



**AGENDA  
FOR  
226<sup>th</sup> OCC MEETING**

**Date: 22.04.2025**

**Eastern Regional Power Committee**

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# **EASTERN REGIONAL POWER COMMITTEE**

**AGENDA FOR 226<sup>th</sup> OCC MEETING TO BE HELD ON 22.04.2025 (TUESDAY) AT 10:30 HRS**

## **1. PART-A: CONFIRMATION OF MINUTES**

### **1.1. Confirmation of Minutes of 225<sup>th</sup> OCC Meeting held on 18<sup>th</sup> March 2025 virtually on MS Teams**

The minutes of 225<sup>th</sup> Operation Coordination Sub-Committee meeting held on 18.03.2025 was circulated vide letter dated 27.03.2025.

**Members may confirm the minutes of 225<sup>th</sup> OCC meeting.**

## **2. PART-B: ITEMS FOR DISCUSSION**

### **2.1 Ensuring voltage stability for Kolkata and Bhubaneswar Area: ERLDC**

- ❖ It is observed that due to high percentage of space cooling load around Kolkata and Bhubaneswar during summer, voltage in these areas go below 390 kV and reaching up to 380 kV on few occasions. In addition to normal operating condition, certain contingencies can lead to voltage collapse.
- ❖ During 2024 Summer, multiple Fault Induced Delayed Voltage Recovery (FIDVR) events took place around Kolkata and Bhubaneswar which caused momentary load loss and severe low voltage issues. CESC system also got islanded due to FIDVR event.
- ❖ Due to wide variation of system demand, voltage also varies widely necessitating the requirement of dynamic reactive compensation.

Details of location facing constraints of low voltage enclosed at **Annex B.2.1**

To maintain voltage stability and to control wide variation of the voltage, following needs to be deliberated:

#### **a) Short-term measure:**

- ✓ Under voltage load shedding (UVLS) scheme implementation is essential and it was discussed in the summer preparedness meeting of 2025 dated 12.03.2025.
- ✓ Recently during a grid disturbance involving Gujrat and Maharashtra system similar UVLS scheme saved Maharashtra system from wider blackout.
- ✓ Therefore, UVLS scheme needs to be implemented in Kolkata and Bhubaneswar area as defence mechanism for safeguarding system from voltage collapse during certain critical contingencies.

**b) Long-term measure:** there is a need for suitable dynamic reactive compensation.

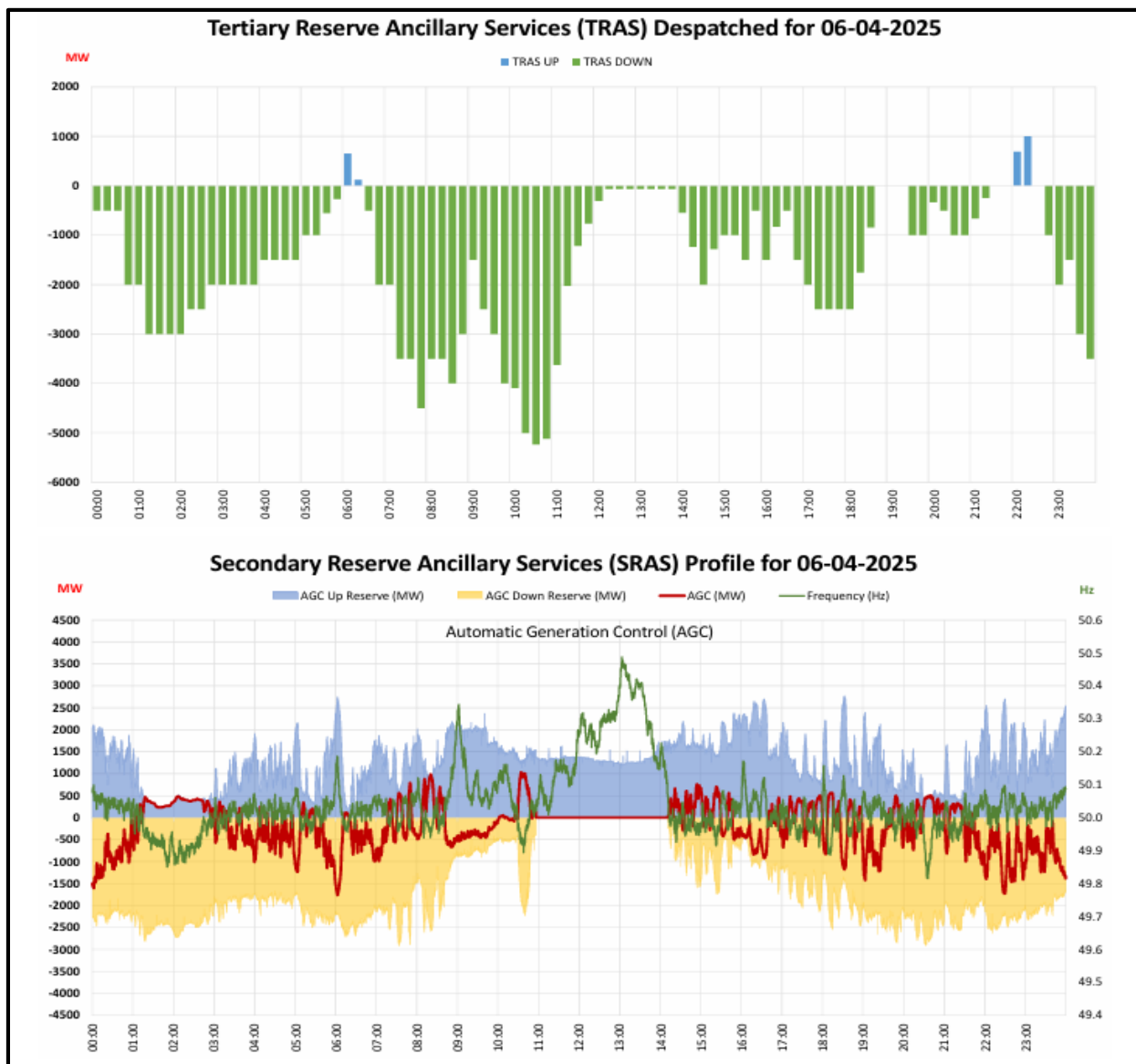
**ERLDC may explain. Members may discuss.**

