense scheme, and is required to avoid larger blackout due to cascading effect. Considering the larger reliability aspect of Odisha system as well as concern raised by GRIDCO, members may discuss and take final decisions about implementation of Baripada SPS.

ERLDC may explain.GRIDCO/SLDC Odisha may respond.Members may discuss.

2.7 No load charging for Rajarhat(PG) to New Town IIC circuit II for R,Y phase from Rajarhat(PG) end upto LA at New Town IIC end: WB SLDC

➤ This matter was already discussed in 221st OCC Outage Coordination meeting on 22/11/24. Necessity for no load charging of Rajarhat(PG)-New Town II C circuit II (for R,Y phase only) from Rajarhat(PG) end only upto LA of New Town IIC already explained in the said meeting. This said circuit has been out since 10/07/24 for the b-phase cable fault.

➤ The faulty b phase cable already is isolated at both ends. As, the repair of the b phase cable involves kits and spares(particularly for the jointing portion of two different sized cables) from abroad, which is time consuming, so to keep the other two phase UG cables healthy, it's extremely necessary to keep those in no load charging condition.

➤ Key Focus Points of the Proposal are:

1. It is extremely needed to charge the healthy 2 phase cables to avoid damage, which is experienced in many cases by almost every TRANSCO of the country.

2. These are 220 KV UG cables with 1200 Amp capacity, which are not only extremely expensive, but the kit and other spares required at the jointing portion of two different sized cables(background already explained in the said meeting) of each phase are imported and need a huge time to bring those. Hence in case of any damage of R,Y phase healthy cables, normalisation of circuit II will be uncertain totally.

3. Power Grid already has conveyed their consent for charging R,Y phase from Rajarhat (PG) end for Rajarhat(PG)-New Town AAIIC circuit II after doing necessary protection related settings for the circuit at PG end.

☐ **Hence in view of above, the said no load charging may please be allowed within shortest possible time to reduce any possibility of damage of R, Y phase cables in respect of Rajarhat(PG)-New Town AAIIC circuit II.**

WB SLDC may explain and Powergrid ER-II may respond.Members may discuss.

2.8 Modification in the existing S/C LILO arrangement between Siliguri (PG) – NBU – NJP sub-stations: WB SLDC

- **Proposal:** In view of the congestion faced in 132 kV Siliguri (PG)- NBU single circuit since more than a year, it is desired to change the present S/C LILO arrangement between Siliguri (PG) – NBU – NJP sub-stations. Present arrangement is proposed to be changed to Siliguri (PG) – NBU D/C, sacrificing Siliguri (PG)-NJP circuit and NBU-NJP circuit.
- **Difficulties faced with present system:** Due to extreme uneven load sharing between Siliguri (PG) to NBU and Siliguri (PG) to NJP to NBU with a backdrop of high load rise in NBU, Ujanu, TCF etc buses, very often we face a load more than 80 MW in the single circuit between Siliguri (PG) to NBU segment. With single panther conductor, this loading is extremely high and alarming. To combat real time challenges, we are compelled to shift the load of TCF phases to Islampur sources, which triggers low voltage problem for TCF phase I,II,III. Two important traction points Rangapani (TCF 1 source), Gunjaria (TCF 3 source) are facing huge low voltage problem after this shifting.

This problem aggravates much more in dry seasons with high load condition, when hydel push to NBU from RHP reduces to a significant extent.

□ **Benefit of the scheme:**

1. Load sharing between Siliguri (PG)-NBU circuits will be more even, than present system, thereby reducing the congestion.
2. Underutilised ICTs at Siliguri (PG) sub-station will be loaded little more.
3. More step down from NJP 220/132 KV ICTs expected than its present under-utilised status.
4. At least 2 stages of TCF (May be all three stages even) can be put with NBU/NJP sources to ensure proper voltage at three stages.

To explain the scheme, a SLD is attached herewith. (**Annex B.2.8**)

WB SLDC may explain. Members may discuss.

2.9 Commissioning of (2x500 MVA+ 2x160 MVA) 400/220/132 KV GIS Sub-Station at Bakhtiyarpur: BSPTCL

- In light of minutes of meeting for the 18th Standing Committee Meeting on Power System Planning in Eastern Region held on 13.06.2016 at Kolkata, approval for establishment of 400 KV GIS Substation at Bakhtiyarpur along with down-linking 220 KV & 132 KV transmission line has been accorded.
- The scope of work constitute the following:
 - a) Establishment of (2x500 MVA +2x160 MVA) 400/220/132 kV GIS S/S at Bakhtiyarpur
 - b) LILO of both circuits of 400 kV Barb- Patna (PG) line-1 (ckt-1 & 2) at Bakhtiyarpur
 - c) Bakhtiyarpur New) - Sheikhpura (New) 220 kV D/C line.
 - d) Bakhtiyarpur New) - Hathidah (New) 220 kV D/C line.
 - e) Bakhtiyarpur (New) - Fatuha (BSPTCL) 220 kV D/C line.
 - f) Bakhtiyarpur (New) - Harnaut (BSPTCL) 132 kV D/C line
 - g) Bakhtiyarpur (New) - Baripahari (BSPTCL) 132 kV D/C line.
- ❖ The work for construction of associated 132 KV, 220 KV & 400 KV transmission lines has been completed and are ready for charging.
- ❖ The work for construction of GIS Bakhtiyarpur is on the verge of completion and pre-commissioning.

- ❖ GIS testing is under progress. HV test of 400 KV GIS is under progress and likely to be completed by 30 November 2024.
- ❖ Relay testing of all voltage level viz. 400 KV, 220 KV & 132 KV has been completed.
- ❖ The GIS Bakhtiyarpur is to be energized with LILO of 400 KV Barh -- Patna (PG) line-1 ie. ckt-1 & ckt-2. LILO portion of 400 KV line has been completed and only jumpering at LILO tower is balance.
- Further, PGCIL vide their letter no. ER-1/PT/AM/BSPTCL/3186, dated 24.02.2021 has informed that line-1 (ckt-1 & 2) of 400 KV Barh -- Patna (PG) have earthwire in both the circuits.. Hence, establishment of communication and protection system through the proposed LILO of Barh - Patna (PG) line-1 (ckt-1 & 2) at GIS Bakhtiyarpur may be done by the following methodology:
 - a) BSPTCL may arrange to shift the existing 02 nos. of Analog PLCC Panels (ABB ETL-600) & 02 nos. panel housing DTPC equipments (Valiant make) installed at Barb (NTPC) for Patna - Barh ckt-1 & 2 i.r.o Protection channel 1 & 2 respectively.
 - b) The 02 nos. Analog PLCC Panels (ABB ETL-600) shifted from NTPC (Barh) may be installed & commissioned at Bakhtiyarpur for upcoming 400 KV Bakhtiyarpur -- Patna ckt-I & 2.
 - c) The 02 nos. panels housing DTPC equipments (Valiant make) shifted from NTPC (Barh) may be shifted and handed over to PGCIL at 400 KV Patna S/S.
- Owing to shifting of communication equipment mentioned above, Shutdown will be required at PGCIL (Patna) & NTPC (Barh) end.
- During the shutdown period, jumpering at LILO tower and modification in Relay settings in existing CRP at PGCIL (Patna) & NTPC (Barh) end will be done simultaneously.
- The tentative date of commissioning of GIS Bakhtiyarpur is scheduled by the end of December-2024.
- ✓ As such, Shutdown will be required tentatively w.e.f **15" December 2024**. Details enclosed at **Annex-B.2.9**

2.10 Update on Patna Islanding scheme: ERPC

- It was decided that Patna islanding scheme will be formed with Units of NPGCL along with loads of Patna city.
- As per latest status, M/S Solvinia had submitted report on study of islanding scheme dated 08th May 2024. Thereafter based on comments received from ERLDC, replies were submitted by M/S Solvinia. NTPC had communicated the report to all concerned including SLDC Bihar.
- Some further tests needed could not be carried out due to non-receipt of relevant data from Bihar.

NTPC and SLDC Bihar may update the present status along with future action plan.

2.11 Provision of construction power supply for FGD and New Nabinagar 3 X 800 MW project from existing commercialized units of Nabinagar (3 X 660 MW): NTPC

As per deliberation of **52nd TCC**:

NTPC updated that matter has already been taken up with Bihar & Bihar has agreed with the proposal for drawl of construction power from the existing 11 kV switchgear for FGD and New Nabinagar (3 X 800 MW) project. Accordingly, SBPDCL will install meter for billing purposes.

TCC Decision

TCC advised both NTPC & SBPDCL to settle the issues bilaterally and shall submit the final metering arrangement at Nabingar to ERPC/ERLDC.

- In line with decision of 52nd TCC, NTPC and Bihar had to jointly submit final metering arrangement for construction power supply to ERPC / ERLDC.
- Prior to 52nd TCC one meeting was held between NTPC and SBPDCL for taking decision in the matter. In the meeting both parties had agreed for the arrangement.
- As the contract for new 3 X 800 MW installation has been awarded, hence early finalization of metering arrangement is required. NTPC has submitted the drawing and line details alongwith application and associated challans to SBPDCL.
- Installation of SEM meter for adding the power to ex-bus export of NSTPS is also required.

The decision and execution in above matter requires urgent attention.

NTPC may explain and Bihar may update. Members may discuss.

2.12 Non-reporting of signals of BSPTCL Owned Bays (220kV GIS bays 212 -Goroul-2) at Muzaffarpur: Powergrid ER-I

- Faulty BCU of 220kV Goroul-2 GIS Bay (212) at Muzaffarpur has been replaced, but signal configuration is still pending. Due to the above, remote monitoring is affected i.r.o. Muzaffarpur Sub-station and we have to arrange local monitoring for the same.
- The issue was already discussed in 209th & 212th OCC for Goroul & Amnour Bays, out of which Amnour has been attended but for Goroul Bays the problem is still persisting and thus needs deliberation in this OCC for time bound resolution.

Powergrid ER-I may explain. Bihar may update on further course of action.

2.13 Review of AUFLS in Eastern region: ERPC

- ◆ A Task Force was constituted by NPC vide letter dated 25.08.2023 on Implementation of AUFLS and df/dt scheme under the chairmanship of Member Secretary, SRPC and comprising members from NPC, RPCs and Grid-India.
- ◆ The Task force after convening meeting on 11.09.2023 submitted its report to NPC in 14th NPC meeting on 05.02.2024, wherein certain recommendations were made.
- ◆ Accordingly, as per decision of 214th OCC meeting, a special meeting was convened on **10.07.2024** to deliberate on successful implementation of Automatic Under Frequency Load Shedding (AUFLS) in Eastern region wherein following course of action was delineated to all constituent ER states.
- ◆ **Action points:**
 - All SLDCs were instructed to shift the load quantum from Stages –III & IV to stage-I & II respectively as an interim measure till new feeders for additional load relief gets identified by individual state DISCOMs.

This must be implemented at the earliest with necessary changes in frequency settings of the existing UFRs and the same shall be reviewed in upcoming OCC meeting.

- All SLDCs were advised to share the identified feeders list for revised load relief quantum within a month. The status shall be reviewed in monthly OCC meetings.
- Curtailment of critical loads should be avoided. However, in stage-III and stage-IV, as it operates only in severe threat to grid stability, industrial loads may also be considered. Accordingly DVC and IPCL (having dominant industrial consumers) were urged to identify industrial feeders for load relief in stage-III and stage-IV.
- All SLDCs were urged to expedite and ensure SCADA visibility of existing as well as newly identified feeders under AUFLS for effective supervision of load relief quantum.
- ◆ Based on submission by DVC, revised load relief quantum as follows:

(Figs in MW)

Constituent	Stage-1	Stage-2	Stage-3	Stage-4	Total
Bihar	315	379	442	442	1577
Jharkhand	87	105	122	122	437
DVC	172	207	241	241	861
Odisha	306	367	428	428	1530
West Bengal	497	597	696	696	2486
Sikkim	5	6	7	7	25
Total	1383	1660	1937	1937	6916

Constituent wise	Annual Consumption	Consumption factor	Demand met	Peak demand factor	Demand contribution
Bihar	40952	0.220	7578	0.236	0.228
Jharkhand	12391	0.067	1923	0.060	0.063
DVC	26214	0.141	3476	0.108	0.125
Odisha	41142	0.221	7104	0.221	0.221
West Bengal	65009	0.349	11868	0.370	0.359
Sikkim	526	0.003	137	0.004	0.004
Total Consumption	186234	1.000	32086	1.000	1.000

52nd TCC Decision:

- ❖ SLDC, Odisha was directed to take up the matter with DISCOM to identify the feeder list and shifting of load at the earliest to implement AUFLS.
- ❖ Director, SLDC Odisha agreed to coordinate with concerned DISCOM and **update in next OCC.**

TCC advised all SLDCs :

- ❖ To expedite the process of implementation of AUFLS in stage I & II by shifting load quantum from stage III & IV at the earliest time possible.
- ❖ Explore the identification of new feeders to incorporate AUFLS in stage III & IV who have successfully implemented AUFLS in stage I & II by shifting load quantum from stage III & IV.

- ❖ To share the list of newly identified feeders with ERPC Secretariat within One Month for information.
- ❖ To ensure SCADA data mapping from newly identified UFR feeders at ERLDC level & In case of non-availability of SCADA data, anticipated timelines for making availability of SCADA data must be communicated for all applicable UFR feeders.

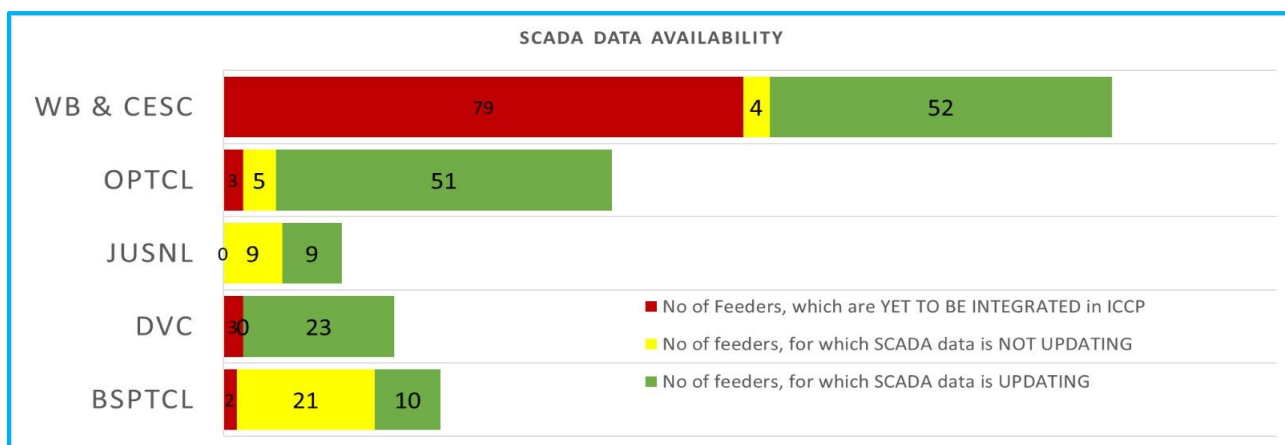
Status of shifting AUFLS stage 3 & 4 feeders to AUFLS Stage 1 and 2 and identification of additional feeders for all stages of AUFLS is as follows (as per information received by ERLDC SCADA):

Utility	Stage 3 & 4 feeder shifting to Stage 1 and 2	Updated in ERLDC UFLS Monitoring Display	New feeder Addition for Stage 1-4 for meeting new ULFS Quantum requirement
Bihar	Yet to be updated by BSPTCL	Not Applicable	New feeders list communicated to ERLDC
Jharkhand	Completed as informed by SLDC	Updated as per list provided	New feeders list yet be shared
DVC	Completed as informed by SLDC	Updated as per list provided	New feeders list yet be shared
Odisha	Yet to be updated by Odisha	Not Applicable	New feeders list yet be shared
West Bengal- WBSEDCL	Completed as informed by SLDC	Updated as per list provided	New feeders list yet be shared
West Bengal- CESC	Yet to be updated by CESC	Not Applicable	New feeders list yet be shared

Based on the above, updated AUFLS stage wise loads available post shifting of Stage 3 & 4 feeders to Stage 1 & 2 by various states are as follows:

Utility	Stage 1		Stage 2		Stage 3		Stage - 4		Total	
	Old Scheme	Oct 2024	Old Scheme	Oct 2024	Old Scheme	Oct 2024	Old Scheme	Oct 2024	Old Scheme	Oct 2024
Bihar	126	126	118	118	153	153	85	85	481	481
Jharkhand	54	88	64	105	35	33	73	0	227	227
DVC	122	169	145	203	147	100	138	80	552	552
Odisha	181	181	183	183	184	184	186	186	735	735
WBSEDCL	316	416	284	458	265	153	273	111	1138	1138
CESC	65	65	90	90	125	125	120	120	400	400

By Oct'24, SCADA data availability of feeders identified for AUFLS (as per information available at ERLDC SCADA data) is shown below:



All SLDCs/STUs and individual state DISCOMs may update action taken/future plan w.r.t AUFLS. Members may discuss.

2.14 Delay in implementation of load relief under AUFLS by IPCL: WB SLDC

- As per CEA framed guideline for increasing coverage of under frequency relay and was discussed and state wise target coverage figure was conveyed through OCC forum.
- As, first stage compliance for stage I, II was done by WBSEDCL and CESC. But no response received from M/S IPCL as yet. Though in the 216th / 217th OCC meetings, **IPCL representative was present and the decision was conveyed to them, through OCC meeting and then through state level meeting arranged by SLDC, WB**, but no update / initiative at IPCL part is observed as yet regarding introduction for load curtailment system through UFR at stage I, II.
- This is not only creating imbalance in treatment among DISCOMs, but also coming under non-compliance of NPC(National Power Committee) guidelines.

WB SLDC may elaborate.IPCL may please inform the status and explain the delay to inform the update. Members may discuss.

2.15 Shutdown proposal of generating units for the month of November'2024-ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2024-25 for the months of December'2024 to February 2025							
System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2024-25)		No. of Days	Reason
				From	To		
DVC	BTPS-A	1	500	25-12-2024	28-01-2025	35	COH-Boiler ,turb, FDG. Gen.,FGD & HMI upgradation
	KTPS	1	500	01-12-2024	28-12-2024	28	AOH-Boiler,LPT

	Mejia TPS	7	500	01-01-2025	28-01-2025	28	AOH-Boiler,LPT
		1	210	01-01-2025	25-01-2025	25	Boiler RLA & overhauling
		4	210	07-03-2025	31-03-2025	25	AOH- Boiler, LPT & De-Nox burner
	RTPS	2	600	01-02-2025	07-03-2025	35	AOH-Boiler,Turb, Gen.& De-Nox burner
IPP	GMR	2	350	12-12-2024	31-12-2024	20	BOH
CESC	Budge Budge TPS	3	250	07-12-2024	31-12-2024	25	AOH/ Boiler License Renewal
		2	250	02-01-2025	08-01-2025	7	Annual Inspection and Minor preventive maintenance
HEL	Haldia TPP	1	300	10-01-2025	12-01-2025	3	Annual Inspection
BRBCL	Nabinagar TPS	2	250	08-01-2025	21-02-2025	45	Boiler, HP, IP, LP OH & Generator rotor thread out
OPGC	IBTPS	3	660	01-02-2025	20-02-2025	20	Annual Maintenance
NTPC	Barh-II	5	660	01-02-2025	07-03-2025	35	Boiler + TG Bearing Inspection
	KhSTPS	3	210	10-02-2025	11-03-2025	30	Boiler + Boiler RLA + Boiler Acid cleaning
	FARAKKA	1	200	01-12-2024	14-01-2025	45	Boiler +Turbine capital OH

		2	200	01-02-2025	22-02-2025	22	Boiler + Turbine bearings inspection
NPGCL	New Nabinagar STPS	3	660	01-12-2024	18-02-2025	80	Boiler modification
WBPDCCL	Bandel TPS	2	60	05-12-2024	14-12-2024	10	PG Test/ Boiler License Renewal
		5	215	05-01-2025	14-01-2025	10	PG Test/ Boiler License Renewal
	Kolaghat TPS	5	210	07-02-2025	13-03-2025	35	COH
	Sagardighi TPS	4	500	31-12-2024	03-02-2025	35	AOH
	Santaldih TPS	5	250	05-02-2025	14-02-2025	10	PG Test/ Boiler License Renewal
DPL	DPL	7	300	01-01-2025	10-01-2025	10	Boiler license Renewal

Members may discuss.

2.16 Approval for carrying out inspection of 400KV LILO-2 installation of Vedanta Aluminium & Power Ltd, associated with 4X600MW TPP at Jharsuguda(odisha) under Regulation 30 of Central Electrical Authority (Measures Relating to Safety and Electrical Supply), Regulations:Vedanta

- Approval for energization of electrical installations of transmission lines (400KV LILO-1& LILO-2 PGCIL - TPP) associated with unit#1,2,3,4 of 4X600MW TPP at Jharsuguda, Orissa was granted on 10.09.2015 along with inspection validity till 10.09.2017
- In FY 2016, LILO-1 was converted to radial lines after Sundargarh Pooling station was commissioned and LILO-2 was disconnected from Vedanta end. Since then, LILO-2 has become idle condition and prone to theft of members/ conductors.
- To prevent further theft incidence of critical component of the said line, an inspection of the said line is mandatorily to be carried out by CEI(CEA) which is prerequisite to apply for anti-theft charge from the nearest state utility DISCOM with 11 KV or 33KV power source.
- Relevant details enclosed at **Annex B.2.16**

Vedanta may explain. Members may discuss.

2.17 Utilizing the Asset in the Deployment of the OPGW Network: Powerlinks

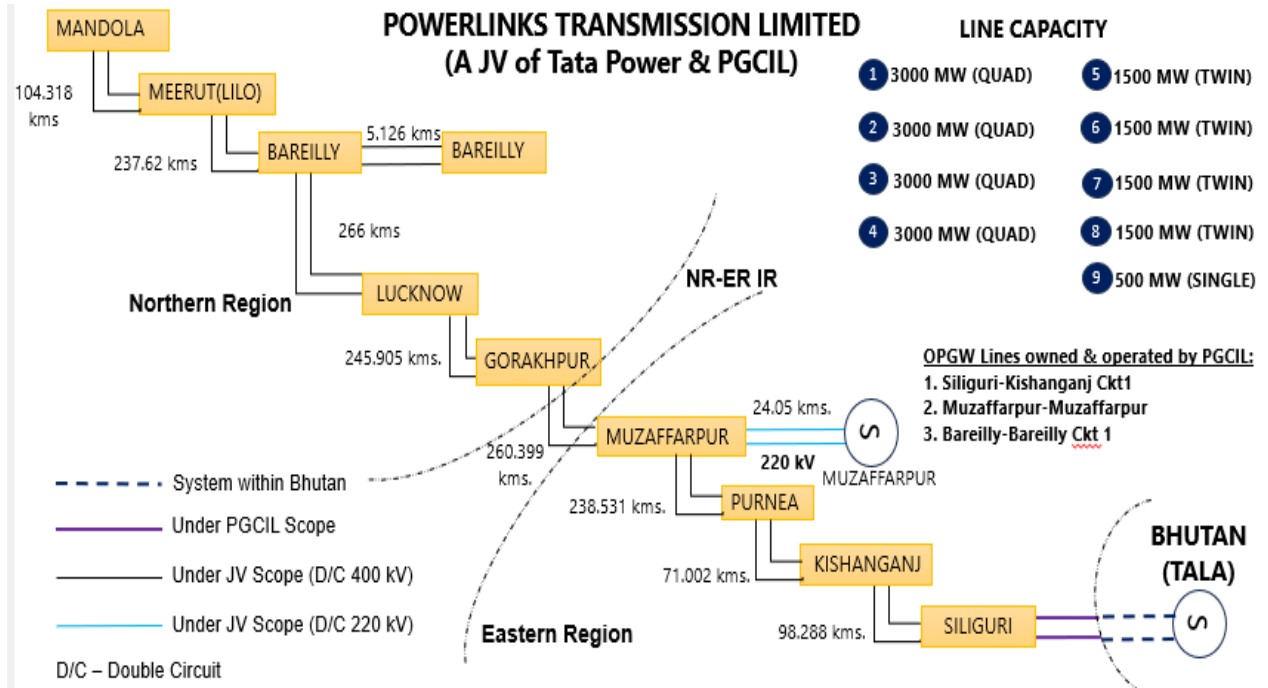
Powerlinks Transmission Limited carries out O&M of EHV transmission line (220kV and 400kV) having towers spread across 3 states from West Bengal to Uttar Pradesh. In existing transmission infrastructure, of Powerlinks in Eastern Region, is hereby requested for installation of OPGW, which can be utilized for:

- System Integration - OPGW facilitates the integration of Supervisory Control and Data Acquisition (SCADA) systems, which are essential for real-time monitoring, automation and control of the electrical grid.
- High Speed communication/ Data Transmission - The optical fibers within the OPGW are used for high-speed data transmission, which supports a range of communication needs.
- Lightning Protection - OPGW is installed at the top of the transmission tower, where it can intercept lightning and safely divert it to the ground.
- **Also, as per the advisory by Central Electricity Authority dated 22.05.24 (reference attached), Central and State Sector utilities must prioritize the implementation of the OPGW laying across its transmission network to ensure compliance with regulatory requirements.**
- **Hence, to optimally utilize the existing transmission assets covering three states with a significant line length and adhere to the compliance with regulatory requirements, we propose to set up OPGW network in entire line length of Powerlinks Transmission Limited.**

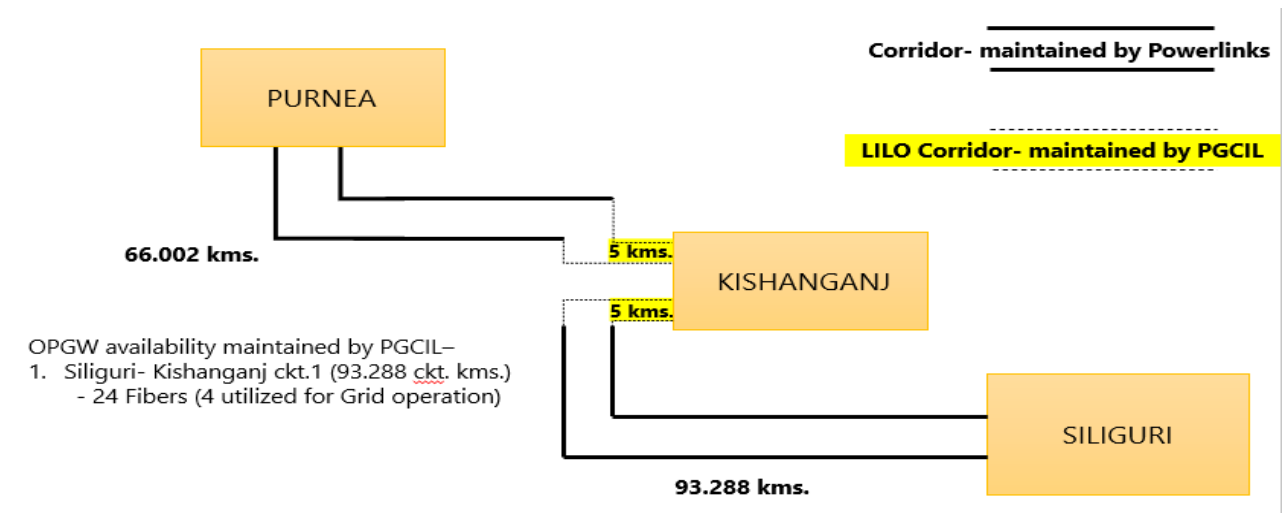
Details of transmission lines owned and maintained by Powerlinks