## 2.2 Sustained high frequency event during April 2025 and Lack of down reserve margin: ERLDC

Sustained high-frequency event was observed in April 2025 especially during solar hrs. Grid frequency touched maximum of 50.49 Hz at 13:03 hrs on 6th April 2025 and remained continuously out of the IEGC band for a significant duration.

At the time of the event:

- All ISGS units were operating at their Minimum Turn Down Level (MTDL) of 55%. However, most of the state generators were running above 55% of MCR.
- It was also observed that availability TRAS down margin also not available due to less participation of Intra-state generators in TRAS market. This led to lack of down reserve available with NLDC.



This issue was also deliberated in the 218th OCC Meeting and 52<sup>nd</sup> TCC meeting held on 23.08.2024 and 05.09.2024 respectively, where it was decided that intra-state generators would take up with the SERC to explore the possibility of backing down generation up to 55%.

Recently, CERC gave Suo Motu order (2/SM/2025) dated 29.03.2025 in which CERC acknowledged the increasing instances of such events in view of the rising RE penetration and emphasized the need for enhanced flexibility in thermal operation.

Few suggestions of CERC in the said Suo Motu order:

- Review the operating levels of their intra-state generating units during low-demand and high-frequency periods.
- Explore possibility of two shift operations for some of the thermal plants (Sec-62 Generators) keeping in view technical feasibility and operational efficiency.
- Explore implementation modalities and suitable commercial mechanisms to facilitate such AGC services from REGS
- Work out modalities for the implementation of ESS at thermal generating stations

**ERLDC may explain. Member may discuss.**

### **2.3 A. Study of Grid Disturbance at 765/400kV Angul S/S : ERPC**

- ✓ A disturbance occurred at 16:20 Hrs on **20.02.2025** at 765/400 kV & 400 kV Angul, GMR, JITPL S/s. 765 kV Bus-1&2, 400 kV Bus-1&2 at Angul S/S tripped and generation loss of around **1750 MW** occurred at **GMR** and **JITPL** due to loss of evacuation path.
- ✓ Inclement weather and cyclonic storm were reported during the event. Multiple CT faults were observed during the event and flashover marks on CT Junction box observed.
- ✓ Total duration of outage: **1 Hr and 37 Minutes**

❖ Following were the key observations:

- Few CTs where faults occurred are common in both incidents.
- It is gathered that only SF6 filled CTs are getting affected due to lightning. Oil filled CTs are not impacted.
- It is suspected that flashover is occurring at junction box due to overvoltage induced by lightning strike in both the events. After the past incident on 12.10.2023 it was recommended in 130th PCC minutes for earthing audit and DSLP (Direct Stroke Lightning Protection) study, which was carried out and as intimated recommended steps were carried out. However, same nature of incident occurred again.

One past incident of same nature also occurred at **765/400 kV Angul S/S** on 12.10.2023 where due to lightning, multiple faults occurred at various CTs which led to bus tripping at 765 kV and 400 kV.

As per **225<sup>th</sup> OCC** Deliberation

PG Odisha updated:

- ✓ Risers of Gantry towers have been mended which were not properly earthed leading to poor dissipation of lightning surge.
- ✓ Missing Earth wire jumpers at multiple locations have been restored.
- ✓ No major fault was found in the previously failed 400 kV CTs while the 765 kV failed CTs had been sent to OEM for RCA in Feb'24.
- ✓ As per recommendation of concerned OEM of CTs(M/S Siemens), the frequency of testing involving purity of SF<sub>6</sub> as well as insulation tests has been increased.

- ✓ Additional shielding with earthwire is planned to be provided over the portion between old 765 kV switchyard and newly constructed extension part as suggested by Corporate Engineering team. New lightning mast has been proposed for protection of this area.
- ✓ Additional rod earthing will be provided to strengthen the earthing of gantry towers. This will ensure proper discharge of lightning.
- ✓ All the inputs regarding the disturbance and subsequent analysis at PG end have also been shared with CPRI in a recent meeting convened by ERLDC.
- ✓ Any recommendations/inputs from CPRI is awaited.