S.N.	Line name	Line Length (In KM)
1	Siliguri-Kishanganj Circuit-2	98.288
2	Kishanganj-Purnea Circuit 1	71.002
3	Purnea-Muzaffarpur Circuit 1	238.531
4	Muzaffarpur-Gorakhpur Circuit 1	260.399
	Total Length in ER region	668.22 Km

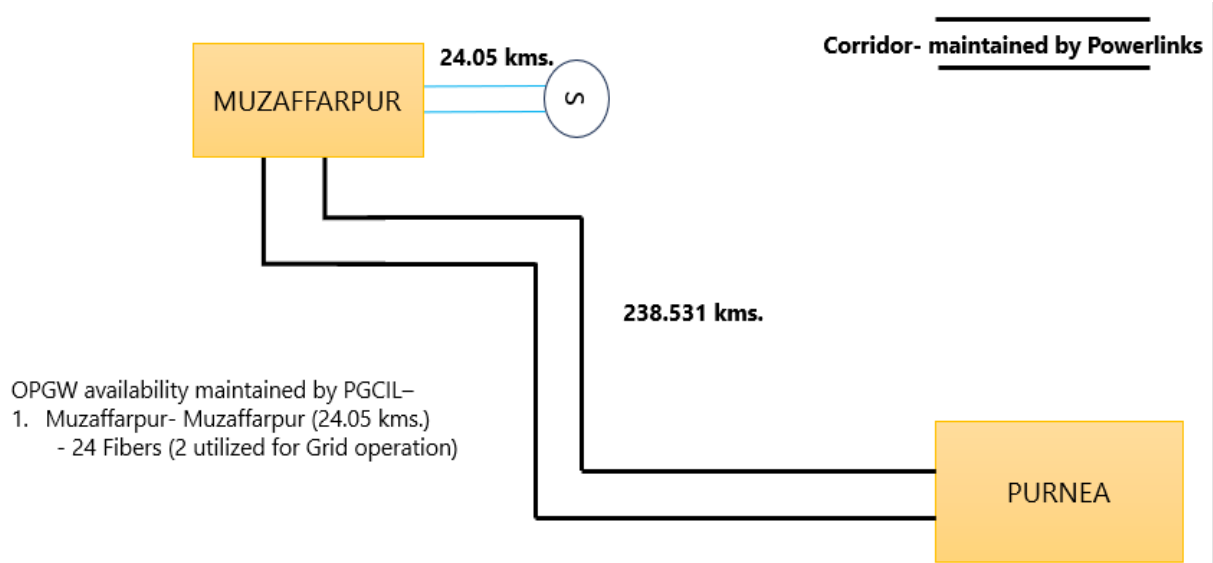
OVERVIEW



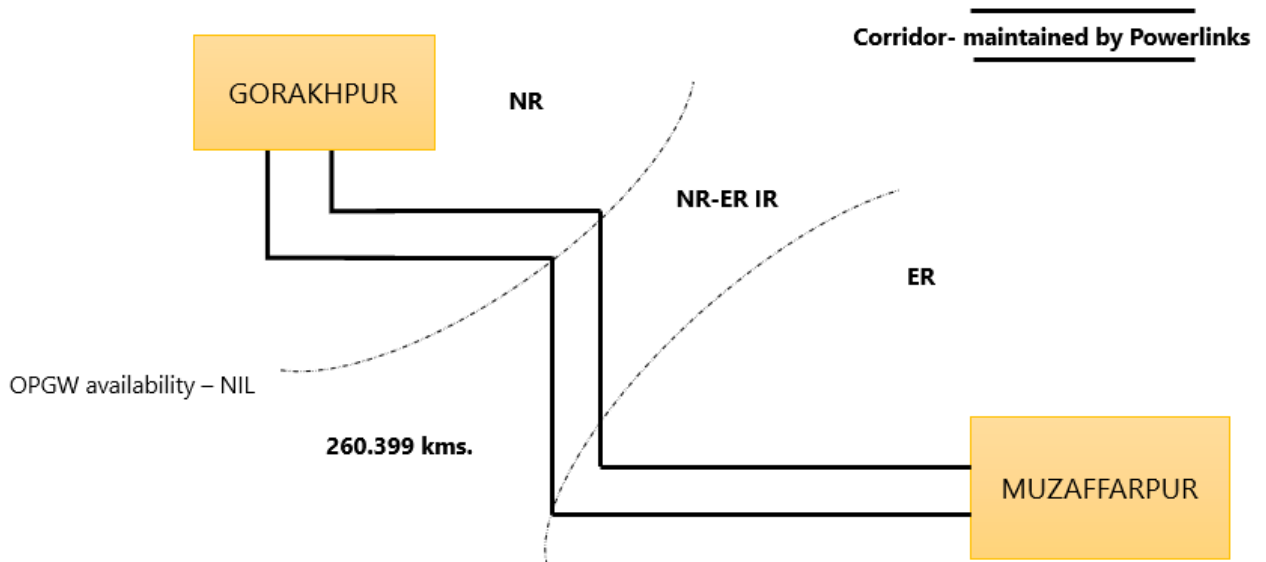
SECTION 1 (SILIGURI-PURNEA)



SECTION 2 (PURNEA-MUZAFFARPUR)



SECTION 3 (MUZAFFARPUR-GORAKHPUR)



Powerlinks may explain. Members may discuss.

2.18 Periodic Testing of power system elements: ERPC

As mandated in IEGC 2023, 40.1 & 40.2, periodic tests shall be carried out on power system elements to ascertain the correctness of mathematical models used for simulation studies as well as ensuring desired performance during an event in the system.

Relevant portion of clause is as below:

Quote:

“

40. PERIODIC TESTING

.....

40.2 (a) *The owner of the power system element shall be responsible for carrying out tests as specified in these regulations and for submitting reports to NLDC, RLDCs, CEA and CTU for all elements and to STUs and SLDCs for intra-State elements.*”

40.2 (b) *“All equipment owners shall submit a testing plan for the next year to the concerned RPC by 31st October to ensure proper coordination during testing as per the schedule. In case of any change in the schedule, the owners shall inform the concerned RPC in advance.*

.....”

Unquote

In 217th OCC Meeting held on 24.07.2024, the matter was discussed in detail and OCC advised all the generators & owners of HVDC/FACTS devices to strictly adhere to the IEGC 2023 guidelines & submit the required testing data & plan to ERPC at the earliest (as per clause 40.2.(b).

None of the generators or owners of HVDC/FACTS devices have submitted the testing plan yet. All are requested to submit the testing schedule at the earliest.

Power Elements	System	Tests	Applicability
Synchronous Generator		(1) Real and Reactive Power Capability assessment. (2) Assessment of Reactive Power Control Capability as per CEA Technical Standards for Connectivity (3) Model Validation and verification test for the complete Generator and Excitation System model including PSS. (4) Model Validation and verification of Turbine/Governor and Load Control or Active Power/ Frequency Control Functions. (5) Testing of Governor performance and Automatic Generation Control.	Individual Unit of rating 100MW and above for Coal/lignite, 50MW and above gas turbine and 25 MW and above for Hydro.
HVDC/FACTS Devices		(1) Reactive Power Controller (RPC) Capability for HVDC/FACTS (2) Filter bank adequacy assessment based on present grid condition, in consultation with NLDC. (3) Validation of response by FACTS devices as per settings.	To all ISTS HVDC as well as Intra-State HVDC/FACTS, as applicable

All GENCOs and HVDC/FACTS owners may update.

2.19 Periodic Mock Drill Exercises in areas of generation, transmission and distribution of the power sector: ERPC

In compliance to **Disaster Management Plan for Power Sector (2022)** as drafted by CEA (as per Disaster Management Act 2005) and approved by Ministry of Power (Govt. of India) as well as in order to be prepared for any eventuality, periodic mock drill exercises are to be undertaken in various areas of generation, transmission and distribution of the power sector by considering various crisis and disaster situations like an earthquake, floods etc. Depending on the vulnerability of the installations/plant, mock drills to handle such situations need to be undertaken. The utilities are also required to ensure that at least one mock drill exercise for every crisis/disaster situation to which the installation/plant is vulnerable is undertaken in each quarter. The adverse observations made on each event of Mock drill should be taken into account and it should be ensured to prevent occurrence of such undesirable events in the future.

In this regard, Secretary (Security) , Cabinet Secretariat, Govt of India has stressed on undertaking the following measures:

- ✓ Availability of details pertaining to local district authorities, revenue authorities, law enforcement, fire management authorities, etc., across the townships
- ✓ Adequate vetting of personnel/organisation responsible for township security by local law enforcement agencies.
- ✓ Regular conduct of mock drills in the townships, especially evacuation drills with ambulance and drills for handling major fire accidents.

Letter from Joint Secretary(MOP) to all power/energy secretaries (states) enclosed at **Annex-B.2.19**.

Till now quarterly mock drill reports have been received from NHPC and WBPDC. Mock drill reports regularly received only from WBPDC.

□ **Action points:**

As per deliberation of **1st MEETING ON REGIONAL DISASTER MANAGEMENT (EASTERN REGION)** dated **09.07.2024**(MOM at **Annex-B.2.19** :

- ◆ At least one mock drill exercise for every crisis/disaster situation to which the installation/plant is vulnerable must be undertaken in each quarter and quarterly report by the utilities to be shared with CEA for review and onward submission to Ministry of Power (Govt of India) . (Action: All thermal GENCOs (Central,IPP), all hydro generating stations, all ISTS licensees . SLDCs to coordinate with respective GENCOs,STUs and DISCOMs within their jurisdiction)
- ◆ Utilities are requested to share the experience on the mock drill exercises and scope for improvements.

All concerned utilities may update action plan.

3. PART-C: ITEMS FOR UPDATE/FOLLOW-UP/INFORMATION

3.1. ER Grid performance during October 2024.

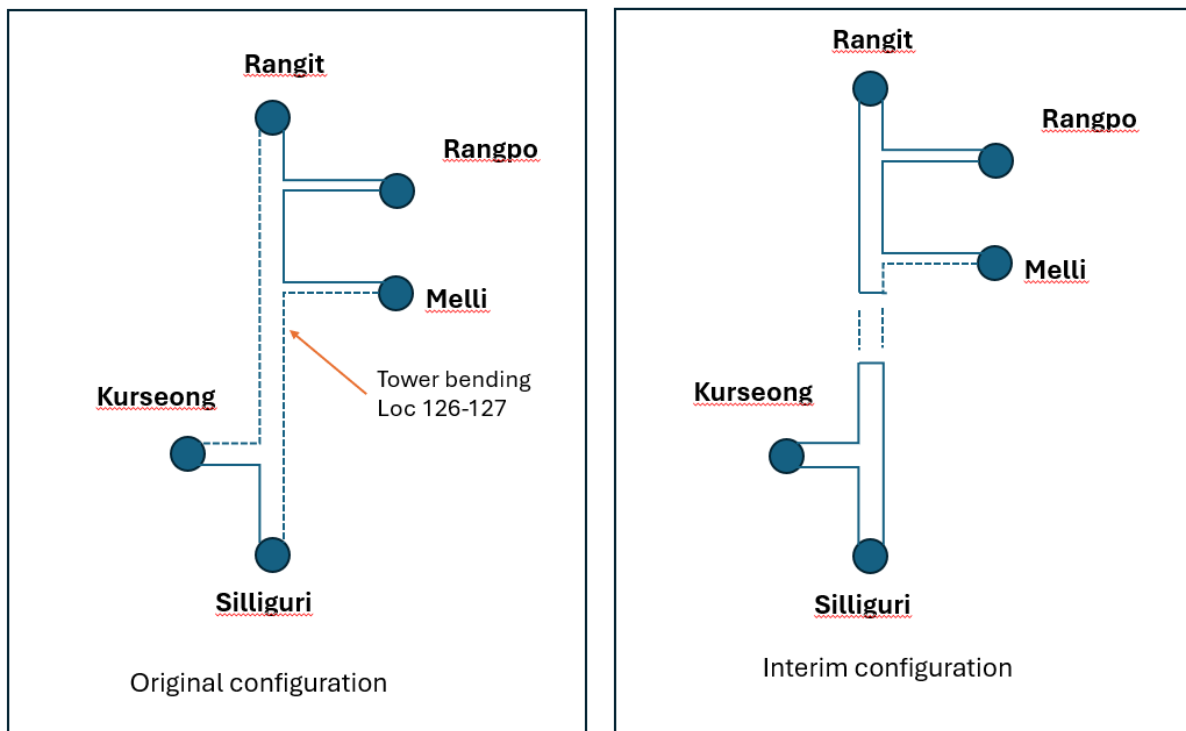
The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month October-2024 were as follows:

AVERAGE CONSUMPTION (MU)	MAXIMUM CONSUMPTION(MU)/ DATE	MAXIMUM DEMAND (MW)	MINIMUM DEMAND (MW)	SCHEDULE EXPORT	ACTUAL EXPORT
		DATE / TIME	DATE / TIME	(MU)	(MU)
556.9 MU	624.8 MU, 01.10.2024	29827 MW, 01.10.2024 at 21:40 Hrs.	17717 MW, 26.10.2024 at 02:52 Hrs.	5405	5439

ERLDC/ERPC may highlight the performance of the ER grid.

3.2. Update on Restoration of 132kV Rangit-Kurseong & 132kV Siliguri-Melli-Rangpo lines: ERLDC

- Due to incessant rain and several landslides, towers at loc. 125-128 of **132 kV Rangit-Kurseong** and **132 kV Siliguri-Melli** got badly affected. Out of which tower at loc. 126,127 got severely damaged. Both the lines were switched on 5th October 2024 on request of PowerGrid.
- Consequently, **Kurseong** and **Melli** (Kalimpong source) are fed through single source of **Siliguri** and **Rangpo** respectively. To ensure reliable power supply at Melli & Kurseong, ERLDC conducted one meeting on **08.10.2024** (online mode) with participants from ERPC, ERLDC, West Bengal SLDC, Sikkim, Powergrid and NHPC Rangit.
- Considering the difficulties & time requirements due to hilly terrain for restoration of the said portion, temporary reconfiguration of these lines was explored to extend additional sources to Melli & Kurseong. It was decided that part of the healthy line of **132 kV Siliguri-Melli** will be reconfigured as **132 kV Siliguri-Kurseong ckt2** as a second source of Kurseong and another healthy portion of **132 kV Siliguri-Melli** will be reconfigured as **132 kV Rangit-Melli** for a second source of Melli.
- After necessary reconfiguration, **132 KV Siliguri-Kurseong-II (interim)** arrangement charged on **9th October** and **132kV-Rangit-Melli (interim)** has been charged tentatively on **22nd October**. POWERGRID intimated that it would take 15-20 Days to restore the original configuration after rectifying damaged towers.



220th OCC deliberation:

- Powergrid apprised that owing to recurrent tripping of 132 kV Chuzachen-Rangpo D/C, 400 kV Rangpo GIS S/S is repeatedly feeding the phase-phase fault which is detrimental to life of substation equipment.
- Sikkim representative affirmed to share status of actions taken in line with joint Committee inspection report within a week.

OCC Decision

- OCC expressed serious concern on total generation loss of Chuzachen HEP due to multiple trippings of 132 kV Chuzachen-Rangpo D/C line.
- OCC advised Sikkim to expedite in implementation of Committee recommendations i.r.o increasing ground clearance by construction of new tower(between loc. 28-29) and hill cutting (around tower no. 27). Update on the same needs to submitted to ERPC/ERLDC every week.

SLDC Sikkim and Powergrid may update. Members may discuss.

3.3. Update on actions taken to prevent repeated tripping of 132 kV Chuzachen-Rangpo D/C: ERPC

- **132 kV Chuzachen-Rangpo D/C** tripped more than **10 times** since **May'24** causing total generation loss occurred at Chuzachen HEP (110 MW) due to sequential tripping of both lines in three instances.
- In most of the trippings, **phase to phase** fault was reported with a distance of around **12 km** from **Rangpo**.

- A joint committee with members from Powergrid, Chuzachen HEP and Sikkim transmission wing, Dept. of Power (Sikkim) was constituted for joint site inspection. The committee submitted its report after visiting the site on 01.10.2024.
- Committee observations during the visit were as below:
 - ✓ Critical tree infringement and bamboo trees between loc. 27-29 along the corridor.
 - ✓ Severe infringement along with several flashover marks on the conductor and burnt trees along the corridor.
 - ✓ Less ground clearance b/w loc. 28-29 for Ckt-1 (4.1 meter instead of minimum requirement of 6.1 meter).
- **The Committee recommended two new towers to be constructed between loc. 28-29 and 35-36 (one each) and hill cutting along the periphery of tower no. 27 to improve ground clearance.**
- Considering the severity of less ground clearance and potential of damage to human life, the recommended measures need to be implemented on an immediate basis.

220th OCC deliberation:

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No update has been received from Sikkim in this regard.

Sikkim update. Members may discuss.

3.4. Update on Restriction of Talcher-Kolar HVDC Bi-pole: ERPC

- ❖ HVDC Talcher-Kolar Pole-2 was operated at reduced capacity from March 24, 2024, due to problem with the R-phase converter transformer at the Talcher end. There was no spare converter transformer at Talcher and subsequently, it was decided to shift the spare converter transformer from HVDC Kolar to Talcher(PG)
- ❖ Since April'24, either pole of HVDC blocked 5 times out of which, in 4 times the other pole went to ground return mode instead of metallic return mode resulting in overloading of 400kV Talcher-Meeramundali D/C and generation backdown was done either manually or through operation of SPS.
- ❖ Meanwhile, power order of Talcher-Kolar poles was reduced to 1500MW from 2000MW due to which other critical lines of the region were getting overloaded. **Accordingly,**

Talcher generation was curtailed in the range of 800-900MW during peak hours for approximately 50 days in the summer, impacting both Eastern Region (ER) and Southern Region (SR) beneficiaries. Later on, with decrease in ambient temperature HVDC Talcher-Kolar power order was restored and generation back down was withdrawn.

- ❖ **To mitigate the risk of similar power supply challenges experienced during summer 2024, Odisha(PG) may share the replacement plan of existing Converter Transformer.**

As per deliberation in **218th OCC:**

- ❖ The updated status as per latest communication from Powergrid Odisha dated 22.07.2024:
 - Cumulative distance travelled from Kolar is 929 kms against total distance 1910 kms. Balance distance pending to be travelled is 981 kms.
 - He further mentioned that the Converter Transformer may tentatively be reached at site by **last week of October** & after reaching at site, it will take another 15 days to complete the commissioning process.

OCC Decision

OCC advised PowerGrid Odisha to expedite the transport of the converter transformer so that it can be commissioned at the earliest to improve stability & reliability of Grid.

As per latest update from Powergrid Odisha:

- The Converter transformer has arrived at Talcher(PG) in the first week of October 2024.
- The transformer has not yet been charged owing to pending clearance from Powergrid Corporate.

Powergrid Odisha may update the present status of the Converter Transformer. Members may discuss.

3.5. Update on Implementation of AGC in Intra-state generating units: ERLDC

- ◆ AGC is now operational at most ISGS plants across India, which together have a total installed capacity exceeding 70 GW. However, the dispatchable margin provided through AGC and Secondary Reserve Ancillary Services (SRAS) remains insufficient for maintaining frequency within the IEGC band. With the increasing penetration of renewable energy, managing frequency is expected to become more challenging in the future. Therefore, it is crucial to enhance frequency control and stability through increased participation from intra-state AGC.
- ◆ In response to this need, efforts are underway to encourage more intra-state generators to join the SRAS scheme. Feasibility reports have been prepared, and stakeholder meetings have been held with DVC, West Bengal, and Bihar to explore potential solutions and address any concerns.
- ◆ Present status of **Intra-state AGC integration** process is as follows:

SLDC/State	Generator name	Unit Capacity (MW)	Status
Bihar	Barauni unit # 8 & 9	2x250	Pending discussion between NTPC Barauni, SLDC Bihar and its DISCOM for mutually agreeing to Mechanism for recovery of one-time cost of AGC implementation and Mechanism for Sharing of gains which is to be fixed bilaterally.
DVC	Mejia-B, DSTPS and Koderma	(2x500) (2x500) (2x500)	Final procurement order was awarded to Siemens on 7th August 2024 with timeline of completion of 4 months .
West Bengal	Units of WBPDCCL	-	West Bengal SERC notified WBERC (Ancillary Services) regulation, 2023 dated 26th December 2023. M/s WBPDCCL refers to WBSERC for implementing the AGC server at WBSLDC after which plants will be connected to SLDC one by one.

As per deliberation in **52nd TCC**:

- ❖ DVC apprised that final procurement order was awarded to Siemens on 7th August 2024 for all identified six Units & it is expected that within 4 months AGC implementation will be completed.
- ❖ NTPC representative informed that NOC for implementing AGC in its Barauni unit # 8 & 9 is yet to be received from SLDC, Bihar & also discussion is pending between NTPC Barauni, SLDC Bihar and its DISCOM for mutually agreeing to cost recovery and gain sharing mechanism.
- ❖ RED, NTPC mentioned that since the need for AGC Implementation in its Barauni unit # 8 & 9 is principally agreed & for this, a formal clearance from Bihar is required. They will resolve the issue by joint meeting.
- ❖ ED, ERLDC requested SLDC, Odisha to organize a meeting with OPGC to formulate a methodology so that OPGC units can be integrated with AGC.
- ❖ SLDC, Odisha submitted that attempt has been made by OPGC but OEM has not yet responded.
- ❖ OPGC suggested to have a special meeting with M/S BHEL & SLDC, Odisha to finalize

the modalities of Implementation of AGC & will update the status within one month.

- ❖ WB SLDC submitted that another meeting shall be convened with WBPDCCL to resolve contractual issues and decide next course of action.

TCC Decision:

- TCC appreciated efforts of DVC in initiating AGC implementation process
- SLDC Bihar and Bihar DISCOMs were advised to resolve the pending issues with NTPC bilaterally for AGC implementation at the earliest.
- SLDC Odisha was advised to organize meeting with OPGC and ERLDC to resolve AGC implementation in OPGC units.
- WB SLDC was advised to resolve contractual issues with WBPDCCL bilaterally for expediting AGC implementation.
- TCC advised all the concerned utilities to expedite the execution process & complete the AGC Implementation as early as possible.
- Status of AGC implementation to be updated regularly in OCC meetings.

All concerned may update the status. Members may discuss.

3.6. Regarding Non-Submission of Forecasting Data from States: ERLDC

The **Clause 2 of Regulation 31 of IEGC 2023** has mandated all the SLDCs to timely submit the demand estimate data to the respective RLDC and RPC.

The demand estimation data provided by SLDCs will be required in resource adequacy planning and regional load forecasts conducted by the RLDC.

Currently, the day ahead data is regularly received from all the states except Sikkim.

219th OCC decision:

- ◆ OCC advised all SLDCs for strictly adhering to the schedule of demand estimation as mandated in IEGC 2023, timely sharing with ERLDC as well as uploading of forecasting error on their respective websites.
- ◆ SLDCs who are submitting day ahead forecast were advised to also share the forecasting data on weekly as well as monthly basis with ERLDC.
- ◆ SLDC Odisha was advised to expedite implementation of the demand forecasting software.
- ◆ Besides day ahead forecast, West Bengal SLDC was also advised to share weekly and monthly forecast respectively for their control area.
- Hence it is again requested to all the concerned for timely submission of demand estimation data to ERLDC. This collaboration is essential for effective planning and preparedness to meet the region's electricity demands efficiently and reliably.

Latest Forecast receipt status is shown below:

DATA RECEIPT STATUS BY 5th DAY FOR THE MONTH OF	Dec-24	REMARKS
Bihar	NO	
DVC	YES	Not as per format
Jharkhand	YES	Not as per format
Odisha	NO	
Sikkim	NO	
West Bengal	NO	

DATA RECEIPT STATUS BY 1ST WORKING DAY FOR THE WEEK	28.10.24 TO 03.11.2024	04.11.2024 TO 10.11.2024	11.11.24 TO 17.11.24	18.11.2024 TO 24.11.2024	25.11.2024 TO 01.12.2024	Remarks
Bihar	NO	NO	NO	YES	YES	Not as per format
DVC	YES	YES		YES	YES	Not as per format
Jharkhand	NO	YES	NO	YES	YES	As per format
Odisha	NO	NO	NO	NO	NO	
Sikkim	YES	YES	YES	YES	YES	As per format
West Bengal	NO	NO	NO	NO	NO	

DATE	Bihar	DVC	Jharkhand	Odisha	Sikkim	West Bengal
01-11-2024		YES	YES	YES	YES	YES
02-11-2024		YES	YES	YES	YES	YES
03-11-2024		YES	YES	YES	YES	YES
04-11-2024	YES	YES	YES	YES	YES	YES
05-11-2024	YES	YES	YES	YES	YES	YES
06-11-2024		YES	YES	YES	YES	YES
07-11-2024	YES	YES	YES	YES	YES	YES
08-11-2024	YES	YES	YES	YES	YES	YES
09-11-2024		YES	YES	YES	YES	YES
10-11-2024		YES	YES	YES	YES	YES
11-11-2024	YES	YES	YES	YES	YES	YES
12-11-2024	YES	YES	YES	YES	YES	YES
13-11-2024	YES	YES	YES	YES	YES	YES
14-11-2024	YES	YES	YES	YES	YES	YES
15-11-2024	YES	YES	YES	YES	YES	YES
16-11-2024	YES	YES	YES	YES	YES	YES
17-11-2024	YES	YES	YES	YES	YES	YES
18-11-2024	YES	YES	YES	YES	YES	YES
19-11-2024	YES	YES	YES	YES	YES	
Remarks			As per format		As per format	

Resource adequacy Data Receipt Status

DATA RECEIPT STATUS Y FOR THE MONTH OF	Dec-24	REMARKS
Bihar	NO	
DVC	NO	
Jharkhand	NO	
Odisha	NO	
Sikkim	NO	
West Bengal	NO	

DATA RECEIPT STATUS FOR THE WEEK OF	28.10.24 TO 03.11.2024	04.11.2024 TO 10.11.2024	11.11.24 TO 17.11.24	18.11.2024 TO 24.11.2024	25.11.2024 TO 01.12.2024
Bihar	NO	NO	NO	NO	NO
DVC	NO	NO	NO	NO	NO
Jharkhand	NO	NO	NO	NO	NO
Odisha	NO	NO	NO	NO	NO
Sikkim	YES	YES	YES	YES	YES
West Bengal	NO	NO	NO	NO	NO

DATE	Bihar	DVC	Jharkhand	Odisha	Sikkim	West Bengal
01-11-2024	NO	NO	NO	NO	YES	NO
02-11-2024	NO	NO	NO	NO	YES	NO
03-11-2024	NO	NO	NO	NO	YES	NO
04-11-2024	NO	NO	NO	NO	YES	NO
05-11-2024	NO	NO	NO	NO	YES	NO
06-11-2024	NO	NO	NO	NO	YES	NO
07-11-2024	NO	NO	NO	NO	YES	NO
08-11-2024	NO	NO	NO	NO	YES	NO
09-11-2024	NO	NO	NO	NO	YES	NO
10-11-2024	NO	NO	NO	NO	YES	NO
11-11-2024	NO	NO	NO	NO	YES	NO
12-11-2024	NO	NO	NO	NO	YES	NO
13-11-2024	NO	NO	NO	NO	YES	NO
14-11-2024	NO	NO	NO	NO	YES	NO
15-11-2024	NO	NO	NO	NO	YES	NO
16-11-2024	NO	NO	YES	NO	YES	NO
17-11-2024	NO	NO	YES	NO	YES	NO
18-11-2024	NO	NO	YES	NO	YES	NO
19-11-2024	NO	NO	YES	NO	YES	NO
Remarks			As per format		As per format	

Hence it is again requested to all the concerned for timely submission of demand estimation data to ERLDC. This collaboration is essential for effective planning and preparedness to meet the region's electricity demands efficiently and reliably.

ERLDC may explain and all SLDCs may update. Members may discuss.

3.7. Non-Submission of FRC data in stipulated timeframe: ERLDC

Adhering to IEGC clauses 30.8 and 30.10.(a) to 30.10.(q), generating stations within the Eastern region are required to submit essential data to ERLDC within two days of receiving a notification regarding a reportable frequency event. Additionally, according to clause 30.10.(n), all control areas within the eastern region must assess their frequency response characteristics and share the evaluation, along with high-resolution data, with the ERLDC. Therefore, timely submission of primary response data is crucial for compliance with the IEGC.

219th OCC decision:

All generators were advised to regularly share high resolution data against each reportable frequency event with ERLDC on time to facilitate accurate assessment of FRP for respective control areas.

The latest data receipt status is given below: (as on 18.11.2024)

STATIONS	03.04.2024 05:29	06.04.2024 11:24	19.04.2024 10:28	23.04.2024 20:15	02.05.2024 14:41	10.05.2024 19:35	28.05.2024 19:45	04.06.2024 10:26	04.06.2024 10:34	11.06.2024 14:10	17.06.2024 13:53	19.06.2024 12:42	16.07.2024 22:10	23.08.2024 12:34	13.09.2024 13:15	21.10.2024 16:49
FTSTP #STG 1 & 2	Pending	Pending	Pending	Pending	Pending	Received	Pending	Received	Received	Received	Pending	Pending	Received	Received	Received	Received
FTSTP # STG 3	Pending	Pending	Pending	Pending	Pending	Received	Pending	Pending	Pending	Received	Pending	Pending	PLANT OUT	Received	Received	Received
khSTPP #STG 1	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
khSTPP #STG 2	Pending	Received	Received	Received	Received	Received	Pending	Received	Pending	Pending	Received	Received	Received	Received	Received	Received
TSSTP #STG 1	Received	Received	Received	Received	Received	Received	Pending	Received	Received	Received	Received	Pending	Received	Received	Received	Received
Barh stage-1	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Received	Received	Received	WRONG TIME STAMPED DATA SENT	Received	Received 29.07	Received	Received	Received
Barh stage-2	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Received	Received	Received	Received	Received	Received	Received	Received	Received
BRBCL	Pending	Pending	Received	Received	Received	Received	Received	Pending	Pending	Pending	Pending	Pending	Pending	Received	Received	Received
Darlipalli	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
North Karanpura	Pending	Pending	Pending	Pending	Pending	Received	Pending	Pending	Pending	Pending	Pending	Pending	Received	Received	Received	Received
NPGC	Received	Received	Received	Received	Received	Received	Received	Received	Received	Pending	Received	Received	Received	Received	Received	Received
TEESTA V	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT
GMR	Received	Received	Received	Received	Received	Received	Received	Pending	Received	Received	Received	Received	Pending	Received	Received	Pending
MPL	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
ADHUNIK	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
JITPL	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Pending	Pending	Pending	Received
INDBHARAT	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
TASHIDING	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
TEESTA III	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT
DIKCHU	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT
Bihar	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Jharkhand	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
DVC	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Received	Received	Pending	Pending	Pending	Pending	Pending	Pending	Pending
OPTCL	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
WB	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Updated as on	10.11.2024															

Hence all are again requested to follow the stipulated timeline and submit the data to ERLDC and also fill the google sheet below to include the email address where notifications of reportable events should be sent.

https://docs.google.com/spreadsheets/d/1slvAOMQIEQVIMn0LnB78eKMa2sz2QYICZ-sPEpeV_jk/edit?usp=sharing

ERLDC may explain. Members may discuss.

3.8. Mock Black Start:ERLDC

- As per IEGC Reg. 34.3: A mock trial run of the procedure for different sub-systems including black-start of generating units along with grid forming capability of inverter-based generating station and VSC-based HVDC black-start support at least once a year under intimation to the concerned SLDC and RLDC.
- Also, diesel generator sets and other standalone auxiliary supply source to be used for black start shall be tested on a weekly basis and the test reports are to be shared to the concerned SLDC, RLDC and NLDC on a quarterly basis.
- As per IEGC Reg. 34.4: Simulation studies are to be carried out by each user in coordination with RLDC for preparing, reviewing and updating the restoration procedures considering the following:

- Black start capability of the generator;
- Ability of black start generator to build cranking path and sustain island;
- Impact of block load switching in or out;
- Line/transformer charging;
- Reduced fault levels;
- Protection settings under restoration condition

As per intimation received in Winter Preparedness 2024 dated 12.11.2024 hosted by ERLDC, a tentative date was received from each user regarding the mock drill of black start of generating units under their jurisdiction. The same is listed below:

Sl. No.	Name of Hydro Station	Schedule of Mock Black Start	Tentative date as on 12.11.2024	2024 Actual Date of Test
1	U. Kolab	Jun-24	Jan-24	
2	Balimela	Jul-24	Nov-24	
3	Rengali	Jun-24	Nov-24	
4	Burla	Jul-24	Jan-24	
5	U. Indravati	May-24	N/A	Sep-24
6	Maithon	Dec-24	2nd week of Dec-24	
7	TLDP-III	Oct-24	Nov-24 – Dec-24	
8	TLDP-IV	Oct-24	Nov-24 – Dec-24	
9	Subarnarekha	Sep-2024 4th week	1st week of Dec-24	
10	Teesta-V	N/A	N/A	N/A
11	Chuzachen	Oct-24	Yet to be informed	
12	Teesta-III	N/A	N/A	N/A
13	Jorethang	Dec-2024 3rd week	Yet to be informed	
14	Tashiding	2nd week of Dec 2024	Yet to be informed	
15	Dikchu	N/A	Yet to be informed	N/A
16	Rongnichu	Mar-24	Test already conducted	18th March and 20th March 2024
17	Mangdechu		Yet to be informed	

All the users are requested to confirm dates for mock drill of black start of each generating unit. Also, the users are requested to share the data required simulation studies before the scheduled date of mock drill.

3.9. Commissioning Status of ADMS: ERLDC

- ♦ The automatic demand management scheme (ADMS) has been already commissioned in West Bengal, DVC, Odisha, and Jharkhand and partially implemented by Bihar.
- ♦ In the 216th OCC meeting the forum advised Bihar to share detailed action plan for implementation of additional 400 MW load under ADMS.

- ◆ It was also advised by the forum that DVC to share revised feeder list with ERLDC in which ADMS to be implemented after operationalization of Chandrapura islanding scheme.
- ◆ **Current Status (as of November 18, 2024):** No input received from Bihar and DVC.
- ◆ **Bihar & DVC may update the Status.**

3.10. FTC of Station Transformer-3: MPL

- MPL station transformer ST # 3 is scheduled for commissioning in month of Dec 24.
- This is for information to the forum.

4. PART-D: OPERATIONAL PLANNING

4.1. Anticipated power supply position during December-2024

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of December 2024 is prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2024-25 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc.

Members may update.

4.2. Major Thermal Generating Units/Transmission Element outages/shutdown in ER Grid (as on as on 19-11-2024)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAP ACIT Y (MW)	REASON(S)	OUTAGE DATE
1	BARAUNI TPS	BIHAR	NTPC	7	110	Poor condenser vacuum	19-Jul-2023
2	BARAUNI TPS	BIHAR	NTPC	6	110	Low vacuum	22-Jul-2023
3	KOLAGHA T	WEST BENGAL	WBPDC	3	210	Due to ACW line leakage.	17-Nov-2024
4	Sterlite	ODISHA	SEL	1	600	Ash evacuation problem	19-Nov-2024
5	BARH	BIHAR	NTPC	4	660	Due to high vibration in HP turbine bearing no. 01	14-Nov-2024
6	BAKRESH WAR	WEST BENGAL	WBPDC	3	210	Annual overhauling	15-Nov-2024
7	KHSTPP	BIHAR	NTPC	5	500	Annual overhauling	14-Nov-2024
8	KBUNL	BIHAR	NTPC	2	195	Capital overhauling	15-Nov-2024

All Generating stations are requested to update expected restoration time and reason outage to ERLDC/ERPC on weekly basis in case of any change at their end.

b) Major Generating stations Out on Reserve Shutdown due to low system demand:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
NIL							

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	TEESTA STG III Hep	SIKKIM	TUL	1-6	200x6	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
2	TEESTA STG III Hep	SIKKIM	TUL				
3	TEESTA STG III Hep	SIKKIM	TUL				
4	TEESTA STG III Hep	SIKKIM	TUL				
5	TEESTA STG III Hep	SIKKIM	TUL				
6	TEESTA STG III Hep	SIKKIM	TUL				
7	DIKCHU Hep	SIKKIM	SKPPL	1-2	48x2	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
8	DIKCHU Hep	SIKKIM	SKPPL				
9	TEESTA HPS	SIKKIM	NHPC	1-3	170x3	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
10	TEESTA HPS	SIKKIM	NHPC				
11	TEESTA HPS	SIKKIM	NHPC				
12	CHIPLIMA HPS / HIRAKUD II	ODISHA	OHPC	1	24	Capital Overhauling	15-Dec-2023
13	BALIMELA HPS	ODISHA	OHPC	1	60	Heavy leakage of water from discharge ring	16-Sep-2024

d) Long outage report of transmission lines (As on 19.11.2024):

Transmission Element / ICT	Outage From	Reasons for Outage
220/132KV 100 MVA ICT II AT LALMATIA	22.01.2019	Commissioning work of 220/132KV, 100MVA Transformer and its associated control Panel under progress.
220KV-FSTPP-LALMATIA-I	21.04.2021	Transmission line is idle charged between Lalmatia GSS end up to Tower loc no 94 (50.30km)

220KV-WARIA-BIDHANNAGAR-1 & 2	08.06.2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
400/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT tripped on few occasions due to Buchholz later DGA violation found, internal fault in transformer to be rectified. (DGA violation)
132KV-BARHI-RAJGIR-1	25.03.2023	Dismantling of tower no. 227, 228, and 229 crossing the premises of Mahabodhi Cultural centre along with Destraining of conductor of both circuits and Earth wire between tension tower no. 218-237 in same line.
132KV-NALANDA-BARHI(DVC)-1	25.03.2023	
400KV-RANGPO-TEESTA-V-1 & 2	04.10.2023	Tower near gantry of Teesta V powerhouse collapsed due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-RANGPO-1	04.10.2023	Hand tripped from Teesta-III end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-DIKCHU-1	04.10.2023	
400KV-RANGPO-DIKCHU-1	04.10.2023	Hand tripped from Rangpo end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-JHARSUGUDA-ROURKELA-4	01.04.2024	Reconductoring work
132KV-RANGPO-SAMARDONG-1	22-05-2024	Rangpo:Y-n fault with fault distance 0.157 km 14.562kA Samardong: NA
220KV-RAJARHAT-NEW TOWN(AA-II)-2	10-07-2024	Rectification of gas leakage problem from B-Ph breaker pole; Line declared under breakdown after charging attempt after return of shutdown
132KV-RANGPO-SAMARDONG-2	02-08-2024	132/66/11kV Samardong ss have become inaccessible due to continuous raining and landslides. It is very difficult for round the clock deployment of shift manpower due to road non-accessibility
400KV/220KV 315 MVA ICT 2 AT INDRAVATI.	09-09-2024	Tripped due to Over Flux protection operated
400KV/220KV 315 MVA ICT 1 AT NORTH KARANPURA	12-09-2024	Tripped on Differential protection
132KV-MADHEPURA (BH)-SAHARSA(PMTL)-1	23.09.2024	To control loading on 132kV Madhepura-Saharsa line
132KV-MELLI-SILIGURI-1	05-10-2024	S/d for inspection of tower of Loc.127 found twisted due to heavy landslide & heavy continuous rainfall in Soom Tea Garden under Darjeeling section. Line charged as 132 KV Siliguri-Melli II (Interim arrangement) at 19:20 hrs on 09-10-2024. This interim arrangement is obtained by horizontal jumpering at Loc-129 after disconnecting main jumper for both Rangit & Melli side.

132KV-RANGIT-KURSEONG-1	05-10-2024	S/d for inspection of tower of Loc.127 found twisted due to heavy landslide & heavy continuous rainfall in Soom Tea Garden under Darjeeling section. Line charged as 132 KV Siliguri-Melli II (Interim arrangement) at 19:20 hrs on 09-10-2024. This interim arrangement is obtained by horizontal jumpering at Loc-129 after disconnecting main jumper for both Rangit & Melli side..
400KV/220KV 315 MVA ICT 1 AT TSTPP	01-11-2024	Tripped on PRD protection
220KV-CHUKHA-BIRPARA-1	04-11-2024	ROW clearance and maintenance
400KV-JHARSUGUDA-ROURKELA-2	04-11-2024	Reconductoring Works in 400 KV Sundargarh-Rourkela Ckt-2
132KV-RANGPO-GANGTOK-2	04-11-2024	Reconductoring work by HTLS Conductor
220KV-TTPS-TSTPP-1	07-11-2024	Tower erection and stringing for Diversion of 220KV TTPS – Kaniha & 220KV Rengali PH-NALCO DC Line for TTPS Plant expansion work
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-1	11-11-2024	Tree cutting work.

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5th of each month so that status of restoration can be reviewed in OCC. Utilities are also requested to update outage of any elements within their substation premises like isolator/breaker to ERLDC/ERPC regularly. (Reported as per Clause 5.2(e) of IEGC)

4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of October -2024.

The details of new units/transmission elements commissioned in the month of October 2024 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING October, 2024							
GENERATING UNITS							
SL. NO.	Location	Owner/ Unit name	Unit No / Source	Capacity added (MW)	Total/Installed Capacity (MW)	DATE	Remarks
NIL							
ICTs/ GTs / STs							
SL. NO.	Agency/ Owner	SUB-STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks
1	JSW ENERGY (UTKAL) LTD	JSW ENERGY (UTKAL) LTD	ST-2	6.9kV/420kV	60/30/30 MVA	04-10-2024	
2	PGCIL	RENGALI(PG)	ICT 2 (Replacement)	400/220 KV	500 MVA	11-10-2024	The Previous ICT -II (315 MVA) has completed its 32 years old and hence completed its useful life of 25 years

3	PENTL(Powergrid ER NER Transmission Ltd)	BANKA (PG)	ICT 4	400/220 KV	500 MVA	25-10-2024	First time charged from 400 kV side on 20.10.2024 and charged on 220kV side on 25.10.2024
4	PENTL(Powergrid ER NER Transmission Ltd)	BANKA (PG)	ICT 5	400/220 KV	500 MVA	28-10-2024	
TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name	Length (KM)	Conductor Type	DATE	Remarks	
NIL							
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name/LILO at	Length (KM)	Conductor Type	DATE	Remarks	
1	PGCIL	132 kV Rangit-Melli (interim) arrangement.	61 km	HTLS Panther	22-10-2024	Interim Arrangement of 132 kV Siliguri-Melli and 132 kV Rangit-Kurseong line by jumpering arrangements at Location no. 122/123 for providing second source to Melli.	
2	PGCIL	132 KV Siliguri-Kurseong-II (interim) arrangement	93 km	HTLS Panther	09-10-2024	This interim arrangement is obtained by horizontal jumpering at Loc-129 after disconnecting main jumper for both Rangit & Melli side.	
3	BSPTCL	220KV-BANKA (PG)-Goradih SS-1	32.667 Km	ACSR Zebra	31-10-2024	This arrangement is made functional using the bay of Havelikharagpur-Goradih Line-2 at Goradih SS.This is part of an interim arrangement for the utilization of 400/220kV ICTs at Banka Substation and is therefore permitted until September 2025.	
BUS/LINE REACTORS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
1	PGCIL	125MVAR 400KV B/R-4 AT JAMSHEDPUR(PG)	JAMSHEDPUR(PG)	400	06-10-2024		
BUS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
1	PENTL(Powergrid ER NER Transmission Ltd)	220 KV Main Bus-I & II at Banka(PG)	Banka(PG)	220	25-10-2024		
BAYS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
1	MPL	400KV MAIN BAY OF ST-3 AT MPL (Bay No 419)	MPL SS	400	04-10-2024	First time charging of FGD DIA-6	

2	PGCIL	400KV MAIN BAY OF 125MVAR B/R-4 AT JAMSHEDPUR SS	JAMSHEDPUR SS	400	06-10-2024	
3	PENTL(Powergrid ER NER Transmission Ltd)	400KV MAIN BAY OF 500 MVA ICT 4 AT BANKA (PG)	BANKA (PG)	400	20-10-2024	
4	PENTL(Powergrid ER NER Transmission Ltd)	400KV TIE BAY OF 500 MVA ICT 4 AND FUTURE AT BANKA (PG)	BANKA (PG)	400	20-10-2024	
5	PENTL(Powergrid ER NER Transmission Ltd)	400KV TIE BAY OF 500 MVA ICT 5 AND FUTURE AT BANKA (PG)	BANKA (PG)	400	28-10-2024	
6	PENTL(Powergrid ER NER Transmission Ltd)	400KV MAIN BAY OF 500 MVA ICT 5 AT BANKA (PG)	BANKA (PG)	400	28-10-2024	
7	PENTL(Powergrid ER NER Transmission Ltd)	220KV MAIN BAY OF GORADIH-2 AT BANKA (PG)	BANKA (PG)	220	26-10-2024	
8	PENTL(Powergrid ER NER Transmission Ltd)	220KV MAIN BAY OF GORADIH-1 AT BANKA (PG)	BANKA (PG)	220	26-10-2024	
9	PENTL(Powergrid ER NER Transmission Ltd)	220KV BUS COUPLER BAY AT BANKA (PG)	BANKA (PG)	220	25-10-2024	
10	PENTL(Powergrid ER NER Transmission Ltd)	220KV MAIN BAY OF 500 MVA ICT 4 AT BANKA (PG)	BANKA (PG)	220	25-10-2024	
11	PENTL(Powergrid ER NER Transmission Ltd)	220kv MAIN BAY OF 500 MVA ICT 5 AT BANKA (PG)	BANKA (PG)	220	29-10-2024	
12	NTPC Kahalgaon	400 KV Tie Bay (4152) of Barh-1 and Banka-1 at 400KV NTPC Kahalgaon Switchyard.	NTPC Kahalgaon Switchyard	400	22-10-2024	400 kV KHSTPP- Banka- I Charged at 13:01 hrs (Through Tie bay at KHSTPP End).NTPC has upgraded the bay (4152) equipment(s) at the Kahalgaon switchyard to match the capacity of the Kahalgaon-Patna 400kV (Quad) D/C line, increasing the rating from 2000A to 3150A.
13	JSW ENERGY (UTKAL) LTD	400KV TIE BAY OF ST-2 and SUNDERGARH AT JSW ENERGY (UTKAL) LTD	JSW ENERGY (UTKAL) LTD	400	03-10-2024	FTC BAY CHARGED; ST 2 taken on load at 17:20 hrs of 04/10/2024.
14	JSW ENERGY (UTKAL) LTD	400KV MAIN BAY OF ST-2 AT JSW ENERGY (UTKAL) LTD	JSW ENERGY (UTKAL) LTD	400	03-10-2024	FTC BAY CHARGED; ST 2 taken on load at 17:20 hrs of 04/10/2024.

Members may note.

4.4. UFR operation during the month of October 2024.

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
	(DATE/TIME)	(DATE/TIME)			

October, 2024	50.39 Hz on 25-10-2024 at 13:03 hrs	49.58 Hz on 16-10-2024 at 17:58 hrs	4.86	80.28	14.86
----------------------	-------------------------------------	-------------------------------------	------	-------	-------

Hence, no report of operation of UFR has been received from any of the constituents.

Members may note.

Annex B.2.1

[formerly Power System Operation Corporation Limited (POSOCO)]
राष्ट्रीय भार प्रेषण केन्द्र / National Load Despatch Centre

कार्यालय : बी-9, प्रथम एवं द्वितीय तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
Office : 1st and 2nd Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016
CIN : U40105DL2009GOI188682, Website : www.grid-india.in, E-mail : gridindiacc@grid-india.in, Tel.: 011- 42785855

संदर्भ: NLDC/SO/175

दिनांक: 19-Nov-2024



सेवा मे,

Chief Operating Officer,
Central Transmission Utility of India Limited,
Gurgaon - 122011

विषय:- Utilization and upgradation of STU-owned inter-regional lines at 132 kV and 220 kV level

महोदय,

The inter-regional transmission corridors have played an instrumental role in harnessing the diversity of demand and generation resources to enhance reliability and economy of operation. A list of STU-owned inter-regional transmission links at 132 kV and 220 kV levels, along with their current status and utilization, is attached as **Annexure – 1**. It is seen that several of these inter-regional links remain under-utilized due to commercial, or technical issues. It is important to mention that several of these lines are old and therefore in the absence of desired Renovation and Modernization (R&M), their availability is comparatively lower. The Operations and Maintenance (O&M) of lines becomes difficult as it requires coordination between two STUs that are in different regions. Also, there have been proposals to dismantle some of these lines in the recent past. With the rapidly increasing penetration of VRE sources in Northern, Western and Southern regions and ROW constraints in the construction of new transmission corridors, it is suggested to rejuvenate the existing lines by re-conductoring or by upgrading to higher voltage or utilising the Right-of-Way (ROW) for planning high capacity IR lines.

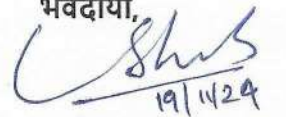
Retaining and upgrading these inter-regional lines can provide significant benefits in the following areas,

- Addressing the future ROW issue
- Voltage and reactive power support
- Restoration of supply and provide black-start support
- Alignment with future demand and RE growth

In light of these benefits, it is requested to take up the matter for deliberation at a suitable forum.

धन्यवाद,

भवदीया,



(S Usha)

CGM (I/C), NLDC

Encl: As above

Copy to:

1. Member (Power System), CEA
2. Member Secretary, NRPC/WRPC/SRPC/ERPC/NERPC
3. Executive Director, NRLDC/WRLDC/SRLDC/ERLDC/NERLDC

19/11/24
35/0
We may discuss
in OCC.
AD(O)
May be
included in
OCC
Agenda

Annexure - 1: Details of STU Owned Inter-Regional Lines at 132 kV & 220 kV Level

SI No	Corridor	Voltage Level (kV)	Inter-Regional Lines	Circuit ID	Tower configuration S/C or D/C	O & M by	Agency at End 1	Agency at End 2	line length in Km	Conductor Type	Utilization for Power Flow	Remarks
1	NR-WR	220	Bhanpura-Ranpur	1	D/C	RRVPNL - MPPTCL	MPPTCL	RRVPNL	68	ACSR Zebra	Utilized for power flow in radial mode	-
2			Bhanpura-Modak	1	D/C		MPPTCL	RRVPNL	63	ACSR Zebra	Utilized for power flow in radial mode	-
3			Mehgaon-Auraiya	1	D/C	UPPTCL - MPPTCL	MPPTCL	UPPTCL	113	ACSR Zebra	Utilized for power flow in synchronous mode	-
4			Malanpur-Auraiya	1	D/C	UPPTCL	MPPTCL	UPPTCL	146	ACSR Zebra	Utilized for power flow in synchronous mode	-
5		Nimabehra-Neemuch	1	S/C	RRVPNL - MPPTCL	RRVPNL	MPPTCL	45	ACSR Panther	No power flow observed on this 132 kV line in the past for around 15 years	The proposal for dismantling of the line was discussed during the joint NRPC and WRPC meeting held on 29 October 2024	
6		Gandhi Sagar-Ranapratap Sagar	1	D/C	RRVPNL - MPPTCL	MPPTCL	RRVPNL	51	ACSR Panther	No Power flow	Out since 2019	
7		Gandhi Sagar-Ranapratap Sagar	2	D/C		MPPTCL	RRVPNL	51	ACSR Panther	No Power flow	Out since 2019	
8		Sheopur- Khandar	1	S/C	RRVPNL - MPPTCL	MPPTCL	RRVPNL	47	ACSR Panther	No power flow is observed on this 132 kV line in the past more than 5 years.	Tower collapse in the Rajasthan area & anti-theft charged from the MP end. The proposal for dismantling of the line was discussed during the joint NRPC and WRPC meeting held on 29 October 2024	
9		Anpara-Morwa	1	D/C	UPPTCL- MPPTCL	UPPTCL	MPPTCL	18	ACSR Panther	No Power flow	Anti-theft charged from Marwa	
10		Bina-Morwa	1	D/C	UPPCL - MPPTCL	MPPTCL	UPPTCL	8	ACSR Panther	No Power flow	Anti-theft charged from Marwa	
11		Rajghat-Lalitpur	1	S/C	UPPCL - MPPTCL	MPPTCL	UPPTCL	23	ACSR Panther	No Power flow	Anti-theft Charged from Lalitpur end	
12	NR-ER	220	Karamnasa - Sahupuri	1	S/C	UPPCL+ BSPTCL	UPPTCL	BSPTCL	46	ACSR Zebra	Utilized for Power Radial Flow	-

C. Shukla

Annexure - 1: Details of STU Owned Inter-Regional Lines at 132 kV & 220 kV Level

SI No	Corridor	Voltage Level (kV)	Inter-Regional Lines	Circuit ID	Tower configuration S/C or D/C	O & M by	Agency at End 1	Agency at End 2	line length in Km	Conductor Type	Utilization for Power Flow	Remarks
13		132	Rihand-Nagar Untari	1	S/C	UPPCL+ JSEB	UPPTCL	JUSNL	65	ACSR Panther	Utilized for radial power flow	-
14			Rihand-Garwah	1	S/C	UPPTCL+ JSEB	UPPTCL	JUSNL	30	ACSR Panther	Utilized for radial power flow	-
15			Sahupuri-Karmanasa	1	S/C	UPPTCL+ BSPHCL	UPPTCL	BSPHCL	27	ACSR Panther	Occasionally used for supplying radial load.	Idle charged from Sahupuri
16			Chandauli-Karmanasa	1	S/C		UPPTCL	BSPHCL	25	ACSR Panther	Occasionally used for supplying radial load.	Idle charged from Karmanasa
17	WR-ER	220	Raigarh-Budhipadar	1	S/C	PG/ GRIDCO	PG	GRIDCO	83	ACSR Zebra	Utilized for power flow in synchronous mode	-
18			Korba(East)-Budhipadar	2	D/C	CSPTCL/ GRIDCO	CSPTCL	GRIDCO	184	ACSR Zebra	Utilized for power flow in synchronous mode	-
19			Korba(East)-Budhipadar	3	D/C	PG	CSPTCL	GRIDCO	184	ACSR Zebra	Utilized for power flow in synchronous mode	-
20	ER-SR	220	Balimela-Upper Silleru	-	S/C	OPTCL & APTRANSCO	OPTCL	APTRANSCO	24.64	ACSR Zebra	No power flow	The line had been idle charged from 8th January 2015 from Upper Sileru end.
21	WR-SR	220	Kolhapur (Talandage) - Chikkodi	1	D/C	MSETCL/ KPTCL	MSETCL	KPTCL	51	ACSR Drake	No power flow	The line is idle charged from Chikkodi (SR) end
22			Kolhapur (Mudshingi) - Chikkodi	1	D/C	MSETCL/ KPTCL	MSETCL	KPTCL	63	ACSR Drake	No power flow	The line is idle charged from Chikkodi (SR) end
23			Ponda-Ambewadi	1	D/C	GOA/KPTCL	GOA	KPTCL	80	ACSR Drake	Utilised to feed the radial load of GOA at 220kV Ponda SS	Utilised to feed the radial load of GOA at 220kV Ponda SS
24			Xeldom-Ambewadi	2	D/C	GOA/KPTCL	GOA	KPTCL	85	ACSR Drake	Utilised to load the radial load of GOA at 220kV Xeldem SS	However, the majority of the time the line is idle charged

C ShwS

Annex-B.2.2



सेंट्रल ट्रांसमिशन यूलिटी 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/19/24th NCT

25th November 2024

As per distribution list

Sub: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 24th meeting held on 23rd October 2024 under Regulated Tariff Mechanism (RTM).