ERLDC presented a detailed report on visit to 765 kV Angul S/S for analysis of this grid disturbance. Some key observations in the report are pointed out as :

- ✓ After the previous disturbance of similar nature (Oct 2023), the SF6 CTs were sent for RCA to the factory of OEM but receipt of conclusive RCA report is still awaited from the OEM.
- ✓ RCA report of similar failure of CT in Dharamjaygarh (PG) station has been shared by the OEM wherein insulation test has been recommended to be conducted every three months.
- ✓ Prior to the grid disturbance of Oct 2023, there was no protection in form of earth wire over the portion between two stages of 765 kV switchyard (stage-I & II). Earthwire protection against lightning strike was deployed in this portion after third party earthing audit. Most CTs have failed in close vicinity of this area.
- ✓ JITPL and GMR lines are present in the same dia leading to entire generation loss in outage of both 400 kV buses due to evacuation paths being not present in opposite directions. Thus in case of simultaneous 400 kV bus outage, one spare bay may be utilized for connecting one circuit of JITPL/GMR & power evacuation through 765/400 kV ICT-4.

### **225<sup>th</sup> OCC Decision**

- OCC advised Powergrid Odisha to address all the deficiencies and implement the recommendations as pointed out in the report of ERLDC as well as in earlier third party earthing audit i.r.o 765 kV Angul S/S.
- OCC opined that a detailed report with recommendations from the joint Committee (comprising ERLDC, Powergrid and CPRI) should be submitted within 3 months for review in OCC forum. Based on Committee recommendations further course of action for preventive measures may be planned at Angul (PG) station.
- OCC advised Powergrid Odisha to explore the feasibility of alternate power evacuation from JITPL & GMR units utilizing the available spare bay. A detailed proposal along with cost implications should be submitted in this regard by ERLDC & Powergrid for consideration in OCC forum.
- ✓ A joint committee has been formed with representatives from ERLDC, POWERGRID and CPRI to analyze and submit a detailed report. CPRI has intimated that the following works need to be carried out by them:
  - Insulation Co-ordination studies
  - Mitigation remedies/suggestions based on the manufacturer's report on failed CT.
  - Earthing Studies for 765kV Angul substations of M/s PGCIL which includes Measurement of Earth Resistance, Measurement of Soil Resistivity and continuity check of all risers to the earth mat.

- ✓ CPRI has intimated that budgetary price for preliminary visit to the site will be 1 lac + 18% GST and cost for detailed study will be **Rs. 30 lacs+ 18% GST.**
- ✓ POWERGRID vide email dated 27.03.2025 has intimated that they will cooperate with CPRI team but **will not bear the cost.**

### 2.3. B. Feasibility of reliable power evacuation from GMR and JITPL units : ERPC

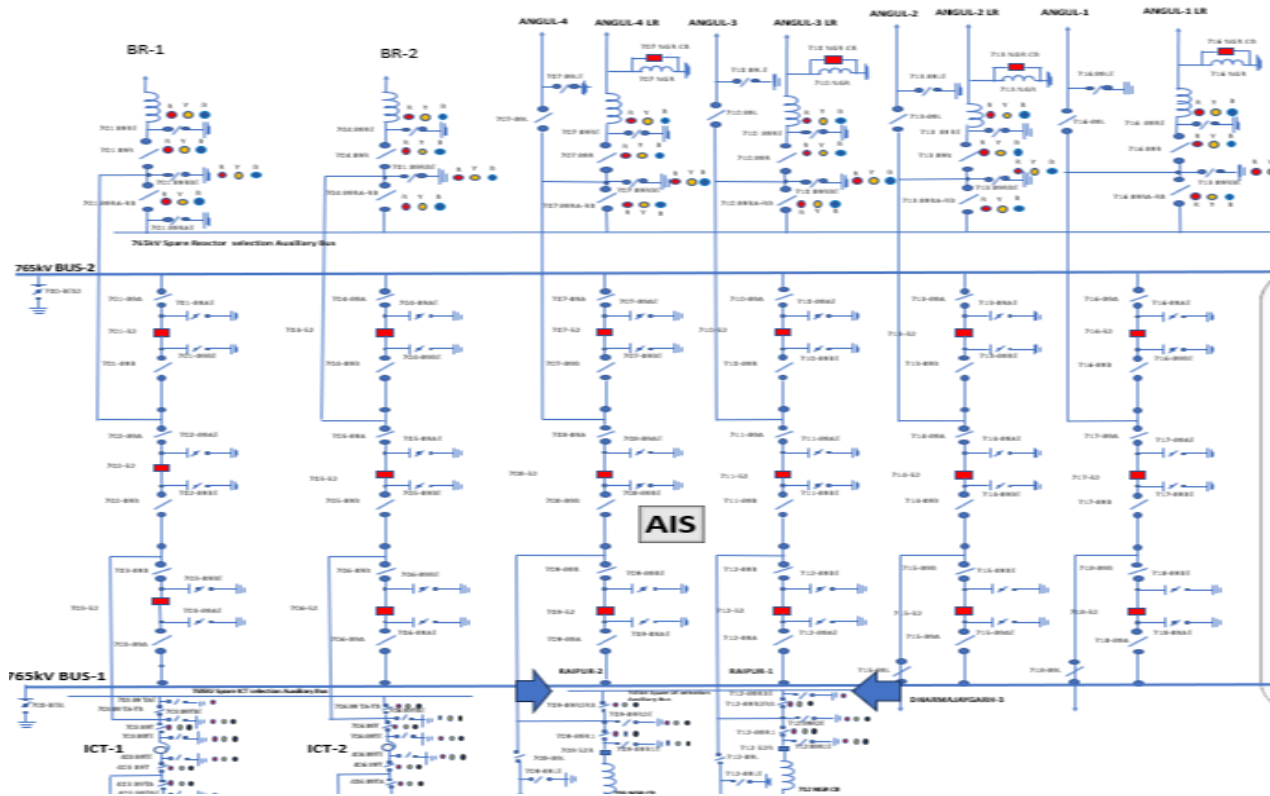
- ✓ To explore the feasibility of alternate power evacuation from JITPL & GMR units utilizing the available spare bay, the first online meeting was held on 11.04.2025( **MOM** at **Annex B.2.3** )among representatives of ERPC, ERLDC, JITPL, GMR and POWERGRID.
- ◆ Shifting of GMR-1 line bay was proposed as the transmission line from GMR is having quad conductor and capable of evacuating combined full generation of GMR and restricted generation of JITPL (up to 850MW, limited by line thermal loading limit).
- ◆ JITPL & GMR acknowledged that the proposed arrangement will enhance the reliability of generation evacuation. They sought time to discuss the issue with higher management and talk over cost sharing mechanism to proceed with the proposal. ERPC directed JITPL & GMR to update on the proposal in 226<sup>th</sup> OCC meeting to be held on 22<sup>nd</sup> April 2025.
- ◆ POWERGRID submitted that upon concurrence of JITPL & GMR on the proposal, they will examine site feasibility issues and proceed further.