NCT vide letter dated 22.11.2024 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-44 (ERES-44)	POWERGRID
2.	Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme	M/s Khavda IV A Power Transmission Ltd. (Subsidiary of Adani Energy Solutions Ltd.) (i.e. TSP of KPS3 (Sec-II))
II. ISTS Communication schemes approved by NCT		
1.	Supply and Installation of additional FOTE and Ethernet cards at AGC & Critical Nodes of SR Region	POWERGRID
2.	Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity	POWERGRID
3.	Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India	POWERGRID

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

1. Revision in SCOD of 400kV D/c Jhatikara- Dwarka line under REZ Phase-III Part-D Phase-II scheme

NCT approved the revised SCOD for 400kV D/c (Twin HTLS) Jhatikara-Dwarka line under "Transmission system for evacuation of 20 GW REZ power from Rajasthan under phase-III, Part-D, Phase-II" scheme as 28th February, 2026 (31st December 2025 on best effort basis)

Copy of NCT letter dated 22.11.2024 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 24th 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:

<p>1. The Chairman & Managing Director Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001 cmd@powergrid.in</p>	<p>2. Shri Prashanth Kumar Authorised Representative, Khavda IV A Power Transmission Ltd. C-105, Anand Niketan, New Delhi 110021 prashant.kumar1@adani.com</p>
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भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

सेवा में / To,

Chief Operating Officer, CTUIL
 Floors No. 5-10, Tower 1, Plot No. 16,
 IRCON International Tower, Institutional Area,
 Sector 32, Gurugram, Haryana - 122001

विषय: 23.10.2024 को आयोजित एनसीटी की 24 वीं बैठक में अनुमोदित आईएसटीएस पारेषण/संचार योजनाओं के कार्यान्वयन के संबंध में

Subject: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 24th meeting held on 23.10.2024- regarding

महोदय/Sir,

The undersigned is directed to inform that NCT has approved implementation of the following ISTS Transmission and Communication Schemes in its 24th meeting held on 23.10.2024, 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. ISTS schemes costing between Rs. 100 Crs. To Rs. 500 Crs. approved by NCT:

Sl. No.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Estimated Cost (₹ Cr)
1.	Eastern Region Expansion Scheme-44 (ERES-44)	RTM through POWERGRID	18 months (15 months on best effort basis) from the date of allocation	385.77
2.	Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme	RTM through M/s Khavda IV A Power Transmission Ltd. (Subsidiary of Adani Energy Solutions Ltd.) (i.e. TSP of KPS3 (Sec-II))	24 months from the date of allocation	252

II. Communication schemes approved by NCT:

सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 **टेलीफोन** : 011-26732325 **ईमेल**: cea-pspa2@gov.in **वेबसाइट**: www.cea.nic.in
 Sewa Bhawan, R.K Puram-I, New Delhi-110066 **Telephone**: 011-26732325, **Email**: cea-pspa2@gov.in **Website**: www.cea.nic.in

Sl. No.	Name of Transmission Scheme	Implementation Mode	Tentative Implementation timeframe	Implementing Agency	Estimated Cost (in Rs.)
1.	Supply and Installation of additional FOTE and Ethernet cards at AGC & Critical Nodes of SR Region	RTM	12 months from the date of allocation	POWERGRID	1.02 Cr.
2.	Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity	RTM	12 months from the date of allocation	POWERGRID	9.78 Cr.
3.	Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400 kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India	RTM	6 months from the date of allocation	POWERGRID	65 Lakhs

The above schemes are 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.

III. Modifications in earlier approved schemes:

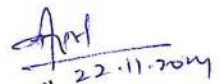
1. Revision in SCOD of 400 kV D/C Jhatikara-Dwarka line under REZ Phase-III Part-D Phase-II scheme

NCT approved the revised SCOD for 400 kV D/C (Twin HTLS) Jhatikara-Dwarka line under "Transmission system for evacuation of 20 GW REZ power from Rajasthan under phase-III, Part-D, Phase-II" scheme as 28th February, 2026 (31st December 2025 on best effort basis)

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



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केंद्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग- II

Power System Planning & Appraisal Division-II

सेवा में /To

As per list of Addresses

विषय: ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की चौबीसवीं बैठक के कार्यवृत्त - के सम्बन्ध में ।

Subject: Minutes of the 24th Meeting of National Committee on Transmission (NCT) - regarding.

महोदया (Madam) / महोदय (Sir),

The 24th meeting of the National Committee on Transmission (NCT) was held on 23rd October, 2024, at CEA, New Delhi. Minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

(Handwritten signature)
22.11.2024

(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, Floors No. 5-10, Tower 1, Plot No. 16, IRCON International Tower, Institutional Area, Sector 32, Gurugram, Haryana - 122001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9 (1 st Floor), Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016
9.	Sh. Ravinder Gupta Ex. Chief Engineer CEA		

Table of Agenda

1	Confirmation of the minutes of the 22 nd and 23 rd meeting of National Committee on Transmission.	1
2	Status of the transmission schemes noted/approved/recommended to MoP in the 22 nd and 23 rd meetings of NCT:.....	1
3	Modifications in the earlier approved/notified transmission schemes:.....	2
4	New Transmission Schemes:.....	7
5	Grid-India Presentation on Performance of the National Grid in Q1 and Q2 of FY 2024-25.....	19
	Summary of the deliberations of the 24 th meeting of NCT held on 23 rd October, 2024.....	23

Minutes of the 24th meeting of National Committee on Transmission (NCT)

The 24th meeting of NCT was held on 23rd October, 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 22nd and 23rd meeting of National Committee on Transmission.

- 1.1 The minutes of the 22nd meeting of NCT held on 23.08.2024 were issued on 01.09.2024 vide CEA letter No. CEA-PS-12-13/3/2019-PSPA-II. No comments have been received on the minutes.
- 1.2 The minutes of the 23rd meeting of NCT held on 02.09.2024 were issued on 09.09.2024 vide CEA letter No. CEA-PS-12-13/3/2019-PSPA-II. No comments have been received on the minutes.
- 1.3 Members confirmed the minutes of 22nd and 23rd meetings of NCT.

2 Status of the transmission schemes noted/approved/recommended to MoP in the 22nd and 23rd meetings 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
22nd NCT Meeting					
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)”	Recommended	TBCB	PFCCCL	Gazette Notified by MoP dated 12.09.2024
2.	Eastern Region Expansion Scheme-43 (ERES-43)	Approved	RTM	Not applicable	Informed to CTUIL vide letter dated 02.09.2024 CTUIL awarded the projects to the implementing agency on 02.09.2024
3.	Additional Transmission System Proposed for redundant power supply to Dholera area	Approved	RTM	Not applicable	Informed to CTUIL vide letter dated 02.09.2024 CTUIL awarded the projects to the implementing agency on 02.09.2024
4.	Transmission System for Integration of Anantapur-II REZ - Phase-I (for 4.5 GW)	Recommended	TBCB	PFCCCL	Gazette Notified by MoP dated 12.09.2024
5.	Transmission system for proposed Green Hydrogen / Green	Recommended	TBCB	RECPDCL	Gazette Notified by MoP dated 12.09.2024

Minutes of the 24th meeting of National Committee on Transmission (NCT)

Sr. No	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Mode of Implementation	BPC	Award/ Gazette notification
	Ammonia projects in Tuticorin area)				
6.	Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (6th - 8th) and 1x1500 MVA, 765/400 kV ICT (4th) at Bidar PS	Approved	TBCB	RECPDCL	Gazette Notified by CEA on 25.09.2024
7.	Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised	Approved	RTM	Not applicable	Informed to CTUIL vide letter dated 02.09.2024
8.	Optical Fibre Connectivity for NLDC new building, August Kranti Marg, New Delhi	Approved	RTM	Not applicable	CTUIL awarded the projects to the implementing agency on 02.09.2024
23rd NCT Meeting					
1.	Transmission System for Integration of Kurnool-IV REZ - Phase-I (for 4.5 GW)	Recommended	TBCB	RECDPCL	Gazette Notified by MoP dated 19.09.2024

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

S. No.	Scheme where modifications was suggested	Status
1.	Modification in Transmission system for evacuation of power from Luhri Stage-I HEP	Informed to RECPDCL vide letter dated 02.09.2024
2.	Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)	Informed to RECPDCL vide letter dated 02.09.2024
3.	Modification in timeframe of one of the elements in the scope of "Transmission system for offshore windzone phase-1(500 MW VGF off coast of Gujrat for subzone B-3)	Informed to CTUIL vide letter dated 02.09.2024
4.	Time extension for Communication Scheme "Requirement of additional FOTE of STM-16 capacity at Bhuj-II substation to cater connectivity of RE Gencos"	CTUIL awarded the projects to the implementing agency on 02.09.2024

3 Modifications in the earlier approved/notified transmission schemes:**3.1 Revision in SCOD of 400 kV D/C Jhatikara-Dwarka line under REZ Phase-III Part-D Phase-II scheme**

3.1.1 Representative from CTUIL stated that the implementation of the 400 kV D/C Jhatikara-Dwarka line, along with two 400 kV bays each at Jhatikara and Dwarka

under “Transmission system for evacuation of 20 GW REZ power from Rajasthan under phase-III, Part-D, Phase-II” was allocated to POWERGRID under RTM mode with completion schedule of 18 months vide MoP OM Ref. No. 15/3/2018-Trans-Part(5) dated 06.11.2023. POWERGRID vide letter dated 29.12.2023 requested an extension of the implementation timeline to at least 24 months due to technical and execution challenges and proposed changing the conductor configuration from quad to Twin HTLS on Monopole structure.

- 3.1.2 NCT in its 17th meeting held on 31.01.24 directed CTUIL to re-survey of the scheme through implementing agency so as to arrive at the optimum requirement of monopole/narrow base tower towers, and work out the revised estimated cost. Further, NCT in its 19th meeting held on 29.04.2024 approved the scope modifications in the Jhatikara – Dwarka 400 kV D/c line under Rajasthan REZ Ph-III, Part-D- Ph-II Scheme. Tentative implementation time-frame of 18 months from MOP OM-06/11/23 was unchanged. CTUIL vide letter Ref. No. CTUIL/OM/14/19 NCT dated 29.05.2024 informed that the scope of project was revised and conductor configuration was changed to Twin HTLS, However, the implementation timeline remains unchanged. POWERGRID on 06.06.2024, once again requested an extension of project timelines to at least 24 months from the fresh allocation date of 29.05.2024, instead of 18 months from original allocation date.
- 3.1.3 Subsequently, in a meeting chaired by Secretary (Power) on 01.07.2024, POWERGRID was advised to proceed with inviting tender based on 18 months’ timelines for the implementation of Rajasthan Phase-II, Part-D, Phase-II scheme. In compliance with the directives, POWERGRID floated the tender and the award is expected by November, 2024 with a project completion timeline of February 2026.
- 3.1.4 Director (SO), Grid-India stated that 765/400 kV Jhatikara ICTs and 400 kV lines from Jhatikara were N-1 non-compliant during summer of 2024. In case of further delay in 400 kV D/C Jhatikara - Dwarka line, severe constraints are expected in the existing 400 kV Jhatikara – Dwarka and 400 kV Jhatikara – Bamnoli lines with further RE capacity addition in Rajasthan etc. The loading of these lines emerged as N-1 non-compliant during high demand season of NR and the same may lead to RE curtailment in future. Requirement of any augmentation in the Delhi intra-state system also needs to be examined. Chairperson, CEA directed that the above issues shall be studied in a holistic manner in the transmission Resource Adequacy Plan of Delhi.
- 3.1.5 After deliberations, NCT approved the revised SCOD for 400 kV D/C (Twin HTLS) Jhatikara-Dwarka line under “Transmission system for evacuation of 20 GW REZ power from Rajasthan under phase-III, Part-D, Phase-II” scheme as 28th February, 2026 (31st December 2025 on best effort basis).
- 3.2 **Change in scope of Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1: 4 GW) [Sirohi/Nagaur] Complex**
 - 3.2.1 The transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1:4 GW) (Sirohi/Nagaur complex) was recommended in the 21st NCT meeting held on 06.08.2024. Subsequently, the scheme was notified by MoP vide Gazette dated

29.08.2024. The scheme involves 5x500 MVA, 400/220 kV ICTs along with 6 Nos. 220 kV line bays at Sirohi S/s for RE interconnection at Sirohi S/s. The scheme is currently under bidding by RECPDCL.

3.2.2 Representative from CTUIL stated that connectivity up to 2100 MW was agreed to be granted at Sirohi S/s. Out of this, 1400 MW was agreed to be granted at 220 kV level through 5 Nos. of 220 kV line bays and balance 700 MW was agreed to be granted at 400 kV level (1 No. bay). It is to mention that out of above 700 MW, earlier 400 MW was agreed to be granted at 220 kV level of Sirohi S/s, however due to additional application of 300 MW, considering cumulative quantum (700 MW), it was proposed to be granted at 400 kV level. Further, it is proposed to add the following transmission element as part of Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part- 1) (Sirohi Complex)

- 1 No. of 400 kV line bay at Sirohi S/s for RE interconnection

3.2.3 As total connectivity granted at Sirohi S/s on 220 kV level is 1400 MW through 5 Nos. of 220 kV line bays (out of 6 Nos.), 1 No. of 220 kV line bay which is part of the above scheme shall remain unutilised. Additionally, for RE evacuation requirement of 1400 MW at 220 kV level, through 4 Nos. of 400/220 kV ICTs (out of 5 Nos.), 1 No. of 400/220 kV ICT which is part of the above scheme shall remain unutilised. In view of the above, it is proposed to delete the following elements from Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part- 1) (Sirohi Complex)

- 1 No. of 220 kV line bay at Sirohi S/s
- 1x500 MVA, 400/220 kV ICT at Sirohi S/s along with transformer bays

3.2.4 The original cost of scheme is Rs 5027.61 Cr. With above modifications of scope, cost shall reduce only by Rs 40.75 Cr which is about (-) 0.81 % of original cost of package.

3.2.5 Representative of RECPDCL stated that NIT for the scheme was issued on 26.09.2024. The bid submission deadline is 29.11.2024 while SPV transfer is targeted in December 2024.

3.2.6 After Deliberations, NCT approved the revised scope of Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1: 4 GW) [Sirohi/Nagaur] Complex as follows:

Sl. No.	Original scope of the transmission scheme	Revised scope of the transmission scheme
1. Transmission system for immediate Evacuation of Power from Sirohi S/s (2 GW)		
1	5x500 MVA, 400/220 kV ICTs at Sirohi S/s along with transformer bays <ul style="list-style-type: none"> • 400/220 kV 500 MVA ICTs- 5 Nos. • 400 kV ICT bays-5 Nos. • 220 kV ICT bays- 5 Nos. 	4x500 MVA, 400/220 kV ICTs at Sirohi S/s along with transformer bays <ul style="list-style-type: none"> • 400/220 kV 500 MVA ICTs- 4 Nos. • 400 kV ICT bays-4 Nos. • 220 kV ICT bays- 4 Nos.
2	6 Nos. 220 kV line bays at Sirohi S/s	5 Nos. 220 kV line bays at Sirohi S/s

Sl. No.	Original scope of the transmission scheme	Revised scope of the transmission scheme
	for RE interconnection • 220 kV line bays – 6 Nos.	for RE interconnection • 220 kV line bays – 5 Nos.
3	220 kV Sectionalizer bay (1 set) along with 220 kV BC (2 Nos.) bay and 220 kV TBC (2 Nos.) bay at Sirohi S/s	• 220 kV Sectionalizer bay (1 set) • 220 kV BC (2 Nos.) bay and 220 kV TBC (2 Nos.) bay
4	-	1 No. 400 kV line bays at Sirohi S/s for RE interconnection • 400 kV line bay – 1 No.
Note: There will be no change in other elements of the transmission scheme w.r.t agreed in the 21st NCT meeting/ MoP Gazette dated 29.08.2024.		

3.3 Bid process for selection of Bidder as Transmission Service Provider (TSP) to establish “Augmentation of transformation capacity at Bhuj-II PS (GIS)” and “Transmission system strengthening to facilitate evacuation of power from Bhadla/Bikaner complex”

3.3.1 The transmission scheme “Augmentation of transformation capacity at Bhuj-II PS (GIS)” was agreed in the 16th meeting of National Committee on Transmission held on 30.11.2023 under TBCB route with estimated cost of Rs. 428 crores and implementation timeframe of 21 months. Gazette was notified on 23.01.2024 with PFCCCL as BPC. The RFP for the transmission scheme was issued on March 29, 2024. RFP bid submission originally scheduled on May 31, 2024 had been extended to August 20, 2024 on request from the bidders. Out of the two bidders who purchased the RFP documents for the subject transmission scheme, only one bidder i.e. Power Grid Corporation of India Limited submitted the bid on August 20, 2024. The bid was again extended and on August 27, 2024 also only one bidder i.e. Power Grid Corporation of India Limited submitted the bid. As there was only one bid, PFCCCL vide letter dated 04.09.2024 sought the guidance from MoP on the matter. MoP vide letter dated 09.10.2024 referred the matter to National Committee on Transmission (NCT) for deliberation in the next NCT meeting and submit the recommendations to the Ministry.

3.3.2 Another transmission scheme “Transmission system strengthening to facilitate evacuation of power from Bhadla/Bikaner complex)” was approved in the 19th meeting of National Committee on Transmission held on 29.04.2024 under TBCB route with estimated cost of Rs. 198.75 crores and implementation timeframe of 18 months. Gazette was notified on 18.06.2024 with PFCCCL as BPC. The RfP for the subject transmission scheme was issued on August 01, 2024. RFP bid submission was originally scheduled on October 04, 2024. RfP documents for the subject transmission scheme have been purchased by only one bidder, i.e. Power Grid Corporation of India Limited. Accordingly, bid submission for the project has already been extended three

(03) times and latest date of bid submission is 25th October, 2024. Subsequently, no bid has been received on the due date.

3.3.3 CTU stated that above strengthening schemes are getting delayed due to above bid issues.

3.3.4 As per clause 9.6 of "Tariff based Competitive-bidding Guidelines for Transmission Service" issued by Ministry of Power (MoP) on August 10, 2021, there have to be minimum two qualified bidders for conducting the bid process.

3.3.5 It was mentioned that in case of single bid is received, clarity is not available in TBCB Guidelines. Members opined that to save time of rebidding, certain provisions need to be worked out. It was discussed that whether the project can be awarded in case of single bid if the cost discovered is of the level of estimated tariff.

3.3.6 After deliberations, following was agreed:

A. For the project costing less than Rs. 500 crore

a) In case, no bid or single bid is received, the BPC may extend the bid process for 7 more days. After the extended period, the BPC may open the bid. If single bid is received, steps given in subsequent paragraphs need to be followed.

b) Based on estimated cost by the Cost Committee constituted by CEA and the norms provided in CERC tariff regulations, the levelised tariff for the project shall be calculated by the BPC.

c) If the quoted transmission charges by the bidder are lower than levelised tariff estimated by the BPC, the bidder may be declared as successful bidder and Letter of Intent (LoI) may be issued.

d) In case, the quoted transmission charges by the bidder are higher than the estimated levelised tariff by the BPC, the bidding process may be annulled and matter may be referred by the BPC to the Government. The Government may give exemption to the transmission project from competitive bidding and allocate the same under Regulated Tariff Mechanism (Section-62 of the Electricity Act, 2003).

e) If no bids are received, even after extension, the bidding process may be annulled by BPC and the matter may be referred by the BPC to the Government. The Government may give exemption to the transmission project from competitive bidding and allocate the same under Regulated Tariff Mechanism (Section-62 of the Electricity Act, 2003).

B. For the project with estimated cost of more than Rs. 500 crore, if only one bid is received, BPC may not open the bid and refer the matter to the Government. In case no bids are received, the bid process would be annulled and the matter shall be referred to the Government.

C. For making the enabling provisions, "Tariff based Competitive-bidding Guidelines for Transmission Service-2021" needs to be modified.

3.4 Change in the implementation timeframe of Transmission System for evacuation of RE power from Raghnesda area of Gujarat – 3 GW under Phase-I

- 3.4.1 Representative from CTUIL stated that Transmission System for evacuation of RE power from Raghnesda area of Gujarat – 3 GW under Phase-I was recommended in the 20th NCT meeting held on 25.06.2024 under TBCB route with PFCCL as BPC and implementation time frame of 30 months from SPV transfer. Applications for cumulative 3050 MW linked with Ph-I 3 GW scheme have been received at Raghnesda S/s, out of 3050 MW applications, start date of connectivity required for 4 nos. of applications (connectivity quantum of 1150 MW) is from Dec'26 (JSW Neo Energy Limited: 400 MW & ACME: 400 MW) to Mar'27 (Sunsure Solarpark RJ One Pvt. Ltd.: 350 MW).
- 3.4.2 CTUIL proposed to change the implementation timeframe of the subject scheme from 30 months from SPV transfer to 24 months from SPV transfer so that the substation can come up earlier matching with requirement of above RE developers.
- 3.4.3 Representative of PFCCL informed that the RfP was issued on 14.09.2024 while the bid submission date is 19.11.2024.
- 3.4.4 After deliberations, it was decided that the implementation timeline of Transmission System for evacuation of RE power from Raghnesda area of Gujarat – 3 GW under Phase-I may be kept as 30 months and need not be changed.

4 New Transmission Schemes:

4.1 Eastern Region Expansion Scheme-44 (ERES-44)

- 4.1.1 Representative of CTUIL stated that several 220 kV transmission lines and substations were implemented in Indian grid along with cross border lines for importing power from Chukha Hydro Electric Plant in Bhutan. The generating station was commissioned in years 1986-88 and the transmission system is now more than 35 years old. Considering the age of conductors and increase in conductor snapping incidences, reconductoring of these transmission lines has become necessary. The matter was also deliberated in ERPC forum.
- 4.1.2 As the system involved cross border links also, a meeting was convened by CEA under the chairpersonship of Member (Power System) on 27-08-2024, wherein it was decided that matter of reconductoring of cross border lines will be separately taken up with Bhutan. However, reconductoring of ISTS portion of 220 kV corridor viz. Alipurduar (POWERGRID) – Falakata (WBSETCL) – Birpara (POWERGRID) – Binaguri (POWERGRID) – Siliguri (POWERGRID) – Kishanganj (POWERGRID) – Dalkhola (POWERGRID) – Gazole (WBSETCL) – Malda (POWERGRID), may be taken up under ISTS. Further, reconductoring of intra-state LILO portion of Birpara (POWERGRID) – Alipurduar (POWERGRID) 220 kV D/c line at Falakata (WBSETCL) and Dalkhola – Malda 220 kV D/c line at Gazol (WBSETCL) shall be carried out by WBSETCL matching with HTLS conductor of the main ISTS line in the matching timeframe.