**Powergrid Odisha, JITPL & GMR may update. Members may discuss.**

### 2.4 Provision of Hot Spare for 765 kV Sundargarh-Raipur#1&2 Lines at Sundargarh Substation: Powergrid Odisha

- 765 kV Sundargarh-Raipur#1&2 along with their respective 240 MVAR (3x80MVAR) switchable Line Reactors were commissioned on 29th & 30th March 2019
- The Reactors were supplied under the package: RT01 (under TBCB) for: -
  - 6x80MVAR, 765kV Shunt Reactor at Jharsuguda S/S.
  - 6x80MVAR, 765kV Shunt Reactor at Raipur Pooling S/S under Odisha Phase-II (DPR-2).
  - 2x80MVAR, 400kV Shunt Reactor with 400-ohm NGR at Kishanganj GIS S/S under HEP's in Bhutan under POWERGRID works associated TBCB line under Common Transmission System for Phase-II Generation Projects in Odisha.
- Presently there is no provision for Hot Spare for Switchable Line Reactors of 765 kV Sundargarh-Raipur #1 & 2. However, Hot Spare of Line reactors are available at Raipur end for the same line.
- The existing 80 MVAr Hot Spare of 765 kV Bus Reactors and Line Reactors of all four 765 kV Angul Lines is connected to 765 kV Bus#2 and positioned 400m apart from Raipur LR. Line Reactors of Raipur Lines are connected to 765 kV Bus#1. Being physically positioned apart, there is no possibility for electrical connectivity of Raipur Line Reactors with the existing Hot Spare Unit to meet any type of exigency condition.





- It is noteworthy to mention that there is repetitive switching of Line Reactors of Raipur Lines for Voltage Regulation and these Line reactors are being taken into service as Bus Reactors based on the System conditions as per the instruction of ERLDC.
- Being an oil filled equipment and exposed to higher switching surges in 765 kV system, requirement of hot spare is very much important for grid reliability. The availability of spare unit shall ensure quick restoration of these reactors in case of any major breakdown issue in any of the unit.
- Therefore, it is felt prudent to provide spare Reactor for these Line Reactors for smooth, reliable and flexible system operation with minimum outage to Line.



- As per the site condition there is availability of space in proximity to B-Ph unit of Raipur#1 Line Reactor.
- Auxiliary Bus and Neutral Bus for Spare rotation is already available at site as part of the above-mentioned Package considering future provision for accommodating spare unit.

**Powergrid Odisha may explain. Members may discuss.**

## 2.5 Deviation in SCADA vs SEM data: ERPC

This agenda was discussed in the **15<sup>th</sup> NPC** meeting on **14.11.2024** and the following action point was decided:

- ✓ Detailed deliberation is required at the RPC level to address reported discrepancies between SCADA and SEM data, with the aim of minimizing errors and ensuring data accuracy.

As per deliberation in **16<sup>th</sup> TeST** meeting:

During the 15th NPC meeting, the issue of deviations between SEM and SCADA data was discussed in detail. It was noted during the meeting that detailed deliberation are required at the RPC level to address the reported discrepancies by RLDCs, with the objective of minimizing errors and ensuring data accuracy.

ERLDC informed:

- Letters are being sent weekly to the concerned utilities, highlighting observed errors between SEM and SCADA data. All utilities have been requested to take necessary corrective actions to reduce these discrepancies.

### 16<sup>th</sup> TeST Decision:

- ✓ TeST committee opined that addressing SCADA vs SEM deviations is critical, as they have a significant impact on real-time grid operation and deviation management by the constituents.
- ✓ TeST forum emphasized prompt action to be taken by all transmission and generation utilities, at both intra-state and inter-state levels, regarding SCADA data issues reported by ERLDC based on SEM vs. SCADA data analysis.
- ✓ TeST forum also advised respective SLDCs of ER to undertake SEM vs. SCADA data comparison activities at their end to improve accuracy of SCADA data.