- 4.1.3 Director (SO), Grid-India stated that it is necessary that the intra-state portion of lines (under the jurisdiction of WBSETCL) is also re-conducted in the matching time-frame of that of the ISTS portion. Without the re-conducting of the intra-state portion, the benefits of re-conducting of the ISTS part cannot be realized. He further suggested that as intra-state portion is quite less compared to the inter-state portion, the intra-state part may also be re-conducted under ISTS at the cost of WBSETCL in matching timeframe.
- 4.1.4 It was suggested that re-conducting of Intra state portion of WBSETCL by an ISTS licensee may lead to commercial complications, therefore, re-conducting of intra state LILO portion may be carried out by the owner of the asset i.e. WBSETCL in matching timeframe.
- 4.1.5 After deliberations, NCT approved Transmission scheme “Eastern Region Expansion Scheme-44 (ERES-44)” as mentioned below:

4.1.5.1 Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Cr)	Remarks
1.	Eastern Region Expansion Scheme-44 (ERES-44) Tentative implementation timeframe: 18 months (15 months on best effort basis) from the date of allocation of project	385.77	Approved under RTM through POWERGRID

4.1.5.2 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity (MVA) / Circuit km (ckm) / Nos.
(i)	Reconducting of ISTS portion of Alipurduar (POWERGRID) – Falakata (WBSETCL) 220 kV D/c line with HTLS conductor of ampacity 1250 A	54 ckm
(ii)	Reconducting of ISTS portion of Falakata (WBSETCL) – Birpara (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	54 ckm
(iii)	Reconducting of Birpara (POWERGRID) – Binaguri (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	160 ckm
(iv)	Reconducting of Binaguri (POWERGRID) – Siliguri (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	12 ckm
(v)	Reconducting of Siliguri (POWERGRID) – Kishanganj (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	216 ckm
(vi)	Reconducting of Kishanganj (POWERGRID) – Dalkhola (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	62 ckm
(vii)	Reconducting of ISTS portion of Dalkhola (POWERGRID) – Gazole (WBSETCL) 220 kV D/c line with HTLS conductor of ampacity 1250 A	195 ckm
(viii)	Reconducting of ISTS portion of Gazole (WBSETCL) –	33 ckm

Minutes of the 24th meeting of National Committee on Transmission (NCT)

Sl. No.	Scope of the Transmission Scheme	Capacity (MVA) / Circuit km (ckm) / Nos.
	Malda (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A	
(ix)	Upgradation of associated 220 kV bay equipment at Alipurduar (POWERGRID)	Replacement of Wave Traps of Alipurduar (POWERGRID) – Falakata (WBSETCL) 220 kV D/c line commensurate with rating of HTLS.
(x)	Upgradation of associated 220 kV bay equipment at Birpara (POWERGRID)	Replacement of Wave Traps of Falakata (WBSETCL) – Birpara (POWERGRID) and Birpara (POWERGRID) – Binaguri (POWERGRID) 220 kV D/c lines commensurate with rating of HTLS.
(xi)	Upgradation of associated 220 kV bay equipment at Binaguri (POWERGRID)	Replacement of Wave Traps of Birpara (POWERGRID) – Binaguri (POWERGRID) and Binaguri (POWERGRID) – Siliguri (POWERGRID) 220 kV D/c lines commensurate with rating of HTLS.
(xii)	Upgradation of associated 220 kV bay equipment at Siliguri (POWERGRID)	Replacement of Wave Traps of Binaguri (POWERGRID) – Siliguri (POWERGRID) and Siliguri (POWERGRID) – Kishanganj (POWERGRID) 220 kV D/c lines commensurate with rating of HTLS.
(xiii)	Upgradation of associated 220 kV bay equipment at Dalkhola (POWERGRID)	Replacement of Wave Traps of Kishanganj (POWERGRID) – Dalkhola (POWERGRID) and Dalkhola (POWERGRID) – Gazole (WBSETCL) 220 kV D/c lines commensurate with rating of HTLS.
(xiv)	Upgradation of associated 220 kV bay equipment at Malda (POWERGRID)	Replacement of Wave Traps of Gazole (WBSETCL) – Malda

Sl. No.	Scope of the Transmission Scheme	Capacity (MVA) / Circuit km (ckm) / Nos.
		(POWERGRID) 220 kV D/c line commensurate with rating of HTLS.
(xv)	Supply and installation of OPGW along with terminal equipment at both ends of Siliguri (POWERGRID) – Kishanganj (POWERGRID) 220 kV D/c (HTLS) line	108 km

Note:

(a) WBSETCL shall reconductor their following lines sections under intra-state scheme matching with completion of ISTS scheme namely ERES-44:

- About 4 km intra-state portion of Alipurduar (POWERGRID) – Falakata (WBSETCL) 220 kV D/c line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
- About 4 km intra-state portion of Birpara (POWERGRID) – Falakata (WBSETCL) 220 kV D/c line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
- About 2 km intra-state portion of Dalkhola (POWERGRID) – Gazole (WBSETCL) 220 kV D/c line at Gazole end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).
- About 2km intra-state portion of Gazole (WBSETCL) – Malda (POWERGRID) 220 kV D/c line at Gazole end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).

(b) WBSETCL will LILO the Dhalkola – Gazole 220 kV D/c line with 1250 A HTLS under their intra-state scheme for establishment of 220 kV level at their existing 132/33kV Raiganj (WBSETCL) S/s.

(c) ISTS licensee and WBSETCL shall coordinate for reconductoring of their respective portion of the lines matching with completion schedule of this scheme.

4.2 Transmission system for Evacuation of Power from RE Projects in Rajgarh (1500 MW) SEZ in Madhya Pradesh-Phase III

4.2.1 Representative of CTUIL stated that 2.5 GW REZ potential has been identified at Rajgarh (MP).

- i. Phase-I of 1.5 GW involves establishment of Pachora PS with 3x500 MVA 400/220 kV ICTs and Pachora PS – Bhopal 400 kV D/c line which has been implementation by M/s G R Infraprojects Ltd. (Commissioned).
- ii. Phase-II (1 GW) involves ICT augmentation (4th, 5th & 6th) Pachora PS along with Pachora PS – Ujjan (MPPTCL) 400 kV D/c line which is presently under implementation by M/s G R Infraprojects Ltd. with SCOD of 14.02.2026.

4.2.2 He further stated that in view of applications received for cumulative capacity of ~4000 MW at Pachora PS till July-2024, it was found prudent to expand the substations to its full capacity so as to accommodate applications being received

beyond 2.5 GW at Pachora PS. Out of 1508 MW applications received for Rajgarh Ph-III system, RE projects for 1321 MW have been agreed for grant with start date of March 2027. For additional 187 MW applications received in July 2024 are under process and shall also be granted with start date of March 2027.

- 4.2.3 To evacuate the power from these areas, CTUIL proposed a transmission scheme broadly consisting of augmentation at Pachora PS and Pachora PS – Rajgarh(PG) 400 kV D/c line. CTUIL also mentioned that with the augmentation at Pachora PS, the substation will be closed for further connectivity.
- 4.2.4 After deliberations, NCT recommended the transmission scheme “Transmission system for Evacuation of Power from RE Projects in Rajgarh (1500 MW) SEZ in Madhya Pradesh-Phase III” to enable evacuation of upto 4000 MW Power from RE Projects in Rajgarh (i.e. 1500 MW beyond 2500 MW) SEZ in Madhya Pradesh as mentioned below:

4.2.4.1 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 Evacuation of Power from RE Projects in Rajgarh (1500 MW) SEZ in Madhya Pradesh-Phase III Tentative implementation timeframe: Implementation timeframe of elements at Sl. No. 1, 2a, 3 & 4 shall be 24 months from date of SPV Transfer & for element at Sl. No. 2b shall be 31.03.2028 in matching timeframe of RE generator (Purvah Green Power Pvt. Ltd.: 297 MW)	1079	Recommended under TBCB route with RECPDCL as BPC

4.2.4.2 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity
1.	Creation of New 220 kV Bus Section (3rd) with 220 kV Bus Sectionaliser and 400/220 kV, 3x500 MVA ICT augmentation (7th, 8th & 9th) at Pachora PS terminated on 220 kV Bus Section (3rd)	500 MVA 400/220 kV ICT – 3 Nos. 400 kV ICT bay – 3 Nos. (on Section-II) 220 kV ICT bay – 3 Nos. (on Section-III) 220 kV Bus Sectionaliser bays – 1 set 220 kV BC & TBC – 1 Nos. each
2.	2a. 3 Nos. 220 kV line bays for RE interconnection on Bus Section (3rd)	3 Nos. on Sec-III
	2b. 1 Nos. 220 kV line bay for RE Interconnection of Purvah Green Power Pvt. Ltd. on Bus Section (3rd)	1 No. on Sec-III
3.	Pachora PS – Rajgarh(PG) 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) along with associated line bays at both ends and 50 MVAR Switchable Line Reactors (Sw LR) on each ckt at both ends	Line length: 180 km. 400 kV line bays: 4 Nos. (2 at Rajgarh(PG) & 2 at Pachora PS) 420 kV, Switchable Line Reactors (Sw LRs): 4 Nos. (2 at Rajgarh(PG) & 2 at Pachora PS) Switching equipment for 400 kV line reactor – 4 Nos. (2 at Rajgarh(PG) & 2 at Pachora PS)
4.	Installation of 1x125 MVAR, 420 kV bus	125 MVAR, 420 kV Bus reactor – 1 Nos.

Sl. No.	Scope of the Transmission Scheme	Capacity
	reactor at Pachora PS (400 kV Bus Section-II)	400 kV Bus reactor bay: 1 Nos.

4.3 Transmission system for Evacuation of Power from RE Projects in Neemuch (1000 MW) SEZ in Madhya Pradesh-Phase II

4.3.1 Representative of CTUIL stated that applications for cumulative capacity of 1970 MW has been received at Neemuch PS till July 24, it was found prudent to expand the substations to its full capacity so as to accommodate applications being received beyond 1 GW at Pachora PS. CTUIL proposed transmission scheme consisting of augmentation a Neemuch PS, creation of 400/220 kV Handiya substation, Neemuch PS – Pachora PS 400 kV D/c line, Pachora PS – Handiya 400 kV D/c line and LILO of Khandwa(PG) – Itarsi(PG) 400 kV D/c (Twin Moose) line at Handiya S/s etc. CTUIL also mentioned that with the augmentation at Neemuch PS, the substation will be closed for further connectivity.

4.3.2 After deliberations, NCT recommended the scheme “Transmission system for Evacuation of Power from RE Projects in Neemuch (1000 MW) SEZ in Madhya Pradesh-Phase II” to enable Evacuation of upto 2000 MW Power from RE Projects in Neemuch (i.e. 1000 MW beyond 1000 MW) SEZ in Madhya Pradesh as mentioned below:

4.3.2.1 Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Transmission system for Evacuation of Power from RE Projects in Neemuch (1000 MW) SEZ in Madhya Pradesh-Phase II Implementation timeframe: 24 months from date of SPV transfer	2393	Recommended under TBCB route with PFCCCL as BPC

4.3.2.2 Detailed scope of the scheme is given below:

Sl.No.	Scope of the Transmission Scheme	Capacity
1.	Creation of New 220 kV Bus Section-II at Neemuch PS with Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (3 rd , 4 th & 5 th) at Neemuch S/s along with associated bays.	500 MVA 400/220 kV ICT – 3 Nos. 400 kV ICT bay – 3 Nos. 220 kV ICT bay – 3 Nos. (on Sec-II) 220 kV Bus Sectionalizer bays – 1 set 220 kV BC & TBC – 1 Nos. each
2.	4 Nos. 220 kV Line bays at Neemuch PS for RE interconnection	220 kV Bays – 4 Nos. on Sec-II
3.	Neemuch PS – Pachora PS 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) along associated Line bays and 50 MVar Switchable Line Reactor (Sw LR) on each ckt at both ends	Line length: 190km. 400 kV Line bays: 4 Nos. (2 at Neemuch PS & 2 at Pachora PS) 420 kV, Switchable Line Reactors (Sw LRs): 4 Nos. (2 at Neemuch PS & 2 at Pachora PS) Switching equipment for 400 kV

		line reactor – 4 Nos. (2 at Neemuch PS & 2 at Pachora PS)
4.	Establishment of 2x500 MVA, 400/220 kV S/s at Handiya alongwith 2x125 MVAR 420 kV Bus Reactors Future provision (space for): <ul style="list-style-type: none"> ➤ 400 kV line bays along with switchable line reactors– 6 Nos. (Sec-II) ➤ 400/220 kV ICT along with bays - 4 Nos. (1 Nos. on Sec-I & 3 Nos. on Sec-II) ➤ 400 kV Bus Reactor along with bays: 2 Nos. (Sec-II) ➤ 220 kV line bays: 8 Nos. (on Sec-II) ➤ 400 kV Sectionalization bay: 1 set ➤ 220 kV Sectionalization bay: 1 set ➤ 220 kV TBC & BC: 1 Nos. 	400/220 kV ICTs: 2 Nos. 400 kV ICT Bays: 2 Nos. 220 kV ICT Bays: 2 Nos. 400 kV Line bays: 6 Nos. 220 kV line bays for MPPTCL – 8 Nos. 125 MVAR, 420 kV Bus reactor – 2 Nos. 400 kV Bus reactor bay: 2 Nos. 220 kV TBC bay – 1 Nos. 220 kV BC bay – 1 Nos.
5.	Pachora PS – Handiya 400 kV D/c line (Quad ACSR/ AAC/ AL59 Moose equivalent) along with associated bays at Pachora PS end and 50 MVAR Switchable Line Reactor (Sw LR) on each ckt at both ends	Line length: 190 km. 400 kV bays: 2 Nos. (at Pachora PS) 420 kV, Sw LRs: 4 Nos. (2 at Handiya & 2 at Pachora PS) Switching equipment for 400 kV line reactor – 4 Nos. (2 at Handiya & 2 at Pachora PS)
6.	LILO of Khandwa(PG) – Itarsi(PG) 400 kV D/c (Twin Moose) line at Handiya S/s	LILO route length : 22 km (88 ckm) The Khandwa(PG) – Itarsi(PG) 400 kV D/c line is of Twin Moose configuration and LILO shall be of similar conductor configuration
7.	Installation of 1x125 MVAR, 420 kV bus reactor (2 nd) at Neemuch PS	125 MVAR, 420 kV Bus reactor – 1 Nos. 400 kV Bus reactor bay: 1 Nos.
<i>Note: TSP of Neemuch & Pachora PS shall provide space for above scope of work</i>		

4.4 North Eastern Region Expansion Scheme-XXI Part-B (NERES-XXI Part-B)

4.4.1 Representative from CTUIL stated that the existing 132 kV Badarpur (POWERGRID) switching station was commissioned in 1999 and shall be completing 25 years in service by 2024. POWERGRID the owner of the substation has informed that they are facing issues in O&M of the switching station and to improve the reliability it would be prudent to upgrade the switching station from single main and transfer bus scheme to double main transfer bus scheme by converting from Air Insulated Switchgear (AIS) to Gas Insulated Switchgear (GIS).

4.4.2 Further, towards adoption of new technology in the Indian Grid, it was proposed that the upgradation could be carried out as Green GIS instead of conventional GIS owing to the following benefits:

- Green GIS is a new technology in which Sulfur Hexafluoride (SF₆) gas is not used and this technology is being adopted by several countries in the world.
- This would help in the reduction of usage of Green House Gas and would be a step towards achieving sustainable development targets.

- 4.4.3 The scheme was taken up for deliberations in the 15th meeting of NCT held on 25-08-2023, wherein it was decided to review the scheme subsequently. The scheme was thereafter discussed in the 16th meeting of NCT held on 30-11-2023, it was decided to defer the scheme at present and take it up after additional discussions on new technology such as major benefits of Green GIS, availability of Green GIS vendors in India, additional cost implication (conventional GIS vis-à-vis Green GIS) etc.
- 4.4.4 Director (SO), Grid-India suggested that instead of going for green GIS for complete station, some portion of the station (limited number of bays) may be considered for green GIS. Also, stations in other regions where green GIS might be more suitable due to environmental conditions may also be considered as potential candidates for green GIS.
- 4.4.5 After deliberations, it was decided that a committee with members from CEA, CTUIL and POWERGRID to be constituted to survey the green GIS literature, technical aspects, undertake visit of the substation, exploring possible solutions etc. The committee shall submit its recommendations within 06 months.
- 4.5 Upgradation of ± 800 kV, 6000 MW Raigarh-Pugalur HVDC system for enhancement of reverse power capacity upto 6000 MW from existing 3000 MW**
- 4.5.1 Raigarh-Pugalur ± 800 kV, 6000 MW HVDC system is capable of transferring 6000 MW of power from Raigarh to Pugalur. However, its reverse power capacity i.e. Pugalur to Raigarh is 3000 MW.
- 4.5.2 Representative of CTUIL stated that enhancement of reverse power capacity upto 6000 MW from existing 3000 MW has been approved in 52nd SPRC meeting held on 03.08.2024 at an indicative cost of Rs 1000 Cr (including cost of system studies) and required AC system strengthening at Pugalur (estimated cost of Rs 400 crores) & Raigarh (estimated cost of Rs 1800 Crores)
- 4.5.3 Further, SRPC vide letter dated 02.09.2024 recommended CTUIL to take up the matter to NCT at the earliest.
- 4.5.4 Director (SO), Grid-India stated that until the adequate AC system is available on both ends, the HVDC capacity of 6000 MW in reverse direction can't be utilized even after the proposed HVDC upgradation.
- 4.5.5 CTU stated that as confirmed by POWERGRID vide e-mail dated 10.10.2024, there is no space available at both Raigarh (Kotra) and Dharamjaygarh S/s for augmentation of AC system to enable reverse power flow on Raigarh- Pugalur HVDC beyond 3000 MW. AC System augmentation at Raigarh (Kotra) S/s in WR is not possible and if at all reverse flow of more than 3000 MW is required with N-1 compliance, it would require an elaborate exercise of shifting certain Thermal generating stations from Raigarh (Kotra) S/s to a new substation which would be cumbersome and shall entail significant costs as well as consent from thermal generating stations which are already connected at Raigarh (Kotra) S/s. Further, it was also informed that with the reversal

of HVDC from 3000 MW to 6000 MW, no enhancement in TTC/ATC between SR-NEW Grid is expected looking into the very less sensitivity of the HVDC in TTC/ATC. .

- 4.5.6 After deliberations, it was decided that a committee will be formed comprising members from CEA, CTUIL, POWERGRID, Grid-India, SRPC and WRPC. The committee shall carry out comprehensive study and propose comprehensive plan including AC system strengthening in Southern Region and Western Region along with the total scheme cost. The comprehensive plan may again be put up to SRPC before bringing it to NCT.

4.6 Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme

- 4.6.1 Representative from CTUIL stated that KPS3 S/s with 3x1500 MVA ICTs on Section-I is under implementation by M/s KPS3 Transmission Ltd. (Subsidiary of POWERGRID). 1x1500 MVA Addl. ICT at Section-I is also being implemented by M/s POWERGRID (under RTM) under Khavda Ph-IV Part E3 scheme. Further, Section-II of KPS3 is being established by M/s Khavda IV A Power Transmission Ltd. (Subsidiary of Adani Energy Solutions Ltd.) with SCOD of Aug-26 with 3x1500 MVA ICTs and 3 Nos. 400 kV bays at Bus Section-II for RE interconnection. Out of above bays, 2 bays had been allocated to M/s SRPL (1250 MW) & NHPC (600 MW).

- 4.6.2 Applications for cumulative 3290 MW have been received at KPS3 (Sec-II) which require 3 Nos. 400 kV bays. 1 No. 400 kV bay is already being implemented under Khavda Phase-IV Part A scheme. Balance 2 nos. 400 kV bays along with addl. 1x1500 MVA ICT at KPS3 (Sec-II) are required to be implemented after considering N-1 compliance of already planned 765/400 kV ICTs at KPS3 (Sec-II). The proposed 765/400 kV ICT & 400 kV bays would facilitate immediate injection of power at KPS3 (Section-II). CTUIL also informed that the substation will be closed for further applications.

- 4.6.3 NCT directed CTUIL to explore the possibility for Battery Energy Storage System (BESS) for optimizing transmission infrastructure at Khavda as well as other RE potential Zones. Consideration of Storage may facilitate integration of additional RE Capacity.

- 4.6.4 After deliberations, NCT approved the transmission scheme “Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme” under RTM mode as follows

- 4.6.4.1 Summary of the scheme is given below:

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme	252	Approved under RTM through M/s Khavda IV A Power

	Implementation timeframe: 24 months from the date of allocation		Transmission Ltd. (Subsidiary of Adani Energy Solutions Ltd.) (i.e. TSP of KPS3 (Sec- II))
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4.6.4.2 Detailed scope of the scheme is given below:

S.N.	Scope of the Transmission Scheme	Capacity
1.	Augmentation of transformation capacity at KPS3(GIS) by 1x1500 MVA, 765/400 kV ICT on Bus section-II (8 th) along with 1 No. 400 kV line bay for termination of 1 st ckt out of 400 kV D/c line being implemented by AGEL (Appl. No. 2200000953) for 1530 MW	<ul style="list-style-type: none"> • 765/400 kV ICT – 1 (1x1500 MVA) • 765 kV ICT bay – 1 (+1 no. bay for dia completion with Switchable Line Reactor (SLR) provision in future bay) on Bus section-II • 400 kV ICT bay – 1 (+ 1 no. bay for dia completion and termination of the proposed Line for RE interconnection) on Bus section-II
2.	1 Nos. 400 kV line bay on KPS3 400 kV Bus Section-II for termination of 2 nd ckt out of 400 kV D/c line being implemented by AGEL (Appl. No. 2200000953) for 1530 MW	400 kV line bays – 1 no. (+ 1 no. bay for dia completion with the provision to terminate future 400/220 kV ICT)
<i>Note: TSP of KPS3 (GIS) shall provide space for above scope of work.</i>		

4.7 Supply and Installation of additional Fiber Optic Test Equipment (FOTE) and Ethernet cards at Automatic Generation Control (AGC) and Critical Nodes of SR Region.

4.7.1 Representative of CTUIL stated that as per CEA, Manual of Communication Planning in Power System Operation 2022, CTU for high availability requirements for Power System Communication, redundancy with route diversity for critical links shall be maintained. Additional FOTE and redundant Ethernet ports are required at all AGC operated generating stations, in view of resource disjoint and criticality of AGC operation for grid operation purpose.

4.7.2 After deliberations, NCT approved the communication scheme “Supply and Installation of additional FOTE and Ethernet cards at AGC & Critical Nodes of SR Region” under RTM mode as follows

4.7.2.1 Summary of the scheme is given below:

SI No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Cr)	Remarks
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1.	Supply and Installation of additional FOTE and Ethernet cards at AGC & Critical Nodes of SR Region Tentative implementation timeframe: 12 months from date of allocation of project	1.02	Approved under RTM through POWERGRID
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4.7.2.2 Detailed scope of the scheme is given below:

- (i) Supply and installation of 3 nos. FOTE with STM 16 capacity at following locations:

SI.No.	Station Name	No of FOTE	Remark
1.	Simhadri-1	1	For AGC purpose
2.	NP KUNTA	1	Shortage of ports
3.	NLC-TPS-2 Stage 1	1	For AGC purpose
Total		3	

- (ii) Supply and installation of 10 Nos. ethernet cards at following locations:

SI.No.	Station Name	Ethernet Cards required
1	Ramagundam -I	2
2	Ramagundam -II	
3	Ramagundam -III	
4	NTPC Vallur	2
5	NTPL Tuticorin	1
6	NTPC Kudgi	2
7	NLC - TPS 2 Exp	1
8	NLC - TPS 1 Exp	1
9	NNTPS new Neyveli	1
Total		10

4.8 Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity

4.8.1 Representative of CTUIL stated that the transmission scheme “Requirement of Additional FOTE at various ISTS nodes in ER” with capacity utilisation of approximately 90% and above and few other important stations is required.

4.8.2 After deliberations, NCT approved the communication scheme “Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity” under RTM mode as follows

4.8.2.1 Summary of the scheme is given below:

SI No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Cr)	Remarks
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Minutes of the 24th meeting of National Committee on Transmission (NCT)

1.	Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity Tentative implementation timeframe: 12 months from date of allocation of project	9.78	Approved Under RTM through POWERGRID
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4.8.2.2 Detailed scope of the scheme is given below:

- a) Conversion of 13 nos. STM 16 FOTE to STM 64 FOTE
- b) Conversion of 4 nos. STM 4 FOTE to STM 16 FOTE by utilizing four (4) Nos. FOTEs freed from upgradation of STM 16 FOTE to STM 64 FOTE

S. No.	Node Name(with approx 90% capacity exhausted)	Upgradation/replacement required	Detail of Card/Equipment required for upgradation	Estimated Cost (Rs.)
1	Kasba	STM 16 to STM 64	Existing Equipment Cannot be upgraded. New STM 64 SDH Equipment Required	74 Lakhs
2	ERLDC	STM 16 to STM 64		74 Lakhs
3	Jeerat	STM 16 to STM 64		74 Lakhs
4	Subhashgram	STM 16 to STM 64		74 Lakhs
5	Farakka	STM 16 to STM 64		74 Lakhs
6	Kahalgaon	STM 16 to STM 64		74 Lakhs
7	Saharsa	STM 16 to STM 64		74 Lakhs
8	Binaguri	STM 16 to STM 64		74 Lakhs
9	Purnea	STM 16 to STM 64		74 Lakhs
10	Kishenganj	STM 16 to STM 64		74 Lakhs
11	Sasaram	STM 16 to STM 64		74 Lakhs
12	AB380 Repeater	STM 16 to STM 64		74 Lakhs
13	Allahabad	STM 16 to STM 64		74 Lakhs
Total Cost for conversion of 13 nos. of STM 16 equipment to STM 64: A				9.62 Cr
14	Gaya	STM 4 to STM 16	Upgradation to be done by utilizing four Nos. of STM 16 equipment freed in above list after upgradation to STM 64.	4 Lakhs
15	Essar Chandwa	STM 4 to STM 16		4 Lakhs
16	Darbhanga(KPTL)	STM 4 to STM 16		4 Lakhs
17	Arrah	STM 4 to STM 16		4 Lakhs
Total Cost for conversion of 04 Nos. of STM 4 equipment to STM 16: B				16 Lakhs
Total Cost for conversion of 13 Nos. of STM 16 to STM 64 and 04 nos. of STM4 equipment to STM 16: A+B				9.78 Cr

4.9 Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400 kV lines from Punatsangchhu-II Hydroelectric Project (PHEP-II), Punatsangchhu-I Hydroelectric Project (PHEP-I) and Jigmeling of Bhutan to Alipurduar, India

4.9.1 Representative of CTUIL stated that to ensure the accurate coordination of devices between SDH at one end i.e Alipurduar, India and MPLS-TP at other end i.e., Punatsangchhu-II, as well as to cater to cybersecurity issue of the Indian Grid, the proposed scheme for Alipurduar S/s end needs to be implemented.

4.9.2 After deliberations, NCT approved the communication scheme “Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India” under RTM mode as follows

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.	Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and teleprotection for 400kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India Tentative implementation timeframe: 6 months from date of allocation	₹ 65 lakhs	Approved Under RTM through POWERGRID

4.9.2.2 Detailed scope of the scheme is given below:

- a) One (1) set of STM-4 SDH equipment along with panel supporting minimum five directions with MSP (Multiplex Section Protection 1+1) & equipped with E1 and Ethernet interfaces.
- b) Six (6) sets of 175 km Amplifiers solutions: 2 directed towards Punatsangchhu-II (PHEP-II), 2 directed towards Punatsangchhu-I (PHEP-I) and 2 directed towards Jigmeling.

Note: POWERGRID to coordinate with Bhutan ends while procuring the equipment to avoid any non-compatibility issues

5 Grid-India Presentation on Performance of the National Grid in Q1 and Q2 of FY 2024-25

5.1.1 Representative of Grid-India made a presentation on performance of the National Grid in Q1 and Q2 of FY 2024-25. Copy of presentation is attached at Annex-II. Major points highlighted during the presentation are given in subsequent paragraphs.

5.1.2 **Large number of generation loss events in NR RE Complex:** NLDC representative informed that there have been more than 55 events between January 2022 and September 2024 involving RE generation loss of more than 1000 MW. Around 13 such generation loss events (>500 MW) have occurred between April – September 2024.

One of the major reasons for these grid events has been the non-compliance of the RE plants against CEA's standards. The details of the non-compliance and measures being taken by Grid-India to address the issues were explained by NLDC representative in the meeting.

5.1.3 **Oscillations in NR RE complex and issues with performance of STATCOMs:** NLDC representative informed that low frequency oscillations (3-4 Hz) are being observed in NR RE complex on a regular basis. The oscillations start during morning hours with increase in solar generation and are mainly observed in voltage and reactive power. The non-standardization of PPC delays is one of the potential reasons for these oscillations.

He further informed that currently 05 Nos. STATCOMs are operational in NR RE complex. These STATCOMs have been installed to provide the fast dynamic reactive power support to the grid during any contingency. The response time of the installed STATCOMs shall be less than 30 ms as per their control manuals.

However, following observations in the performance of STATCOMs (as visible in DR as well as PMU plots) in NR RE complex has been observed:

- High response time (sluggish response) during faults leading to injection of reactive power post clearance of fault
- Automatic gain reduction by stability controller of the STATCOMs on hunting detection, possibly leading to enhancement in magnitude of oscillations

The problem of amplification of oscillations with reduction of STATCOM gain in voltage control mode has been analyzed with measurement (TFR) data and simulation results for a large data set. Detailed analysis in this regard was also shared with CEA, CTUIL, POWERGRID and OEM.

It is observed that oscillations damp out when the STATCOMs are being operated in Fixed 'Q' mode. This mode of operation, however, defeats the purpose of providing STATCOMs for fast dynamic reactive power support.

The performance issues being observed in the current STATCOMs necessitate proper tuning of the STATCOM controllers. Also, necessary modifications in the RfP of upcoming STATCOMs is required based on the current experience.

NCT directed that a committee may be constituted with members from CEA, CTUIL, Grid-India, Power Grid and all the STATCOM OEMs to deliberate the performance

related issues and the possible remedial measures. The matter to be coordinated by GM Division, CEA in consultation with PS Wing, CEA.

5.1.4 17th June 2024 Load Loss Event in Northern Region and Reactive Power Planning for Bulk Loads (Electrolyzers and Data Centers): Director (SO), Grid-India explained the 17th June 2024 grid event of simultaneous tripping of both bipoles of the +/-800 kV HVDC Champa (WR) – Kurukshetra (NR) link led to a substantial load reduction (~16.5 GW) in the northern region. The event started with the tripping of the aforementioned HVDC link and triggered a series of events starting from the sudden voltage drop across the stations in the Northern region and subsequent stalling and tripping of certain portion of load.

He further informed that the Ministry of Power constituted a Committee under the Chairmanship of Member (GO&D), CEA to analyze the event. The committee, in its suggestions, recommended the planning of suitable dynamic reactive power compensation near load centers.

He further stated that the event (especially the stalling of load) was replicated in simulation studies with proper load modelling. As the load behavior is changing, the existing philosophy for modelling of loads in the planning and operational studies need to be reviewed. Without proper load modelling in the studies, it would be difficult to capture such phenomenon in the studies. The standards for protection settings of loads, especially 1-ph and 3-ph motor loads, also needs to be reviewed.

Further, as a large quantum of electrolyzer and data center load is also envisaged to be connected at ISTS level in near future, it is important that adequate reactive power compensation is planned nearby such ISTS load feeding stations.

He suggested that the following activities may be taken up on priority:

- Study of load behavior and consideration of same in the simulation studies
- Planning of dynamic reactive power compensation at both inter-state and intra-state level near major load centers
- Review of the standards specifying standards for protection settings of loads, especially 1-ph and 3-ph motor loads
- Planning of suitable reactive power compensation at large ISTS stations being planned for feeding large electrolyzer and data center loads

Chairperson, CEA directed that the reactive power planning study at all the major load centers shall be taken up on priority. Grid India was advised to identify important BIS standards/committees in this regard and CEA/Stakeholders may take up with BIS.

He further directed that two separate committees comprising of members from CEA, CTUIL and Grid-India may be constituted for comprehensive study of performance, control strategy, reactive power requirements etc. of electrolyzer and data center loads respectively so that suitable reactive power compensation could be planned. The characteristics and load pattern/behaviour of electrolyzers would be coordinated by ET&I Division, CEA and of data centres would be coordinated by PDM&LF Division, CEA.

5.1.5 Evacuation of large quantum of RE under T-GNA: NLDC representative informed that a large quantum of RE generation (~5700 MW) is being evacuated under T-GNA due to the delay in the commissioning of associated transmission system. There is possibility of certain RE curtailment if the commissioning of the associated transmission system is not expedited.

5.1.6 Flexibility and Ramping Requirement: NLDC representative informed that persistent high frequency was observed in the India's grid during solar hours on few days in the month of August 2024. The high RE generation and the limited flexibility to further reduce the thermal generation to accommodate the RE generation was one of the major factors for this high frequency operation. Further, as the thermal generating units are required during non-solar hours, these units cannot be taken out of service during the high frequency operation period.

Another challenge is being faced in meeting the ramping requirement during evening hours where the flexibility requirements have increased significantly due to the increasing demand ramp up coupled with the simultaneous decline in solar generation. There is an urgent requirement of fast ramping resources in the grid to meet the flexibility requirements in coming days.

5.1.7 Constraints in Maharashtra system during high export from Southern Region: Director (SO), Grid-India stated that the congestion is being faced in export of power from SR during high RE periods. To relieve the congestion, 765 kV Narendra – Pune D/C was planned with commissioning schedule of July 2024. However, the line is delayed and revised date of commissioning is December 2024.

He further stated that even after commissioning of 765 kV Narendra – Pune D/C, constraints in western Maharashtra would still remain in export of power from SR. There is an urgent requirement for expediting the planned transmission system augmentation in western Maharashtra area.

Chairperson, CEA directed that the augmentation works in Maharashtra and other critical areas shall be monitored on priority.

Summary of the deliberations of the 24th meeting of NCT held on 23rd October, 2024**I. Modification in the earlier approved/notified transmission schemes:****1. Revision in SCOD of 400 kV D/C Jhatikara-Dwarka line under REZ Phase-III Part-D Phase-II scheme**

NCT approved the revised SCOD for 400 kV D/C (quad) Jhatikara-Dwarka line under “Transmission system for evacuation of 20 GW REZ power from Rajasthan under phase-III, Part-D, Phase-II” scheme as 28th February, 2026 (31st December 2025 on best effort basis).

2. Change in scope of Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1: 4 GW) [Sirohi/Nagaur] Complex

NCT approved the revised scope of Transmission system for evacuation of power from Rajasthan REZ Ph-V (Part-1: 4 GW) [Sirohi/Nagaur] Complex as follows:

Sl. No.	Original scope of the transmission scheme	Revised scope of the transmission scheme
1. Transmission system for immediate Evacuation of Power from Sirohi S/s (2 GW)		
1	5x500 MVA, 400/220 kV ICTs at Sirohi S/s along with transformer bays <ul style="list-style-type: none"> • 400/220 kV 500 MVA ICTs- 5 Nos. • 400 kV ICT bays-5 Nos. • 220 kV ICT bays- 5 Nos. 	4x500 MVA, 400/220 kV ICTs at Sirohi S/s along with transformer bays <ul style="list-style-type: none"> • 400/220 kV 500 MVA ICTs- 4 Nos. • 400 kV ICT bays-4 Nos. • 220 kV ICT bays- 4 Nos.
2	6 Nos. 220 kV line bays at Sirohi S/s for RE interconnection <ul style="list-style-type: none"> • 220 kV line bays – 6 Nos. 	5 Nos. 220 kV line bays at Sirohi S/s for RE interconnection <ul style="list-style-type: none"> • 220 kV line bays – 5 Nos.
3	220 kV Sectionalizer bay (1 set) along with 220 kV BC (2 Nos.) bay and 220 kV TBC (2 Nos.) bay at Sirohi S/s	<ul style="list-style-type: none"> • 220 kV Sectionalizer bay (1 set) • 220 kV BC (2 Nos.) bay and 220 kV TBC (2 Nos.) bay
4	-	1 No. 400 kV line bays at Sirohi S/s for RE interconnection <ul style="list-style-type: none"> • 400 kV line bay – 1 No.
<i>Note: There will be no change in other elements of the transmission scheme w.r.t agreed in the 21st NCT meeting/ MoP Gazette dated 29.08.2024.</i>		

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)
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Minutes of the 24th meeting of National Committee on Transmission (NCT)

1.	Eastern Region Expansion Scheme-44 (ERES-44)	RTM through POWERGRID	18 months (15 months on best effort basis) from the date of allocation	385.77
2.	Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme	RTM through M/s Khavda IV A Power Transmission Ltd. (Subsidiary of Adani Energy Solutions Ltd.) (i.e. TSP of KPS3 (Sec-II))	24 months from the date of allocation	252

The broad scope of above schemes are given below

Sl. No.	Name of Scheme & Tentative implementation timeframe	Broad Scope
1.	Eastern Region Expansion Scheme-44 (ERES-44) Implementation timeframe: 18 Months (15 months on best effort basis) from the date of allocation of project	<ol style="list-style-type: none"> 1. Reconductoring of ISTS portion of Alipurduar (POWERGRID) – Falakata (WBSETCL) 220 kV D/c line with HTLS conductor of ampacity 1250 A (54 ckm) 2. Reconductoring of ISTS portion of Falakata (WBSETCL) – Birpara (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A (54 Km.) 3. Reconductoring of Birpara (POWERGRID) – Binaguri (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A (160 ckm) 4. Reconductoring of Binaguri (POWERGRID) – Siliguri (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A (12 ckm) 5. Reconductoring of Siliguri (POWERGRID) – Kishanganj (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A. (216 ckm) 6. Reconductoring of Kishanganj (POWERGRID) – Dalkhola (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A (62 ckm) 7. Reconductoring of ISTS portion of Dalkhola (POWERGRID) – Gazole (WBSETCL) 220 kV D/c line with HTLS conductor of ampacity 1250 A (195 ckm) 8. Reconductoring of ISTS portion of Gazole (WBSETCL) – Malda (POWERGRID) 220 kV D/c line with HTLS conductor of ampacity 1250 A (33 ckm) 9. Upgradation of associated 220 kV bay equipment at

Minutes of the 24th meeting of National Committee on Transmission (NCT)

		<p>Alipurduar (POWERGRID)</p> <p>10. Upgradation of associated 220 kV bay equipment at Birpara (POWERGRID)</p> <p>11. Upgradation of associated 220 kV bay equipment at Binaguri (POWERGRID)</p> <p>12. Upgradation of associated 220 kV bay equipment at Siliguri (POWERGRID)</p> <p>13. Upgradation of associated 220 kV bay equipment at Dalkhola (POWERGRID)</p> <p>14. Upgradation of associated 220 kV bay equipment at Malda (POWERGRID)</p> <p>15. Supply and installation of OPGW along with terminal equipment at both ends of Siliguri (POWERGRID) – Kishanganj (POWERGRID) 220 kV D/c (HTLS) line (108 km)</p>
2.	<p>Augmentation of transformation capacity at KPS3 (GIS) S/s under Khavda Phase-V Part B3 scheme</p> <p>Implementation timeframe: 24 months from the date of allocation</p>	<p>1. Augmentation of transformation capacity at KPS3(GIS) by 1x1500 MVA, 765/400 kV ICT on Bus section-II (8th) along with 1 Nos. 400 kV line bay for termination of 1st ckt out of 400 kV D/c line being implemented by AGEL (Appl. No. 2200000953) for 1530MW</p> <p>2. 1 No. 400kV line bay on KPS3 400 kV Bus Section-II for termination of 2nd ckt out of 400 kV D/c line being implemented by AGEL (Appl. No. 2200000953) for 1530 MW</p> <p>Note: TSP of KPS3 (GIS) shall provide space for above scope of work.</p>

(Detailed scope as approved by 24th NCT and subsequent amendments thereof)

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 Evacuation of Power from RE Projects in Rajgarh (1500 MW) SEZ in Madhya Pradesh-Phase III	TBCB	Implementation timeframe of elements at Sl. No. 1, 2a, 3 & 4 shall be 24 months from date of SPV transfer & for element at Sl. No. 2b shall be 31.03.2028 in	RECPDC L	1079

Minutes of the 24th meeting of National Committee on Transmission (NCT)

			matching timeframe of RE generator (Purvah Green Power Pvt. Ltd.: 297 MW)		
2.	Transmission system for Evacuation of Power from RE Projects in Neemuch (1000 MW) SEZ in Madhya Pradesh-Phase II	TBCB	24 months from date of SPV transfer	PFCCCL	2393

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 Evacuation of Power from RE Projects in Rajgarh (1500 MW) SEZ in Madhya Pradesh-Phase III Implementation timeframe: Implementation timeframe of elements at Sl. No. 1, 2a, 3 & 4 shall be 24 months from date of SPV transfer & for element at Sl. No. 2b shall be 31.03.2028 in matching timeframe of RE generator (Purvah Green Power Pvt. Ltd.: 297 MW)	<ol style="list-style-type: none"> Creation of New 220 kV Bus Section (3rd) with 220 kV Bus Sectionalizer and 400/220 kV, 3x500 MVA ICT augmentation (7th, 8th & 9th) at Pachora PS terminated on 220 kV Bus Section (3rd) <ol style="list-style-type: none"> 3 Nos. 220 kV line bays for RE Interconnection on Bus Section (3rd) 1 Nos. 220 kV line bay for RE Interconnection of Purvah Green Power Pvt. Ltd. on Bus Section (3rd) Pachora PS – Rajgarh(PG) 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) along with associated line bays at both ends and 50 MVA Switchable Line Reactors (Sw LR) on each ckt at both ends (180 Km) Installation of 1x125 MVAR, 420 kV bus reactor at Pachora PS (400 kV Bus Section-II) 	RECPDCL
2.	Transmission system for Evacuation of Power from RE Projects in Neemuch (1000 MW) SEZ in Madhya Pradesh-Phase II	<ol style="list-style-type: none"> Creation of New 220 kV Bus Section-II at Neemuch PS with Augmentation of transformation capacity by 3x500 MVA, 400/220 kV ICTs (3rd, 4th & 5th) at Neemuch S/s along with associated bays. 4 Nos. 220 kV Line bays at Neemuch 	PFCCCL

	<p>Implementation timeframe: 24 months from date of SPV transfer</p>	<p>PS for RE interconnection</p> <p>3. Neemuch PS – Pachora PS 400 kV 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) along with associated line bays and 50 MVAR Switchable Line Reactors (Sw LR) on each ckt at both ends (190 km)</p> <p>4. Establishment of 2x500 MVA, 400/220 kV S/s at Handiya with 2x125MVAR 420 kV Bus Reactors</p> <p>Future provision (space for):</p> <ul style="list-style-type: none"> • 400 kV line bays along with switchable line reactors– 6 Nos. (Sec-II) • 400/220 kV ICT along with bays - 4 Nos. (1 Nos. on Sec-I & 3 Nos. on Sec-II) • 400 kV Bus Reactor along with bays: 2 Nos. (Sec-II) • 220 kV line bays: 8 Nos. (on Sec-II) • 400 kV Sectionalization bay: 1 set • 220 kV Sectionalization bay: 1 set • 220 kV TBC & BC: 1 Nos. <p>5. Pachora PS – Handiya 400 kV 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) along with associated bays at Pachora PS end and 50 MVAR Switchable Line Reactors (Sw LR) on each ckt at both ends (190 km)</p> <p>6. LILO of Khandwa(PG) – Itarsi(PG) 400 kV D/c (Twin Moose) line at Handiya S/s (22 km)</p> <p>7. Installation of 1x125 MVAR, 420 kV bus reactor (2nd) at Neemuch PS</p> <p><i>Note: TSP of Neemuch & Pachora PS shall provide space for above scope of work</i></p>	
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(Detailed scope as approved by 24th NCT and subsequent amendments thereof)

IV. ISTS communication schemes approved by NCT:

Minutes of the 24th meeting of National Committee on Transmission (NCT)

Sl. No.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Estimated Cost (₹)
1	Supply and Installation of additional FOTE and Ethernet cards at AGC & Critical Nodes of SR Region	RTM through POWERGRID	12 months from the date of allocation	1.02 Cr
2	Requirement of Additional FOTE at various ISTS nodes in ER due to exhaustion of existing capacity	RTM through POWERGRID	12 months from date of allocation	9.78 Cr
3	Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400 kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India	RTM through POWERGRID	6 months from date of allocation	65 Lakhs

(Detailed scope as approved by 24th NCT and subsequent amendments thereof)

Annexure-I**List of participants of the 24th 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. Sh. Y.K. Swarnkar, Chief Engineer (PSPM)
6. Sh. B.S. Bairwa, Chief Engineer (I/C) (PSPA-II)
7. Sh. Rahul Raj, Director (PSPA-II)
8. Sh. B.S. Meena, Director (PSPM)
9. Sh. Pranay Garg, Deputy Director (PSPA-II)
10. Sh. Manish Maurya, Deputy Director (PSPA-II)
11. Sh. Manish Kumar Verma, Assistant Director (PSPA-II)

MoP:

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

MNRE:

1. Sh. Himanshu Prabhakar, Under Secretary

SECI:

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

CTUIL:

1. Sh. P C Garg, COO
2. Sh. Ashok Pal, Deputy COO
3. Sh. K K Sarkar, Sr GM
4. Sh. P.S. Das, Sr GM
5. Sh. Rajesh Kumar, Sr GM
6. Sh. Anil Kumar Meena, GM
7. Sh. Kashish Bhambhani, GM
8. Sh. Bhaskar Wagh, DGM
9. Sh. Pratyush Singh, DGM
10. Sh. Venkatesh Gorli, Chief Manager
11. Sh. Anupam Kumar, Manager

GRID India:

1. Sh. Rajiv Porwal, Director (SO)
2. Sh. Rahul Shukla, Chief Manager
3. Sh. Priyam Jain, Chief Manager
4. Sh. Raj Kishan, Deputy Manager
5. Sh. Gaurab Dash, Deputy Manager

RECPDCL

1. Sh. Satyabhan Sahoo, GM (Tech)

PFCCL

1. Sh. Deepak Kumar, AM

Expert Member

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

POWERGRID

1. Sh. Anand Shankar, CGM
2. Sh. Sanjeev Kr. Chaudhary, Sr. GM
3. Sh. YKPN Singh, GM

Annex-B.2.3

With respect to the Minutes of Meeting dated 25.10.2024 and the recommendations from the committee comprising of members from ERPC and ERLDC regarding opening of 400kV Bus section breakers at Kahalgaon STPP, the following points may be noted:

1. Healthiness of Bus CVTs:

Daily monitoring has been conducted for all four Bus CVTs on the 400kV buses. Results indicate that their secondary side voltages (110VAC) remain within the acceptable range.

2. Opening of 400kV Bus section breakers in present condition and associated Constraints:

- a) The above committee has recommended exploring the possibility of opening both 400kV bus sectionalizer breakers under the current conditions without sectionalizing the downstream 132kV networks. Presently, the entire station power supply for Station Transformer-1(ST-1) to Station Transformer-5 (ST-5) is derived through ICT-1 and ICT-2, which are connected to a combined 400kV bus.
- b) Post-opening of both 400kV bus sectionalizer breakers, Kahalgaon generation switchyard will operate as two separate 400kV switchyards with differing voltage and phasor angles [delta] with respect to each other.
- c) Until the completion of the 132kV works (charging the new 132kV switchyard for Stage-II and shifting the power supply for ST-3 to ST-5 to new 132kV switchyard), the station power supply for ST-1 to ST-5 will remain reliant on ICT-1 and ICT-2 which are connected to 400kV Bus-1 & 2 only. However, Unit#5,6,7 shall be connected to 400kV Bus- 3&4 through their respective Generator Transformers.
- d) The generating Units at Kahalgaon STPP employ Station Transformer Scheme for auxiliary power supply network. Under this scheme, the Unit and Station bus of each generating unit are connected through 11 kV Tie busducts and a **FAST/LIVE** changeover Scheme is provided between Unit supply [derived from generator] & Station supply [derived from Grid] to take care of any fallback requirements in case of outage of Unit Transformer, Unit tripping and during Unit Startup. Any difference in the phasors of the Unit and station supply beyond acceptable limits shall result in the blocking of the live changeover from station supply to unit supply and vice versa may lead to loss of auxiliary supply pertaining to running unit and shall result in unwanted unit tripping and unit outage. Further with station supply not available, no fallback supply arrangement will be available which shall further endanger human and equipment safety.
- e) In case of substantial angular difference between the 400kV sections, during the closing of Station-Unit Tie, inadvertent power flow may be forced through the 11kV Auxiliary power network creating larger disturbances and equipment safety issues.
- f) As stated above, for the safety and reliability of the Auxiliary power network, it is necessary to derive Station Supply for stage-II through its own Step-up Switchyard (400kV Bus-3 & 4) so that Unit and Station bus Voltage Vectors are closely coupled together for achieving smooth **FAST/Live** changeover to Station bus (derived from grid) from Unit bus and vice versa.
- g) In view of above, a separate 132 kV station supply has been envisaged for stage-II (3X500MW) by providing 2 nos. 400/132 kV Inter Bus transformer (ICT-3 & ICT-4) from 400kV Bus-3 & 4

Handwritten signature and date:
21/11/24


under bus splitting scheme wherein power supply of all the station transformer of stage-II (ST -3,4 &5) are being shifted to new 132 kV switchyard of stage-II.

3. Progress on Bus Splitting Package:

- a. Identification of existing 132kV underground cable routes for Stage-II Station Transformers (ST-3, ST-4, and ST-5) is complete.
- b. Testing, revival of defective bay equipment, and jumper connection works are ongoing.
- c. Earthing work for ICT-3, ICT-4, and bay equipment is in progress.
- d. Required Control cables are being arranged by NTPC through internal resources and by the agency.

In view of the above, NTPC requests ERLDC/ERPC to allow completion of shifting of ST-3, ST-4 and ST-5 to Stage-II new 132kV switchyard derived from 400kV Bus -3 & Bus-4 (Via ICT-3 & ICT- 4) before opening of the 400kV bus sectionalizer breakers.

Before deciding on the opening of 400kV bus sectionalizers under current conditions, it is also requested that ERLDC/ERPC may kindly furnish a detailed study regarding line power flow and assess Voltage & Angular difference between the two Switchyards (400kV Bus-1 & 2 and 400kV Bus-3 & 4 respectively) by simulation methods under various grid scenarios. This shall enable us to take up a detailed analysis regarding power flow and angular difference at 11kV bus with respect to the Unit Vector and Station Vector for Units#5,6 and 7.


21/11/2024
(U. Rajan)
DSM-EMD


21/11/24

दीपक कुमार पात्रा / Deepak Kumar Patra
अपर मल ग्रंथक (ग्र.एवंअनु./ई.एम.डी.) AGM (O&ME.M.D.)
एनटीपीसी लिमिटेड NTPC, Limited.
कहलगाँव, भागलपुर / Kahalganv, Bhagalpur

Annexure-B.2.6



ଗ୍ରିଡକୋ ଲିମିଟେଡ୍ GRIDCO Limited

(A Govt. of Odisha Undertaking)

Regd. Office: Janpath, Bhubaneswar-751022, ODISHA

Phone: 0674-2540098/2540877 Fax: 2541904/2543031; Web: www.gridco.co.in

CIN: U40109OR1995SGC003960

No. GRIDCO/377/2024-SGM(TRADING)/

1639

Dt. 21/11/2024

From:

Director (Trading & Business Development),
GRIDCO, Bhubaneswar- 751022

To

Executive Director,
ERLDC, Kolkata - 700033

Sub: **Implementation of SPS at Baripada to prevent overloading of incoming feeders to Baripada (P.G) in exigency condition.**

Ref: *Discussions held in the 216th OCC meeting dated 21.06.2024 and 220th OCC meeting dated 28.10.2024*

Dear Sir,

It is understood that deliberations have been held in recent OCC meetings for implementation of SPS at Baripada for trimming of about 300 MW load in and around Baripada & Balasore Grid Sub-Station command area to control the power flow on 400 kV Jamshedpur – Baripada ISTS line, irrespective of over drawl of Odisha under any situation.

However, under the present circumstances, GRIDCO is not in a position to give concurrence to the above proposed SPS due to the following reasons:

- Any load restriction is against the policy of the Government of Odisha especially during peak summer.
- Load restrictions cannot be enforced when there is no over drawl by the State of Odisha.
- The intra state Transmission network of Odisha has been built to cater to Odisha's own power demand and not to wheel any additional inter-state power (power flowing to other States).

Thus, it is requested to kindly review the proposal & continue support healthy Grid Operation for Odisha. However, our SLDC will continue to follow RLDC's instruction & guidelines to mitigate exigencies on Real time.

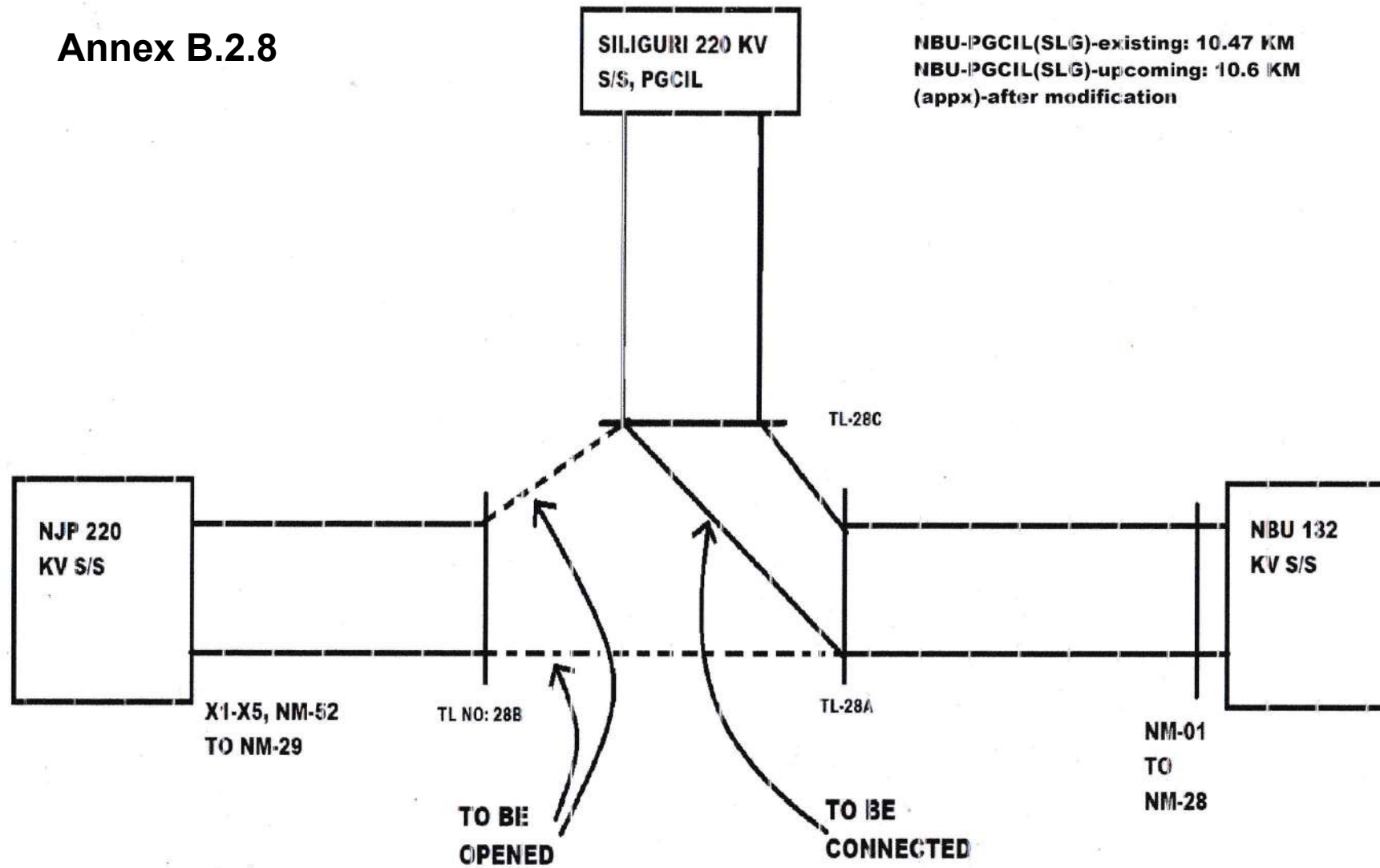
Yours faithfully,

Director (Trading & B.D)

C.C.