### SEM Vs SCADA Comparative Analysis for 3 ckts as per discussion in 16<sup>th</sup> TeST Meeting

#### BIHARSHARIF-BALIA-CKT 1

Comparison	Difference %(09-12-2024 to 15-12-2024)	Difference %(31-03-2025 to 06-04-2025)
SEM VS SCADA at Biharsharif End	28.7	9.76
SEM VS SCADA at Balia End	3.83	4.73

SCADA(Biharsharif) VS SCADA (Balìa)	32.98	13.35
SEM(Biharsharif) VS SEM(Balìa)	8.75	10.15

#### BIHARSHARIF-BALIA-CKT 2

Comparison	Difference %(09-12-2024 to 15-12-2024)	Difference %(31-03-2025 to 06-04-2025)
SEM VS SCADA at Biharsharif End	28.4	12.31
SEM VS SCADA at Balìa End	3.57	4.83
SCADA(Biharsharif) VS SCADA (Balìa)	32.71	13.82
SEM(Biharsharif) VS SEM(Balìa)	1.29	3.38

#### TALCHER-MERAMUNDALI-CKT 1

Comparison	Difference %(09-12-2024 to 15-12-2024)	Difference %(31-03-2025 to 06-04-2025)
SEM VS SCADA at Talcher End	9.42	7.63
SEM VS SCADA at Meramundali End	10.6	3.8
SCADA(Talcher) VS SCADA (Meramundali)	9.45	6.17
SEM(Talcher) VS SEM(Meramundali)	5.51	1.01

As per latest records available with ERLDC:

UTILITY	No: of Tie-lines having SEM Vs SCADA difference more than 3% for the week 31-03-2025 to 06-04-2025
PG ER I	20
PG ER II	12
PG Odisha Project	17
WBSETCL	5
OPTCL	11
DVC	7
JUSNL	2

Details of respective tie lines enclosed at [Annex-B.2.5](#)  
ERLDC and SLDCs may update. Members may discuss.

## 2.6 Availability for Communications Systems: ERPC

- As per **Regulation 7.3** of the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity), Regulations, 2017, National Power Committee (NPC) has been entrusted to prepare Guidelines on Availability of Communication System in consultation with RPCs, RLDCs, CTU and other stakeholders. (Guidelines Report attached as **Annex B.2.6.1**)
- Accordingly, NPC prepared Guidelines on “Availability of Communication System” in consultation with the stakeholders and submitted the same for approval of the Commission. The said Guidelines was approved in **January 2024** and published in public domain as “Guidelines on Availability of Communication System” Regulations.
- Availability of Communication System adhere to *Regulation 6(3) of the CEA (Technical Standards for Connectivity to the Grid)*, *Regulation 5(1) of the CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020* and *Regulation 11 of the Indian Electricity Grid Code (IEGC) 2023*.

### As per clause 3.4 Responsibility of CTU and STU:

a) CTU (or STU as the case may be) shall be responsible for submission of the details of communication channels including the redundant channels configured for use of voice / data / video exchange, protection, Tele-protection / SPS to respective RLDC (SLDC as the case may be) on monthly basis incorporating the details of new channels configured during previous month. The total number of communication channels (N) is based on the requirement of RLDCs/NLDC and the same would be decided in consultation with respective RPCs/NPC.

b) CTU (or STU as the case may be) shall be responsible for submission of the performance/availability of configured channels of the previous month to respective RLDCs for verification by RLDCs and onward submission to respective RPC for computation of availability of the communication system for previous month.

- Applicability of Guidelines:
  - Applicable to CTU for the Communication System Infrastructure of inter-State Transmission System.
  - Applicable to STU for the Communication System Infrastructure of intra-State Transmission System, till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commission.
- Roles and Responsibility of CTU and STU:
  - CTU (or STU as the case may be) shall be responsible for submission of the details of communication channels on monthly basis incorporating the details of new channels configured during previous month.
  - CTU (or STU as the case may be) shall be responsible for submission of the performance/availability of configured channels of the previous month to respective RLDCs for verification by RLDCs and onward submission to respective RPC for computation of availability.
  - CTU (or STU as the case may be) shall submit availability reports of configured channel including the redundant channels in format prescribed by RLDC/RPC.
- Communication System outages:

- Outage time of communication system elements (i.e. channels) due to acts of God and force majeure events beyond the control of the communication provider shall be considered as deemed available.
- Any outage of duration more than one (01) minute in a time-block shall be considered as not available for the whole time-block.
- Any outage of duration less than or equal to one (01) minute in a time-block shall be treated as deemed available provided such outages are not more than ten (10) times in a day.
- Since presently **UNMS** system is under control of the POWERGRID and it was commissioned in **December 2023** and more over said availability calculation is to be generated from system hence it is proposed that said calculations are to be generated and submitted by the POWERGRID to ERPC/ERLDC for further necessary action.

As per deliberation in **16<sup>th</sup> TeST** meeting:

- ✓ CTU raised concerns regarding Clause 3.4 of the Guidelines and has filed a petition seeking a revision of roles and responsibilities. The petition hearing is scheduled for **13/02/2025**.
- ✓ In the meantime, CTU has proposed POWERGRID to utilize their Regional Unified Network Management System (UNMS) to assume the role of the network management team. The UNMS currently maintains comprehensive details of all communication links within the Eastern Region (ER).
- ✓ CTU will provide the methodology for sharing link downtime data with RPC after the petition hearing.
- ✓ CTU apprised that feature of outage management of communication system is to be deployed in upcoming National UNMS and thereafter in all regional UNMS.

**16<sup>th</sup> TeST Decision:**

- ✓ TeST committee felt that under the existing regulatory guidelines it would not be appropriate to put the availability certification on hold.
- ✓ Since the guidelines for availability calculation as finalized by NPC are already in vogue, POWERGRID was advised to utilize the regional UNMS for furnishing the channel availability details to ERPC & ERLDC for validation and certification.

A draft format for availability calculation of communication systems from SRPC has been attached as **Annex B.2.6.2**

On **10.03.25** a meeting was held with Communication Subgroup of **NPC** to discuss about the uniform formats for the availability of communication system.

The decisions taken in the meeting were as follows:

- ✓ CTU shall comply with the existing regulations/approved guideline until any amendment or directions from CERC.
- ✓ The total number of communication channels (N) is based on the requirement of RLDCs/NLDC and the same would be decided in consultation with respective RPCs/NPC. RPCs would follow up the same in the TeST/COM meetings.
- ✓ Uniform formats for the availability of communication system, as provided by SRPC, may be reviewed by all other RPCs and inputs, if any may be provided to NPC secretariat within two weeks. Further as Communication (Channel) Availability is slightly different from

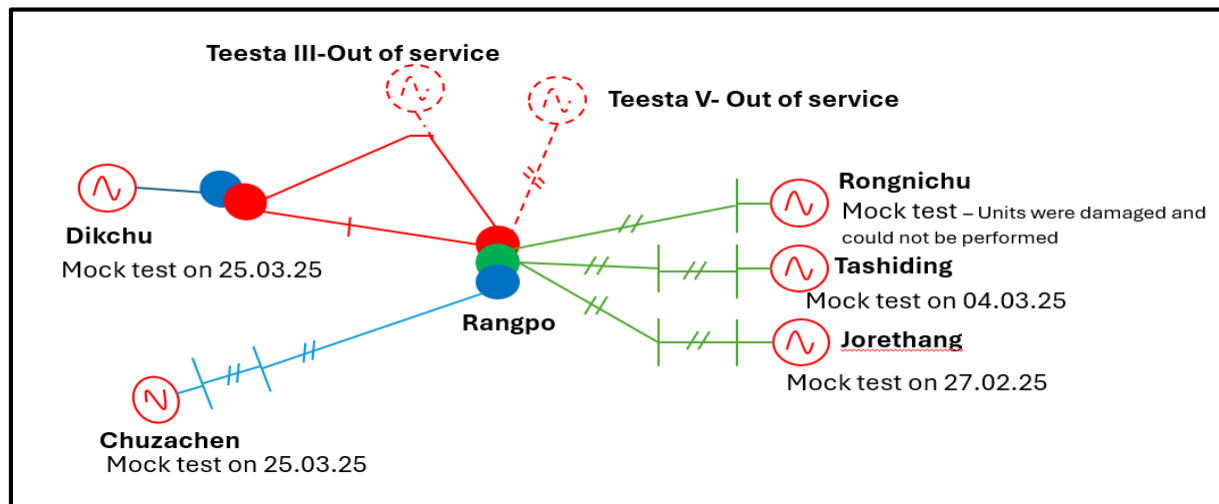
Transmission Availability the procedure also needs to be finalised. Accordingly, a meeting may be convened to finalize the format/procedure for the availability of communication system.

- ✓ RPCs may seek presentation from PGCIL/CTUIL through R-UNMS OEM on Communication availability as per CERC approved Guideline

**CTU may update. Members may discuss.**

## 2.7 Issues in synchronizing at ISTS S/s during black start of a unit: ERLDC

- Blackstart capable resource and its readiness to perform blackstart is the most important and essential pillar of resilience of the grid. Therefore, Clause 34 (3) of IEGC 2023 mandates all users must carry out mock black start once in a year. For state units SLDC and ISGS and IPP units RLDC coordinates mock black start exercise.
- In Eastern region all black start capable ISGS and IPP units are located in Sikkim and connected to 400/220/132 kV Rangpo substation as shown below:



During 2024-25 Financial year, Mock black start of Jorethang, Tashiding, Chuzachen and Dikchu was carried out. Rongnichu could not perform black start due to surge tank damage and Teesta V & III plants are under long outage since 04.10.2023 due to glacier fed lake burst.

- During the mock black start exercise following challenges were faced:

1. Stable Frequency control by black starting units
2. Stringent synchronization parameter setting, manual synchronization at Rangpo led to either high delay in synchronization or could not be synchronized at all.
3. Excessive voltage rises while charging line.

Plant wise detailed issues faced are attached in [Annexure-B.2.7](#)

In view of the above challenges faced during black start in Sikkim complex following issues may be deliberated and addressed at the earliest:

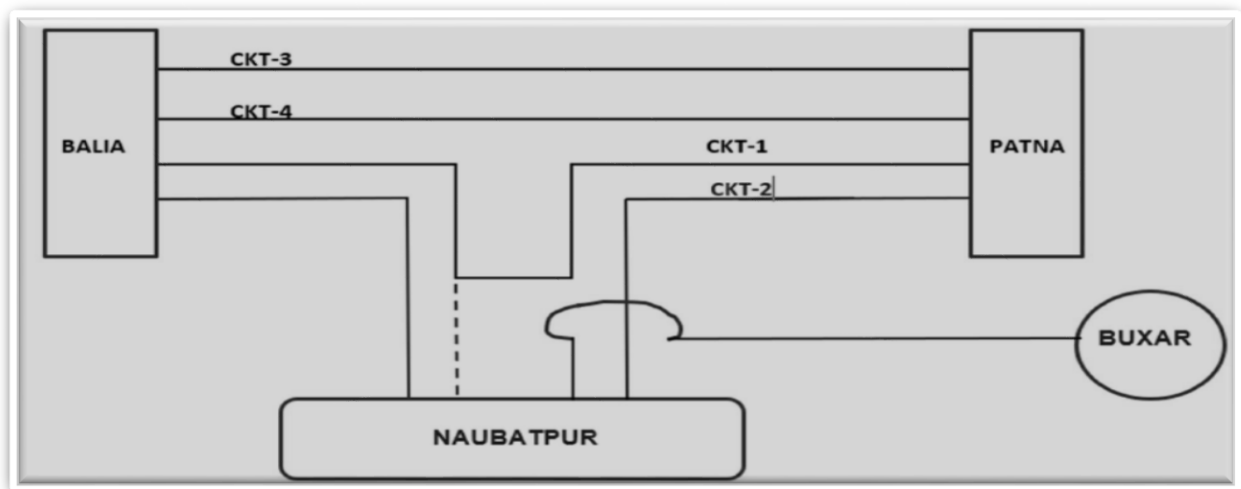
1. Installation of auto-synchronization facility at Rangpo for all feeders (Present & upcoming) connected to black-start capable generating stations.
2. Better Frequency control by generators is needed during black start.
3. Charging of line from generating station in low voltage.

4. High voltage rise- During charging of 400 kV Dikchu-Rangpo line, rise of 150 kV is not expected. Dikchu may submit a detailed report along with suggestions for how to minimize such high voltage rise.

**ERLDC may explain. Members may discuss.**

### 2.8 2x660 MW Buxar Thermal Power Project in Bihar -Restoration of 400kV-Patna-Naubatpur-Balia link to original configuration: ERLDC

Following to the OCC discussion and special meeting held on 27.07.2023 and 02.08.2023, approval was accorded for drawl of start-up power for initial testing of 2x660 MW Buxar Thermal Power Project by connecting one circuit of the Buxar–Naubatpur line using the 400kV Balia-1 bay at Naubatpur by bypassing the 400kV Patna–Naubatpur-1 and Naubatpur–Balialia-1 lines at the Naubatpur end.



- Subsequently, with the interim arrangement, 400kV Buxar–Naubatpur line was charged on 11th May 2024 and Buxar has been started drawing start up power since then.
- On 8th April 2025, the SLDC Bihar informed that Buxar intended to shift its drawl point from the 400kV system to the 220kV system. Accordingly, 400kV Naubatpur–Buxar line was disconnected from Buxar end for draw start-up power from 220kV Side.
- If the drawl of start-up power is permanently shifted to the 220kV system, in line with decision taken in 206th OCC meeting dated 31st August 2023, the 400kV Patna–Naubatpur–Balialia line is to be restored to its original configuration. This will enhance the reliability of the Naubatpur substation.

**ERLDC may explain. SLDC Bihar & SJVN may update and Member may discuss.**

### 2.9 Evaluation of Beta factor for FRP response of BRBCL: ERPC

Evaluation of Following cases for FRP response may be reviewed:

- ❖ When Unit is running near technical minimum and requirement of reducing load below technical minimum comes due to FRO. Example: BRBCL 13-09-2024 event, during this event the unit was running near technical minimum and as per FRO load had to be



reduced, however units could not respond to the requirement and Beta factor was reduced to 0.41.

- ❖ Beta factor for month when no FRP event is identified: For providing frequency response the machine is run in throttled mode, which is a loss of energy and hence coal. The Beta factor and incentive concept is introduced to compensate generators for the loss incurred for continuously being ready for providing frequency response. Therefore, Beta factor for months when no FRP event is identified must be taken as average of previous months for calculation of incentive.
- BRBCL: 6<sup>th</sup> April 2024 and 10<sup>th</sup> May 2024.

			BRBCL		
S.No.	Particulars (Event-2: 4870 MW RE Gen Loss and 628 MW Load shedding at 11:24 hrs_06.04.2024)	Dimension	RLDC HDR Data	High Resolution Data (Status as provided by ERLDC)	High res data as per plant
1			Actual Net Interchange before the Event, PA (Import +ve / Export -ve)	MW	-894
2	Actual Net Interchange after the Event, PB (Import +ve / Export -ve)	MW	-900	970	
3	Change in net interchange, PB-PA (2 - 1)	MW	-5.8	11.2	
4	Generation Loss (+) / Load Throw off (-) during the Event, PL	MW	0.0	0.0	
5	Control Area Response, $\Delta P=(PB-PA) - PL$ (3-4)	MW	-5.8	11.2	
6	Frequency before the Event, fA	HZ	50.033	50.033	
7	Frequency after the Event, fB	HZ	49.766	49.766	
8	Change in Frequency, $\Delta f=(fB-fA)$ (7-6)	HZ	-0.27	-0.27	
9	Frequency Response Characteristic, $\Delta P/ \Delta f$ (5 / 8)	MW/Hz	22	-42	
10	Frequency Response Obligation (FRO) of each control area	MW/Hz	46	46	
11	Frequency Response Performance (FRP) (9/10)		0.47	-0.90	