1. Member Secretary (ERPC), Kolkata-700033
2. Director (SLDC), Bhubaneswar

Annex B.2.8



SCHEMATIC DIAGRAM OF L.I.L.O. POINT OF 132 KV NJP-NBU-PGCIL(SLG) D/C LINE

Annex-B.2.9



Government of India
Ministry of Power
Central Electricity Authority
System Planning & Project Appraisal Division
Sewa Bhawan, R. K. Puram, New Delhi-110066
Website: www.cea.nic.in



No. 66/5/SP&PA-2016/ -139-150

Dated: 19.08.2016

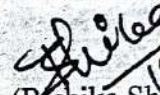
-As per List Enclosed-

Sub: Summary record of discussions of the 18th meeting of the Standing Committee Power System Planning of Eastern Region on 13.06.2016 at Kolkata.

Sir/Madam,

Minutes of the meeting for the 18th Standing Committee Meeting on Power System Planning in Eastern Region held on 13.06.2016 at Kolkata is uploaded on the CEA web www.cea.nic.in. (path to access: Wings of CEA/Power Systems/Standing Committee on Power System Planning/EASTERN REGION).

Yours faithfully


(Rishika Sharma)
Director (PSP)

Copy for kind information to:

1) PPS to Chairperson/Member(PS), CEA

List of addressee:

1. Member Secretary, Eastern Regional Power Committee, 14, Golf Club Road, Tollygange, Kolkata-700033. Tel. No. 033-24235199 Fax No.033-24171358	2. Director (Projects), Power Grid Corporation of India "Saudamini" Plot No. 2, Sector-29, Gurgaon-122001 Tel. No. 0124-2571816 Fax No.0124-2571932
3. Executive Director (System), Damodar Valley Corporation DVC Towers, VIP Road, Kolkata- 700054. Tel. 033-23557939 Fax No. 033-23554841	4. Managing Director, Bihar State Power Transmission Company, Vidyut Bhavan, Baily Road, Patna-800021. Tel. 0612-2504442 Fax No. 0612-2504557

116

5. Director (Transmission), Orissa Power Transmission Corporation Ltd, Jan path, Bhubaneshwar-751022. Tel. No. 0674-2540098 Fax No.0674-2541904	6. Director (System Operation), West Bengal State Electricity Transmission Company Ltd, Vidyut Bhavan, 5th Floor, Block- Bidhannagar, Sector-II, Kolkata-700091. Tel. No. 033-23370206 Fax No.033-23342243
7. Principal Chief Engineer cum Secretary, Power Department Government of Sikkim, Sikkim. Tel. No. 03592-2022440 Fax No.03592-202927	8. Managing Director, Jharkhand Urja Sancharan Nigam Limited Engineering Building, H.E.C., Dhurwa, Ranchi-834004. Fax-0651-2400799
9. CEO, POSOCO B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi-110016 Tel. No. 26852843 Fax No. 2626524525, 26536901	10. Director (Technical), NTPC Limited, Engineering Office Complex, A-8, Sector 24, Noida. Tel. No. 24362050 Fax No. 24362421
11. Executive Director (T&RE), NHPC Ltd, NHPC Office complex, Sector 33, Faridabad-121003. Tel. No. 0129-2255805 Fax No.-0129-2277523	

Copy to:

1. COO (CTU), PGCIL, Saudamini, Plot No. 2, Sector-29, Gurgaon-122001. **Fax No. 0124-2571760/62)**
2. General Manager, Eastern Regional Load Dispatch Center, 14, Golf Club Road, Tollygange, Kolkata-700033. **Tel No. 033-24235867, Fax No. 033-24235809**
3. Director (Commercial), Grid Corporation of Orissa Ltd, Jan path, Bhubaneshwar-751022. **Tel. No. 0674-2541127, Fax No. 0674-2541904**

- vii) Naubatpur (New)- Masaurhi (existing) 132 kV D/C Transmission line
- b) Naubatpur (New)- Attula (existing) 132 kV D/C Transmission line. Bakhtiyarpur 400/220/132 kV GIS S/s**
- i) Establishment of 2x500 MVA +2x160 MVA 400/220/132 kV GIS S/S at Bakhtiyarpur
 - ii) LILO of both circuits of Barh – Patna (PG) 400kV D/c (Quad) line-1 at Bakhtiyarpur 400 kV 2xD/C
 - iii) Bakhtiyarpur (New) - Sheikhpura (New) 220 kV D/C line.
 - iv) Bakhtiyarpur (New) - Hathidah (New) 220 kV D/C line.
 - v) Bakhtiyarpur (New) - Fatuha (BSPTCL) 220 kV D/C line.
 - vi) Bakhtiyarpur (New) - Harnaut (BSPTCL) 132 kV D/C line
 - vii) Bakhtiyarpur (New) - Baripahari (BSPTCL) 132 kV D/C line.
 - viii) 132 kV D/C Bakhtiyarpur (New) - Baripahari (BSPTCL) line.
- c) Jakkampur 400/220/132/33 kV GIS S/s**
- i) Establishment of 2x500 MVA +3x160 MVA+3x80 MVA 400/220/132/33 kV GIS S/S at Jakkampur
 - ii) LILO of both circuits of Nabinagar-II – Patna (PG) 400kV D/c at Jakkampur 400 kV 2xD/C
 - iii) LILO of both circuits of Sipara (BSPTCL)-Bihta (BSPTCL) line at Jakkampur (new) 2x220 kV D/C
 - iv) LILO of Khagaul (BSPTCL) - Sipara (BSPTCL) 220 kV S/C line at Jakkampur (New) 220 kV D/C
 - v) LILO of both circuits of Jakkampur-Sipara line at Jakkampur New (being re-conducted with HTLS by BSPTCL) 2x132 kV D/C
 - vi) LILO of 132 KV S/C Jakkampur/Mithapur-Fatuha line at Jakkampur New (being re-conducted with HTLS by BSPTCL) 132 kV D/C
- d) Bhusaula 220/33 kV GIS sub-station**
- i) Establishment of 2x100 MVA 220/33 kV GIS S/S at Bhusaula
- e) Dumraon 220/132/33 kV GIS sub-station**
- i) Establishment of 2x160 MVA+2x80 MVA 220/33 kV GIS S/S at Dumraon
 - ii) LILO of both circuits of 220 kV Ara (PG)-Pusauli (PG) D/c line at Dumraon (New) 2x220 kV D/C
 - iii) Dumraon (New)- Dumraon (BSPTCL) 132 kV D/C

19	LILO of 132 kV D/C (High Capacity) Sultanganj-Lakhisarai transmission line at Jamalpur	44
20	132 kV D/C Jamalpur (New) – Jamalpur (Old) transmission line (Zebra Conductor)	34
21	132 kV D/C Sabour (New) – Sabour (Old) transmission line (Zebra Conductor)	13
22	LILO of 132 kV D/C Kahalgaon-Sultanganj line at Sabour	18
23	220 kV D/C (High Capacity) Sabour (New) – Jamalpur (New) transmission line	60
Total		852

12.4 CE (PSPA-2) said that to bring out clarity and completeness, BSPTCL should inform the scope of transmission works covered under Phase-I, Phase-II and Phase-III also. BSPTCL agreed for the same.

Phase IV – Part-II Transmission works by BSPTCL

12.5 Director (PSPA-2) said that the works covered under **Phase-IV Part-II** which, interalia, includes transmission system associated with establishment of 3 no. 2x500 MVA 400/220 kV sub-stations around Patna under state sector at Bihta, Fatuha and Gaihat along with downlinking 220 kV & 132 kV system has been revised due to non-availability of land at these locations. In this context, the joint studies carried out by BSPTCL and POWERGRID for the 12th plan has been revised considering new substations at Naubatpur, Bakhtiyarpur and Jakkanpur in place of Bihta, Gaihat and Fatuha respectively. BPTCL vide their letter no. 17/BSPTCL, Patna dated 02-072016 had intimated to CEA that Naubatpur GSS 400/220/132/33kV would be connected to Paliganj 132/33 kV 2x50 MVA S/S (tender invited) and existing 132/33 kV Masaurhi 2x20 MVA & Attula 2x20 MVA sub-stations over 132 kV D/C lines. The revised system proposed by BSPTCL associated with above sub-stations and other transmission works under Phase-IV part-II are given below:

a) Naubatpur 400/220/132/33 kV GIS S/s

- i) Establishment of 2x500 MVA +2x160 MVA+2x80 MVA 400/220/132 kV S/S at Naubatpur
- ii) LILO of circuits 3 & 4 of Patna (PG)-Balua 400 kV D/c (Quad) line at Naubatpur 400 kV 2x D/C line
- iii) LILO of both circuits of Ara (PG) – Khagaul (BSPTCL) line at Naubatpur (New) 220 kV 2xD/C
- iv) Naubatpur (New)-Bihta (BSPTCL) 220 kV D/C line
- v) Naubatpur (New)-Bhusaula (New) 220 kV D/C Transmission line
- vi) Naubatpur (New)- Paliganj 132 kV D/C Transmission line



BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA

A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna
CIN - U40102BR2012SGC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

Head Office, Vidyut Bhawan, Bailey Road, Patna - 800021

E-mail address - ceproject@bsptcl@gmail.com,

Website - www.bsptcl.in

Letter No.
Trans-7-11/24/2019

Patna dated

From,

Er Shankar Kumar,
Chief Engineer (Project-II)

To,

M/s Larsen & Toubro Limited,
Mount Poonamallee Road,
Mannpakkam, Chennai - 600 089

Sub:- Confirmation of stringing arrangement of Earthwire and OPGW in LILO line of Barh-Patna 400 KV D/C (Quad) transmission line for its LILO at 400/220/132 KV GSS Bakhtiyarpur (New).

- Ref:- (i) N.I.T No. 77/PR/BSPTCL/2018.
(ii) NOA No. - 13(S) & 14(E) both dated 21.01.2019
(iii) PO No.-09 & WO No.-09 both dated 06.03.2019
(iv) Your letter no.- LTCD/BSPTCL/NIT77/Site/TL/134 dated 02.02.2021
(v) M/s PGCIL letter no.- ER-1/PT/AM/BSPTCL/3186 dated 24.02.2021 (Copy enclosed)
(vi) Your letter no.- LTCD/BSPTCL/NIT77/Site/TL/147 dated 19.03.2021

Sir,

With reference to above it is to intimate that as per M/s PGCIL confirmation vide letter under reference (v), it is hereby confirmed that existing Barh-Patna 400 KV D/C (Quad) line-1 (Ckt.1 & 2) of PGCIL is having earthwire.

Further as per your submitted request vide letter under reference letter No.-(vi) enclosed stringing arrangement of Earthwire and OPGW in LILO line of Barh-Patna 400 KV D/C (Quad) transmission line for its LILO at 400/220/132 KV GSS Bakhtiyarpur (New) is hereby confirmed subject to condition that proper connection between existing system will have to be done.

Please note that this approval and issue of this letter does not absolve you from any contractual responsibility in terms of quality and correctness of the material and should be strictly in accordance with the contract/tender specification as well as, latest amended ISS/IEC. If at any time, any abnormality is observed BSPTCL reserves the right to withdraw this approval with immediate effect without pre-intimation.

Encl:- As above

Yours' faithfully
Sd/-

(Shankar Kumar)

Chief Engineer (Project-II)

Memo No.

Patna, Dated.....

Copy forwarded to CE (P&E)/ CE (P-I)/ CE (SO)/ ESE TC, Patna (East) for information and necessary action.

Sd/-

(Shankar Kumar)

Chief Engineer (Project-II)

Memo No. 486

Patna, Dated 07/06/2021

Copy submitted to Director (Projects) BSPTCL for kind information.

(Shankar Kumar)

Chief Engineer (Project-II)

LARSEN & TOUBRO

Larsen & Toubro Ltd
Power Transmission & Distributor
C/o - Abhmanyu Prasad
Kathaltola, Sohsara
Nalanda
Bihar - 803118

Ref: LTCD/BSPTCL/NIT77/Site/TL/147

Date: 19.03.2021

The Chief Engineer (Project-II)
Bihar State Power Transmission Company Ltd
4th Floor, Vidyut Bhawan
Bailey Road, Patna
Bihar - 800021

Kind Attn: Sh. Shankar Kr.

- 621/C.E.(P2)
19/03/21
- Ref: 1) NOA: 13 dated 21.01.2019 (Supply), (NIT- 77)
2) NOA: 14 dated 21.01.2019 (Erection), (NIT- 77)
3) PO & WO: 09 dated 06.03.2019

Our previous letter no: LTCD/BSPTCL/NIT77/Site/TL/134, dated 19.03.2021

Sub: Construction of 400/220kV lines for BSPTCL (NIT77): Regarding Confirmation for Earthwire & OPGW position in the existing 400kV Barh Patna Line of PowerGrid.

Sir,

With reference to the above subject, this is to intimate you that we are about to initiate the Earthwire & OPGW Stringing works in 400kV D/C LILO of Barh - Patna TL of the above-mentioned Package.

In context to the above, request you to kindly confirm the position of Earthwire & OPGW circuit wise for the existing PGCIL Line of 400kV Barh Patna TL (from where we will be executing the LILO Line), as the line is showing Ckt-I & Ckt-II.

Urgent please.

Concerned Line diagram is hereby enclosed for your kind reference please.

Thanking you and assuring you of our best attention at all the times.

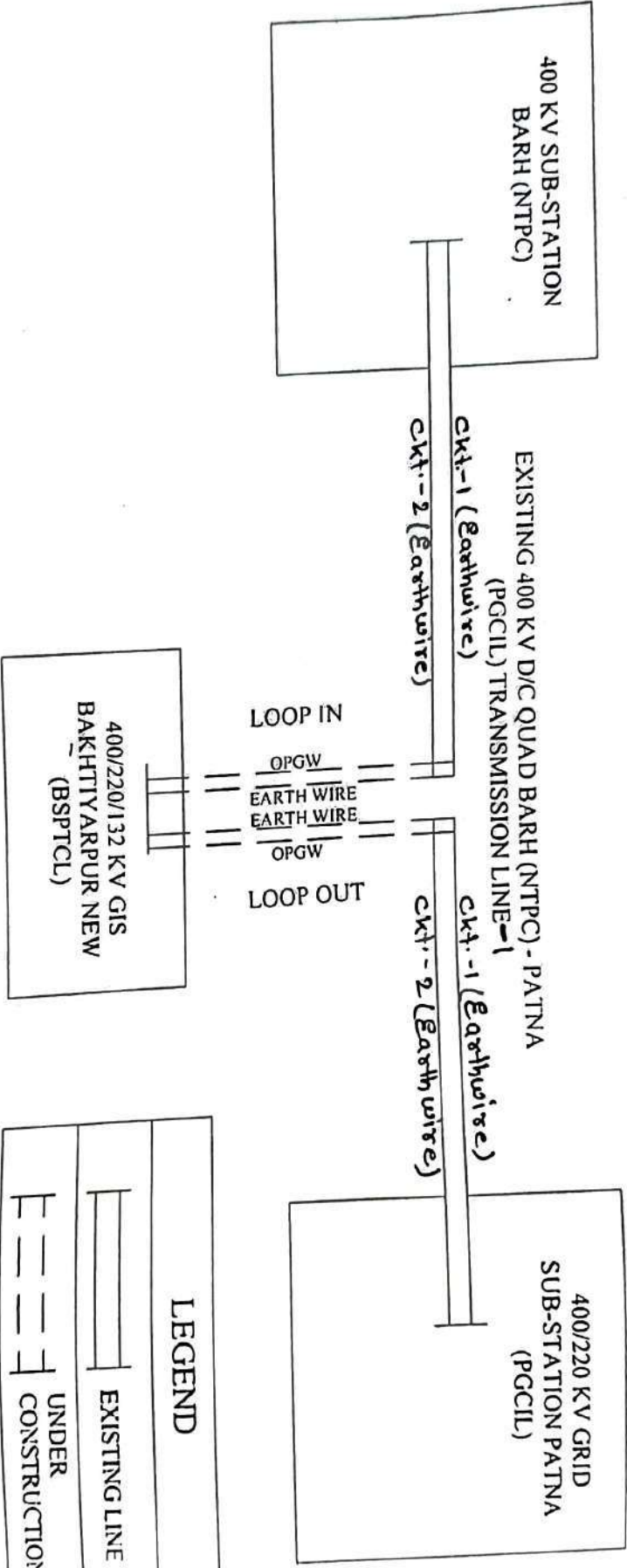
Yours faithfully,
For Larsen & Toubro Limited,
PT&D IC



(Lab Kumar Nath)
Project Manager

CC: ESE- Trans Circle-Patna -East
ESE: Vidyut Bhavan
EEE: Trans Division -Barh & Vidyut Bhavan
AEE : Vidyut Bhavan

SINGLE LINE DIAGRAM OF SUB-STATION



LEGEND

	EXISTING LINE
	UNDER CONSTRUCTION

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED	
PROJECT:	L.I.O OF BARH (NTPC) - PATNA (PGCIL) 400 KV D/C (QUAD) LINE AT BAKHTIYARPUR GIS
TITLE:	ARRANGEMENT OF UNDER CONSTRUCTION TRANSMISSION LINE



LARSEN & TOUBRO

1150
Larsen & Toubro Ltd
Power Transmission & Distribution
C/o - Abhimanyu Prasad
Kathaltola, Sahsaral
Nalanda
Bihar - 803118

Date: 02.02.2021

Ref: LTCD/BSPTGL/NIT77/Site/TL/134

To,
Chief Engineer-Project (II)
Bihar State Power Transmission Company Limited
Vidyut Bhavan,
Bailey Road,
Patna

Ref: PO No 09/Trans./misc/Proj V136/2018 (SUPPLY) Dtd - 06-03-2019
WO No: 09/Trans./misc/Proj V136/2018 (ERECTION) Dtd - 06-03-2019

Sub: Construction of 400/220kV lines for BSPTCL (NIT77); Regarding Confirmation for Earthwire & OPGW position in the existing 400kV Barh Patna Line of PowerGrid.

Sir,

With reference to the above subject, this is to intimate you that we are about to initiate the Earthwire & OPGW Stringing works in 400kVDC LILO of Barh -Patna TL of the above-mentioned Package.
In context to the above, request you to kindly confirm the position of Earthwire & OPGW circuit wise for the existing PGCIL Line of 400kV Barh Patna TL (from where we will be executing the LILO Line), as the line is showing Ckt-I & Ckt-II.

Urgent please.

Concerned photographs is hereby enclosed for your kind reference please.

Thanking you and assuring you of our best attention at all the times.

Yours faithfully,

For Larsen & Toubro Limited,
PT&D IC

(Lab Kumar Nath)
Project Manager

C/c:- Electrical Superintending Engineer- NIT 77, Vidyut Bhavan, Patna
Electrical Superintending Engineer-NIT 77, Transmission Circle, Patna East
Electrical Executive Engineer-NIT 77, Vidyut Bhavan, Patna
Electrical Executive Engineer, Transmission Circle, Patna East
Electrical Executive Engineer, Transmission Division, Barh

159

Record note of discussion held between POWERGRID officials Patna SS & BSPTCL officials
(Transmission Zone Patna) on dated 13/02/2019.

Member Present:

SL No.	POWERGRID	BSPTCL	L&T CONSTRUCTION
1	Mr. Gautam Kumar, (Dy Mgr. Patna SS)	Mr. Rohit Kumar (EEE, Patna)	L.K. Nath (PM-L&T)
2	Mr. Enayat Shameem, (JE)	Mr. Praveen Kumar (AEE, Fatuha)	

In line with discussion and decision in 18th Standing Committee Meeting of Power System planning of Eastern Region, BSPTCL officials requested to POWERGRID Patna Substation for conducting a joint site visit program (Ref. letter no. 252 Trans/Misc/Project-I/136/18 of Director(Projects), BSPTCL Dtd 05.02.19).

Based on above, a joint visit was carried out between officials of POWERGRID Patna SS & BSPTCL officials (Transmission Zone Patna) on dated 13/02/2019 regarding LILO of both ckts. of 400 kV Barh-Patna (400 kV D/C Quad Moose) Transmission Line at Proposed Bakthiyarpur New GIS of BSPTCL (NIT NO-77/PR/BSPTCL/2018 (NOA NO-13(S) & 14 (E), dated 21.01.2019).

The following points were discussed during the visit:

- 1) Site visit by team of POWERGRID & BSPTCL officials along with the agency (M/s L&T Construction) conducted the preliminary Route Survey and selected the suitable LILO points (Tower no-547 (DD+0) & 548 (DD+0)).
- 2) Tower no-547 (DD+0) & 548 (DD+0) of 400 kV Barh-Patna ckt #1&2 as most suitable LILO points.
- 3) During Foundation & Erection activities for construction of new LILO Line, no shut down is expected for 400 kV Barh-Patna ckt #1&2 Quad Line-1
- 4) Shut down is required only for dismantling the Stringing section in between Tower no.547 & Tower no. 548 and to connect with the new constructed LILO point Tower.
- 5) The dismantled materials will be return back to the PGCIL authorities.

NOTE: The LILO point arrangement has been attached.

23/03/19
Electrical Executive Engineer
Transmission Division, Patna

23/03/19
GAUTAM KUMAR
Assistant Engineer

3-2/19
(E-Shameem, JE)

(Lab fee
L & T C

Ref: ER-I/PT/AM/BSPTCL / 3186

Date: 24.02.2021

To,

Chief Engineer (Project-I)

Bihar State Power Transmission Company Ltd,
Vidyut Bhavan, Bailey Road, Patna- 800001.

Ref:

1. Your letter ref: C.E. (P&E) 158/2019 Memo No. 789 dtd. 12.11.2020.
2. Our letter ref: ER-I/PT/AM/BSPTCL dtd. 04.12.2020.
3. Your letter no. 118 dtd. 04.02.2021.

Sub: Confirmation of OPGW/Earthwire in existing line of Barh- Patna 400 kV D/C (Quad) transmission line, for its LILO at 400/220/132 kV GSS Bakhtiyarpur (New)-req.

Dear Sir,

This has reference to your letter dtd. 04.02.2021 wherein confirmation regarding OPGW/Earthwire in existing line of Barh- Patna 400 kV D/C (Quad) transmission line, for its LILO at 400/220/132 kV GSS Bakhtiyarpur (new), was sought from POWERGRID.

In this regard, it is to inform that the confirmation regarding availability of OPGW and possible LILO arrangement at Bakhtiyarpur (new) was communicated to you vide our letter dtd. 04.12.2020 (copy enclosed), in response to your letter dtd. 12.11.2020.

It is to bring to your kind notice that there are two 400 kV D/C lines available between Barh & Patna and out of which, only Barh- Patna Ckt-4 is having OPGW installed and commissioned in it. The earlier confirmation provided to BSPTCL vide letter dtd. 04.12.2020 was made in response to BSPTCL requirement for facilitating OPGW, SDH and DTPC based communication and protection channel provisioning, in the upcoming lines.

Further, it is to confirm that the LINE-1 (Ckt1 & 2) is having Earthwire in both the circuits. Establishment of Communication and Protection System through the proposed LILO of Barh- Patna D/C line-1 (Ckt-1 & 2) at Bakhtiyarpur (new) may be done by the following methodology:

1. BSPTCL may arrange to shift the existing 2 Nos. Analog PLCC Panels (ABB ETL- 600) & 2 nos. Panels housing DTPC Equipments (Valiant make) installed at Barh (NTPC) for Patna- Barh Ckt-1 & 2 i.r.o Protection channel 1 & 2 respectively.

The 2 Nos. Analog PLCC Panels (ABB ETL- 600) may be installed & commissioned at Bakhtiyarpur (new) for upcoming 400 kV Bakhtiyarpur (New)- Patna Ckt-1 & 2.

The 2 nos. Panels housing DTPC Equipments (Valiant make) may be shifted and handed over to POWERGRID at 400 kV Patna S/s.

The aforementioned shifting of PLCC panels may be carried out by BSPTCL on its own cost.

Page 1 of :

2. In addition to the aforementioned PLCC to be shifted from NTPC Barh end, BSPTCL may install & commission Analog PLCCs as per the details mentioned hereunder:

Line Name	Terminating Ends	PLCC Panel Requirement	Remarks
400 kV Bakhtiyarpur (New)- Patna Ckt-1 & 2	Patna	2	1 Nos. Analog PLCC each circuit at both Patna & Bakhtiyarpur (New) end.
	Bakhtiyarpur (New)	2	
400 kV Bakhtiyarpur (New)- Barh Ckt-1 & 2	Bakhtiyarpur (New)	4	2 Nos. Analog PLCC each circuit at both Barh & Bakhtiyarpur (New) end.
	Barh	4	
Total		12	

3. The matter of availability of space at Barh (NTPC) end may be taken up with NTPC. Further, BSPTCL may arrange to carry out survey at POWERGRID Patna beforehand for identification of space for installation of PLCC panels in lieu of the upcoming LII of Patna- Barh Ckt-1 & 2.

This is for your kind information & further needful please.

Thanking you.

Yours faithfully

(Signature)

(Sanjay Kumar Singh)
Chief General Manager (Asset Mgr)

Copy for kind information to:

1. Director (Projects), BSPTCL.
Vidyut Bhavan, Bailey Road, Patna- 800021.

Ref: VL/ERPC/2024/Nov/01

Date: 06.11.2024

To
Member Secretary
Eastern Regional Power Committee.
14, Golf Club Road, Tollygunge, Kolkata-700033

Sub: Request for carrying out inspection of 400KV LILO-2 installation of Vedanta Aluminium & Power Ltd, associated with 4X600MW TPP at Jharsuguda(odisha) under Regulation 30 of Central Electrical Authority (Measures Relating to Safety and Electrical Supply), Regulations 2010

Ref: i. Your Letter No. RIO/ER/Sterlite Energy/333. Dated:10.09.2015
ii. Anti-theft Charging Procedure from PSOCL; Dtd:18th July 2022

Respected Sir,

With reference to the subject cited and the letter under reference (i) above, we would like to state that approval for energization of electrical installations of transmission lines (400KV LILO-1 & LILO-2 PGCIL - TPP) associated with unit#1,2,3,4 of 4X600MW TPP at Jharsuguda, Orissa was granted on 10.09.2015 along with inspection validity till 10.09.2017.

As you are aware, in FY 2016, LILO-1 was converted to radial lines after Sundargarh Pooling station was commissioned and LILO-2 was disconnected from Vedanta end. Since then, LILO-2 has become idle condition and prone to theft of members/conductors.

To prevent further theft incidence of critical component of the said line, an inspection of the said line is mandatorily to be carried out by CEI-CTU which is prerequisite to apply for anti-theft charge from the nearest state utility DISCOM with 11KV or 33KV power source.

In view of the above, we humbly request your good office to kindly put up the aforesaid request in the OCC meeting as an agenda item for approval of inspection as sought above.

Regards,
Yours Truly,
For Vedanta Limited

Regards,
Mangu Srinivas
General Manager-Power Systems
Vedanta Ltd



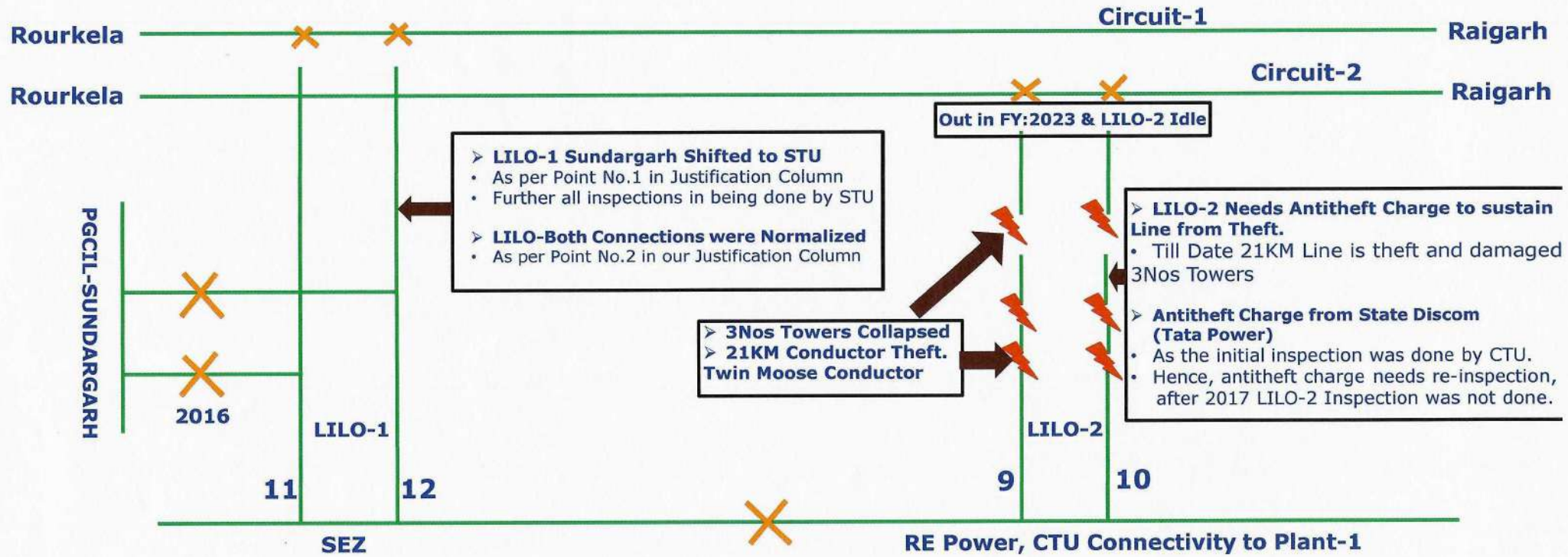
Mangu Srinivas
General Manager-Power Systems
Vedanta Limited, Jharsuguda (Odisha)

Mangu
25.11.24 Put in Agenda
SF(0)
of OCC
AD(0)
May be included in
OCC Agenda

Antitheft charging of 400KV LILO-2; Vedanta Ltd. 4x600MW TPP at Jharsuguda



Proposal topic	Antitheft Charging of 400KV LILO-2; Vedanta Ltd. 4x600MW TPP at jharsuguda
Ref. Letter	Letter No. RIO/ER/Sterlite Energy/333; Dtd: 10.09.2015 Anti-theft Charging Procedure from POSOCO; Dtd: 18.07.2022
Approval Type	<i>In Principle</i>
Justification/ Description	<ul style="list-style-type: none"> ▪ Energization of electrical installations of Transmission Lines (400KV LILO-1 & LILO-2 PGCIL - TPP) associated with Unit#1,2,3,4 of 4X600MW TPP at Jharsuguda, Orissa was obtained on 10.09.2015 with an inspection validity till 10.09.2017 from your good office. ▪ Subsequently, <ul style="list-style-type: none"> i. In the YR: 2016, LILO-1 was converted to radial lines after Sundargarh Pooling Station was commissioned and control area jurisdiction was transferred to STU and LILO-2 was disconnected from Vedanta end. ii. In the YR: 2023 LILO Connections were normalized from the PGCIL Lines making the rest of the LILO-2 portion idle. ➤ Currently our LILO-2 does not have ISTS Connectivity. We have been permitted for CTU Connectivity for construction of new line, in this case we will be using the part of LILO-2 for completion of new line construction. (MoM Attached) ▪ Since the LILO-2 has become idle, there are regular thefts of members/conductors, also 3 Nos of Towers collapsed during heavy winds. To save our asset and prevent further thefts, it needs to be anti-theft charged from the nearest State Utility DISCOM with 11KV or 33KV Power Source.
Approval request	In-Principal Approval for Anti-theft Charging of 400KV LILO-2;Vedanta Limited 4x600MW TPP at Jharsuguda



POSCO Guideline: Annex: B8 and Initial Inspection of Tx.Line in FY:2017



पावर सिस्टम ऑपरेशन कॉर्पोरेशन लिमिटेड
POWER SYSTEM OPERATION CORPORATION LIMITED
 (A Government of India Enterprise)

Date: 16th July 2015

From: ED, NLDC To: ED, WRLOC/SRLOC/ERLOC/NERLOC, CEM (A/C), NLDC
 Copy to: CMD, POSOCO
 O. (MD), POSOCO

Annexure – B8

Undertaking by Asset Owner for Anti-Theft Charging of Transmission Line
 (to be duly signed by Station In charge/Asset Owner/CE SLDC on a Letter Head)

Ref. No: _____ Date: _____

To,
 The Executive Director,
 _____ Regional Load Despatch Centre,

Sub: Anti-Theft charging of _____ km length of [Transmission Line] from [Substation Name] end
Likely Date and Time of Charging:

Sir,
 With reference to the anti-theft charging proposal of [Transmission Line], I hereby undertake that:

- The said [Transmission Line] is an under-construction transmission line and is not terminated at both the ends. To prevent theft during construction, anti-theft charging from [Substation Name] end is required.
 Or
 The said [Transmission Line] has already been commissioned. Due to failure of towers in [Details of transmission section] section of transmission line, the line has lost completeness. To prevent theft during repair and restoration activity anti-theft charging from [Substation Name] end is required.
- We have complied with all provisions of CEA (Measures relating to Safety and Electric Supply Regulations) 2010 (as amended). Approval of Electrical Inspector statutory clearances shall be obtained by asset owner after completion and termination of the line at bays / substation at both ends and shall be submitted prior to charging/energization and integration of the complete line.
- All protection systems are in place. Necessary protection coordination at main and adjacent substations after completion of the works of the transmission line has been carried out as per RPC guidelines.
- The length of anti-theft charged section is _____ km.
- Anti-theft charged section of the said line will cover _____ Nos. of towers, from location _____ to _____ (tower identification numbers)
- All concerned parties, asset owners of both ends and Transmission line sections have already been informed in writing for anti-theft charging of the said line section.
- All men and materials from the line have been removed. All safety measures are taken for anti-theft charging of the said transmission line.

May kindly allow the Anti-Theft charging of _____ km length of [Transmission Line] from [Substation Name] end.

Thanking you,

Place: _____ (Name and Designation of the authorized person with official stamp/seal)
 Date: _____

REGIONAL INSPECTORIAL ORGANISATION
 14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता-700033
 14 Golf Club Road, Tollygunj, Kolkata-700033

No. RIO/ER/Sterlite Energy/333 Dated: 10.09.2015

Shri G Venkat Reddy, Plant Head,
 4X600 MW IPP,
 Sesa Sterlite Limited,
 Bhurkamunda, Jharsuguda, orissa,
 Pin - 768202

Subject: Approval for cnergisation of electrical installations of Sesa Starlite Limited associated with unit #1, 2, 3 & 4 of 4x600 MW TPP at Jharsuguda, Orissa under Regulation 30 of Central Electricity Authority (Measures Relating to Safety and Electric Supply), Regulations, 2010.

Ref:
 1) Your letter no. SSL/IPP/O&M/ 155 dated 15.02.2015
 2) Our letter no. RIO/ER/Sterlite Energy/73 dated 27.04.2015 - inspection report
 3) Your letter no. SEL/IPP O & M/166 dated 25.05.2015 received on 03.09.2015- compliance report

The approval is hereby granted to energize the electrical equipments as listed in the inspection report. This approval is strictly subject to your full compliance with the relevant provisions of Central Electricity Authority (Measures Relating to Safety and Electric Supply), Regulation,2010 in every respect. Inspection of the aforesaid work was carried out by Sri B.C.Mallick, Director, RIO, Kolkata on 23.04.2015.

THIS APPROVAL IS VALID FOR TWO YEARS FROM THE DATE OF ISSUE.

B.C.Mallick
 (B.C.Mallick) 10/09/2015
 Director &

Sl. No.	Description of the equipment	Quantity
ELECTRICAL EQUIPMENTS OF 400 KV / 220 KV TRANSMISSION LINE		
37	Transmission line Towers (Grid lines + smelter lines)	400 KV 198
38	Transmission line Towers	220 KV 54
39	AAAC moose conductor	KM 210
40	Flexible earth wire	KM 70
41	Spacer	nos. 90
42	Aviation span marker	nos. 500
43	Bird Guard	nos. 200
44	Anti climbing Device	nos. 200
45	Vibration Damper	nos. 480

PIYUSH SINGH, IAS
संयुक्त सचिव
JOINT SECRETARY



भारत सरकार
GOVERNMENT OF INDIA
विद्युत मंत्रालय
MINISTRY OF POWER
श्रम शक्ति भवन, रफी मार्ग
SHRAM SHAKTI BHAWAN, RAFI MARG

Tel : 011-23714367
Email: singhp7@nic.in

Annex-B.2.19.

नई दिल्ली - 110001
NEW DELHI - 110001

DO. No. 22-1306/5/2020-OM

18th November, 2024

Respected Sir, / Madam,

The Crisis Management Plan (CMP) for Power Sector is reviewed regularly by Secretary (Security), Cabinet Secretariat. The last review meeting was held on 31.10.2023 wherein Secretary (Security) emphasized on the aspects of security of townships of power utilities and suggested to undertake the following measures:

- Availability of details pertaining to local district authorities, revenue authorities, law enforcement, fire management authorities, etc., across the townships
- Adequate vetting of personnel/organisation responsible for township security by local law enforcement agencies.
- Regular conduct of mock drills in the townships, especially evacuation drills with ambulance and drills for handling major fire accidents.

2. Accordingly, CEA vide letter dated 13.12.2023 requested States and CPSUs to take appropriate action on the aforementioned suggestion to ensure prompt and effective handling of any crisis / emergency situation. **(Copy of letters attached)**

3. Action Taken Report on the implementation of the decision taken in above-mentioned meeting of Crisis Management Plan is required to be sent to the Cabinet Secretariat. I would, therefore, request you to kindly update us on the action taken on the aforementioned suggestions by November 25, 2024 positively.

With Regards,

Yours sincerely,

(Piyush Singh)

Chief Secretaries / Principal Secretaries (Energy / Power) of all the States/UTs

Copy to:-

Shri A. Balan, Member (Planning), Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi – 110066.



25.11.24

SE (O) AD(O)





सत्यमेव जयते
भारत सरकार

Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति



Eastern Regional Power Committee

14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033

Tel. No.:033-24239651,24239658 FAX No.:033-24239652, 24239653 Web: www.erpc.gov.in

सं /NO. ERPC/EE/OPERATION/2024/ 682

दिनांक/DATE: 16.07.2024

सेवा में /To
संलग्न सूची के अनुसार /As per list enclosed.

विषय : क्षेत्रीय आपदा प्रबंधन (पूर्वी क्षेत्र) पर 09.07.2024 (मंगलवार) को वस्तुतः आयोजित पहली बैठक का कार्यवृत्त - संबंध में।

Sub: Minutes of 1st Meeting on Regional Disaster Management (EASTERN REGION) held on 09.07.2024(Tuesday) virtually - reg.

महोदय/महोदया,

Sir(s)/Madam,

कृपया क्षेत्रीय आपदा प्रबंधन (पूर्वी क्षेत्र) पर 09.07.2024 (मंगलवार) को वर्चुअली माइक्रोसॉफ्ट टीमस ऑनलाइन मीटिंग प्लेटफॉर्म के माध्यम से 15:30 बजे बुलाई गई पहली बैठक की संलग्न विवरण। यह आपकी जानकारी और आवश्यक कार्रवाई के लिए है। यह ईआरपीसी वेबसाइट (www.erpc.gov.in) पर भी उपलब्ध है।

Please find enclosed **MOM of 1st Meeting on Regional Disaster Management (EASTERN REGION)** convened on 09.07.2024(Tuesday) virtually through Microsoft Teams online meeting platform at 15:30 hrs .

This is for your kind information and necessary action. The same is also available on ERPC website (www.erpc.gov.in).

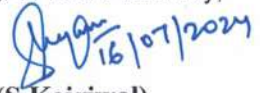
टिप्पणियाँ, यदि कोई हों, कृपया यथाशीघ्र इस कार्यालय को अग्रेषित करें।

Observations, if any, may please be forwarded to this office at the earliest.

इसे सदस्य सचिव के अनुमोदन से जारी किया जाता है।

This issues with the approval of Member Secretary.

भवदीय /Yours faithfully,


16/07/2024

(S.Kejriwal)

SE(Operation)

एसई (ऑपरेशन)

Eastern Regional Disaster Management Group in Power Sector-Distribution List

1. Special Relief Commissioner, Rajiv Bhawan, Bhubaneswar, Odisha-751001
2. Principal Secretary, West Bengal Disaster Management & Civil Defence Department, Nabanna, HRBC Building Room No. 203, 2nd Floor, 325 Sarat Chatterjee Road, Howrah -711102
3. Additional Chief Secretary, Disaster Management, Govt of Bihar
4. Secretary, Department of Home, Jail and Disaster Management (Disaster Management), Jharkhand
5. Secretary cum Relief commissioner, Govt of Sikkim, Gangtok, Sikkim
6. Directorate General of Fire Service, Home Guards & Civil Defence, Nuapatna, Cuttack, Odisha-753001
7. Directorate General, Civil Defence, Flat 59-60/84, New Punichak, Patna, Bihar-800 023
8. IGP, Home Guards & Civil Defence, Sikkim
9. Chairman-cum-Managing Director, OPTCL, Janpath, Bhubaneswar- 751022.
10. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
11. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
12. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
13. Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
14. Executive Director, ERLDC, GRID-INDIA, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
15. Regional Executive Director (ER-I), NTPC Ltd., 2nd floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
16. Regional Executive Director (ER-II), NTPC Ltd., 3rd Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
17. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana
18. Executive Director (ER-I), Power Grid Corporation of India Ltd, Board Colony, Shastri Nagar, Patna-800023.
19. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
20. Executive Director (Odisha Project), Power Grid Corporation of India Ltd, Plot No-4, Unit 41, Niladri Vihar, Chandrasekharpur, Bhubaneswar, Odisha-751021.
21. Executive Director (Operation), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
22. Chief Engineer, Central Water Commission (CWC), Sewa Bhawan, New Delhi-for floods related early warnings.
23. Deputy Director-General, Indian Metrological Department (IMD), New Delhi- for Earthquake, and Cyclone related early warnings.
24. Group Director, Information & Communication Technology and Data Management Group, Indian National Centre for Ocean Information Services, Hyderabad, Telangana
25. Director, National Center for Seismology (NCS), Ministry of Earth Sciences (MoES), New Delhi - for Earthquake Monitoring and Hazard
26. Director, SLDC, Bhubaneswar, Odisha
27. Chief Engineer, SLDC, West Bengal
28. Chief Engineer, SLDC, Bihar
29. GM, SLDC, DVC
30. GM, SLDC, Jharkhand
31. Chief Engineer, SLDC, Sikkim



ERPC:: Kolkata

MOM OF 1st MEETING ON REGIONAL DISASTER MANAGEMENT (EASTERN REGION) HELD VIRTUALLY ON 09.07.2024 THROUGH MS TEAMS PLATFORM

- *List of participants is attached at **Annex A**.*

- ❖ *The meeting was convened under the chairmanship of Member Secretary, Eastern Regional Power Committee(ERPC) who also happens to be the Chairman of Regional Disaster Management Group (RDMG) .*
- ❖ *On welcoming members of Eastern Regional Disaster Management Group (RDMG) and other participants, paramount significance of disaster management was underscored, especially in critical and dynamic landscape of power sector serving as the backbone of our developing nation.*
- ❖ *Regional Disaster Management Group (RDMG) has been constituted as per guidelines of **Disaster Management Plan for Power Sector (2022)** as drafted by CEA and approved by Ministry of Power (Govt. of India) in compliance to provisions of Disaster Management Act 2005 (same is attached at **Annex-C** for perusal of all concerned stakeholders) .*
- ❖ *A comprehensive presentation (enclosed as **Annex B**) was delivered from ERPC highlighting the key facets of DISASTER MANAGEMENT as:*
 - *Background and basic framework of Disaster Management in India with relevance to Power sector.*
 - *Broad scope of responsibilities for key stakeholders in Disaster Management.*
 - *Significance of Periodic mock drill, ERS, EOC , financial planning and cybersecurity in domain of Disaster preparedness.*
 - *Roadmap of financial planning for disaster mitigation in line with the mandate of Disaster Management Act 2005 as well as Disaster Management Plan for Power Sector(2022) by CEA.*
 - *“Every Ministry or Department of the Government of India shall make provisions, in its annual budget, for funds for the purposes of carrying out the activities and programmes set out in its disaster management plan.”*
 - *Each power utility shall create a fund for meeting the requirement of disaster management plan.*
 - *The disaster management fund must be 1.5% of the annual revenue of the utility with scope of Annual replenishment.*
 - *Sufficient amount should be reserved especially for immediate relief and rehabilitation depending upon revenue potential of the utility.*
 - *Insurance coverage for Generation, Transmission and Distribution assets for risk transfer.*
- **Key Decisions:**
 - *All concerned stakeholders involved in regional disaster management were advised to discharge respective responsibilities delineated in Disaster Management Plan for Power Sector(2022) (**Annex-C**)*
 - *All generating stations (Thermal, Hydro and RE), transmission licensees(ISTS and state) and DISCOMs were directed to identify potential risks to their respective assets(plant/equipment/lines,etc) and intimate the same along with their preparedness to mitigate the identified risks.(**Action:** All thermal GENCOs (Central,IPP), all hydro*



generating stations, all ISTS licensees . SLDCs to coordinate with respective GENCOs,STUs and DISCOMs within their jurisdiction)

- At least one mock drill exercise for every crisis/disaster situation to which the installation/plant is vulnerable must be undertaken in each quarter and quarterly report by the utilities to be shared with CEA for review and onward submission to Ministry of Power (Govt of India) . (**Action:** All thermal GENCOs (Central,IPP), all hydro generating stations, all ISTS licensees . SLDCs to coordinate with respective GENCOs,STUs and DISCOMs within their jurisdiction)
- All utilities were advised to periodically share the experience on mock drill exercises in OCC forum, emphasizing scope for improvement. (**Action** : All utilities)
- In compliance to provisions of Disaster Management Act 2005, all utilities were directed to update the following:
 - ✓ Creation of the disaster management fund by utilities.
 - ✓ Status of the funds available in the disaster management fund.
 - ✓ Utilization pattern of the fund under various circumstances. (**Action** : All utilities)
- All Transmission licensees were requested to update the status of ERS infrastructure, strategic locations identified for ERS and incidents of ERS deployment in the recent past.(**Action** : All ISTS licensees and STUs)
- ERLDC was advised:
 - ✓ To furnish details of Mock black start i.r.o black start capable generating units and mock drills of Islanding schemes in ER in monthly OCC meetings.(**Action:** ERLDC)
 - ✓ To periodically update grid restoration procedure in partial/total blackout in consultation with concerned SLDCs taking changes in network configuration into consideration. (**Action:** ERLDC)
- CWC and IMD were requested to share warning alerts i.r.o impending floods and cyclones of high damage potential with ERPC and all members of RDMG so that adequate preventive measures may be undertaken in advance to safeguard power sector establishments and regional grid. Both CWC and IMD representatives agreed to the same.
- All utilities were urged to update the operational practices of the established Emergency Operation Centers (EOCs)/Control Rooms and back up EOC/ Control rooms status. (**Action** : All utilities)
- All generators(Central sector,State and IPPs) were advised for constitution of Plant level Emergency Management Group (EMG). (**Action** : All generators)
- All Utilities were instructed:
 - ✓ To ensure compliance to CEA Guidelines on Cyber Security in the Power Sector.
 - ✓ To update the status of the Cyber Risk Assessment and Mitigation Plan developed by them and also provide the incidents of cyber threats in the recent times.
 - ✓ To have proper CCMP (Cyber Crisis Management Plan) in place. (**Action** : All utilities)
- ❖ All concerned utilities of ER were advised to comply with decisions (mentioned above) and provide all requisite information latest by 31st August 2024.

Meeting ended with vote of thanks to the chair.

Annex -A**List of Participants**

Name	First Join	Last Leave	Role
ERPC Kolkata	7/09/24, 4:09:51 PM	7/09/24, 5:17:35 PM	Organizer
SLDC, JHARKHAND	7/09/24, 4:10:02 PM	7/09/24, 5:18:03 PM	Presenter
Chief Engineer CWC Kolkata	7/09/24, 4:10:03 PM	7/09/24, 5:17:32 PM	Presenter
SLDC DVC	7/09/24, 4:10:03 PM	7/09/24, 4:54:13 PM	Presenter
Dr H R BISWAS, IMD KOLKATA	7/09/24, 4:10:03 PM	7/09/24, 5:20:49 PM	Presenter
Chandan Mallick,Grid-India (ERLDC)	7/09/24, 4:10:03 PM	7/09/24, 5:17:34 PM	Presenter
Bilash AchariGrid-India (ERLDC)	7/09/24, 4:10:03 PM	7/09/24, 5:17:33 PM	Presenter
O&M SBPDCL	7/09/24, 4:10:03 PM	7/09/24, 5:18:17 PM	Presenter
NHPC O&M -II Kolkata	7/09/24, 4:10:04 PM	7/09/24, 5:17:51 PM	Presenter
SLDC ODISHA	7/09/24, 4:10:04 PM	7/09/24, 5:17:46 PM	Presenter
Dr. Ajeet P. Pandey,Scientist 'F', NCS-MoES, New Delhi	7/09/24, 4:10:19 PM	7/09/24, 5:17:49 PM	Presenter
WB SLDC	7/09/24, 4:11:44 PM	7/09/24, 5:17:43 PM	Presenter
bkrai sikkim	7/09/24, 4:14:01 PM	7/09/24, 6:52:44 PM	Presenter
PMC BSPHCL	7/09/24, 4:57:50 PM	7/09/24, 5:18:06 PM	Presenter
Ashish Kumar		7/09/24, 5:17:34 PM	Presenter

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for December 2024

1	BIHAR	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	5477	2905
	NET POWER AVAILABILITY- Own Sources	488	394
	Central Sector+Bi-Lateral	6418	4752
	SURPLUS(+)/DEFICIT(-)	1429	2241
2	JHARKHAND		
	NET MAXIMUM DEMAND	2051	1159
	NET POWER AVAILABILITY- Own Source	424	208
	Central Sector+Bi-Lateral+IPP	1243	848
	SURPLUS(+)/DEFICIT(-)	-355	-103
3	DVC		
	NET MAXIMUM DEMAND	3411	2115
	NET POWER AVAILABILITY- Own Source	5887	3363
	Central Sector+MPL	235	211
	Bi- lateral export by DVC	2420	1801
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	291	-341
4	ODISHA		
	NET MAXIMUM DEMAND (OWN)	4400	2604
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 900 MW(peak) and average drawl of 700 MW)	4400	2897
	NET POWER AVAILABILITY- Own Source	3598	2728
	Central Sector	1919	1447
	SURPLUS(+)/DEFICIT(-) (OWN)	1117	1571
	SURPLUS(+)/DEFICIT(-) (I(In Case of CPP Drawal of 900 MW(peak) and average drawlm of 700 MW)	1117	1278
5	WEST BENGAL		
	WBSEDCL		
5.1	NET MAXIMUM DEMAND	5807	3327
	NET MAXIMUM DEMAND (Incl. Sikkim)	5812	3331
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5194	3019
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2321	1685
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	1703	1372
5.2	CESC		
	NET MAXIMUM DEMAND	1500	722
	NET POWER AVAILABILITY- Own Source	460	341
	IMPORT FROM HEL	541	288
	TOTAL AVAILABILITY OF CESC	1001	629
	SURPLUS(+)/DEFICIT(-)	-499	-93
		460	-93
	WEST BENGAL (WBSEDCL+CESC+HPCL) (excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	8516	4049
	NET POWER AVAILABILITY- Own Source	5767	3360
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2923	1973
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	174	1283
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	169	1279
6	SIKKIM		
	NET MAXIMUM DEMAND	127	64
	NET POWER AVAILABILITY- Own Source	44	61
	Central Sector	198	135
	SURPLUS(+)/DEFICIT(-)	115	132
	EASTERN REGION		
	NET MAXIMUM DEMAND	22327	12896
	NET MAXIMUM DEMAND ((In Case of CPP Drawal of 800 MW(peak) and average drawl of 700 MW)	22327	13189
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2420	1801
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	478
	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)	26550	17678
	SURPLUS(+)/DEFICIT(-)	-308	1967
	SURPLUS(+)/DEFICIT(-) (In Case of CPP Drawal for Odisha)	-1208	1680