			BRBCL		
S.No.	Particulars (Event-2: 1071 MW Gen Loss in Khedar(RGTPS) at 19:35 hrs_10.05.2024)	Dimension	RLDC SCADA Data	Generator or High Resolution Data	Corrected Data
1			Actual Net Interchange before the Event, PA (Import +ve / Export -ve)	MW	-754
2	Actual Net Interchange after the Event, PB (Import +ve / Export -ve)	MW	-754	-939	-953
3	Change in net interchange, PB-PA (2 - 1)	MW	0.0	8	-5.9
4	Generation Loss (+) / Load Throw off (-) during the Event, PL	MW	0.0	0.0	0.0

5	Control Area Response, $\Delta P=(PB-PA) - PL$ (3-4)	MW	0.0	7.6	-5.9
6	Frequency before the Event, fA	HZ	49.986	49.986	49.986
7	Frequency after the Event, fB	HZ	49.941	49.941	49.941
8	Change in Frequency, $\Delta f=(fB-fA)$ (7-6)	HZ	-0.04	-0.04	-0.04
9	Frequency Response Characteristic, $\Delta P/ \Delta f$ (5 / 8)	MW/Hz	0	-169	132
10	Frequency Response Obligation (FRO) of each control area	MW/Hz	30	30	30
11	Frequency Response Performance (FRP) (9/10)		0.00	-5.67	4.43
Consideration of FRP for computation of Average Monthly FRP, Beta 'β'			0.00	0.00	1.00

As per Deliberation in **225<sup>th</sup> OCC:**

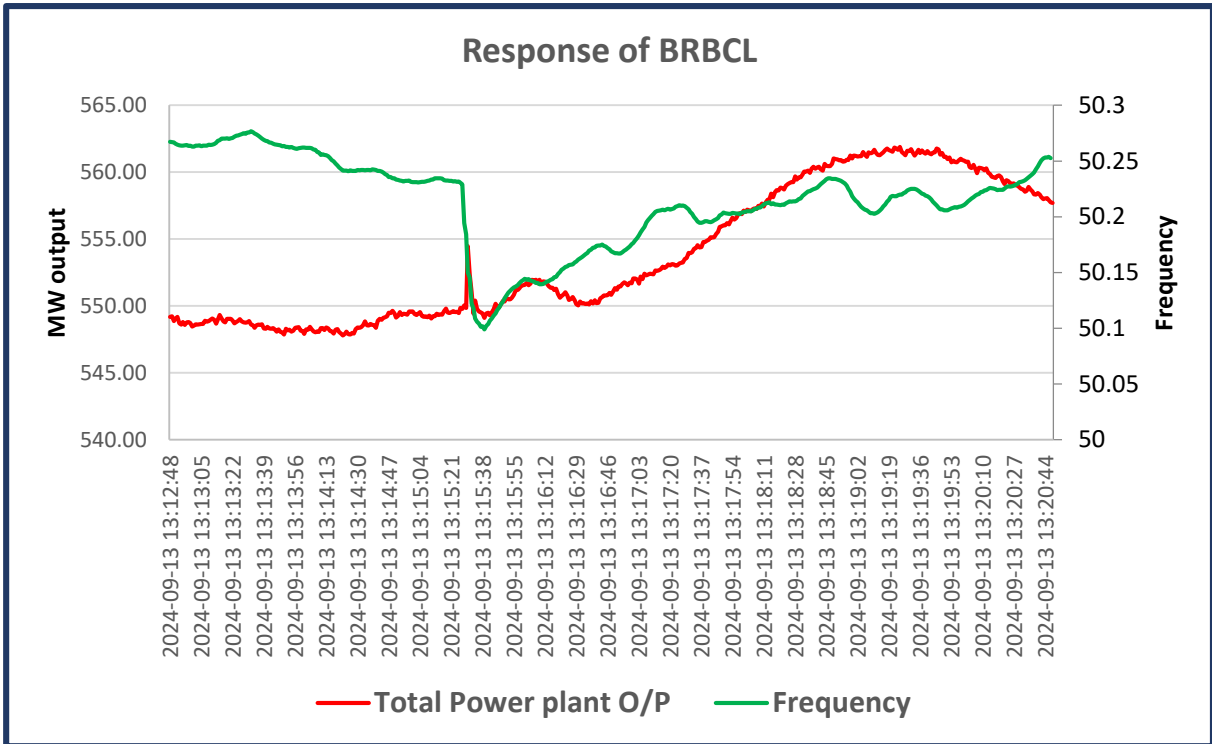
BRBCL submitted:

- ✓ When grid frequency is high and schedule of the generating station is already near technical minimum, there is no or little scope for further reduction in load. Hence desired frequency response performance becomes difficult to achieve.
- ✓ In other instances, frequency response has been graded as poor due to non-receipt of data on time at ERLDC end.
- ✓ In absence of any frequency event in a particular month, the generating stations are being deprived of any incentive despite operating the units in throttle mode to provide desired frequency response.
- ❖ ERLDC apprised that the concern of Beta factor computation in the month when no frequency event is reported, has already been taken up by NLDC with Hon'ble CERC and subsequent actions will be in line with CERC's decision. It was submitted that as corrected data has been received from BRBCL long after occurrence of frequency events, SCADA data was considered in grading frequency response performance.

#### 225<sup>th</sup> OCC Decision

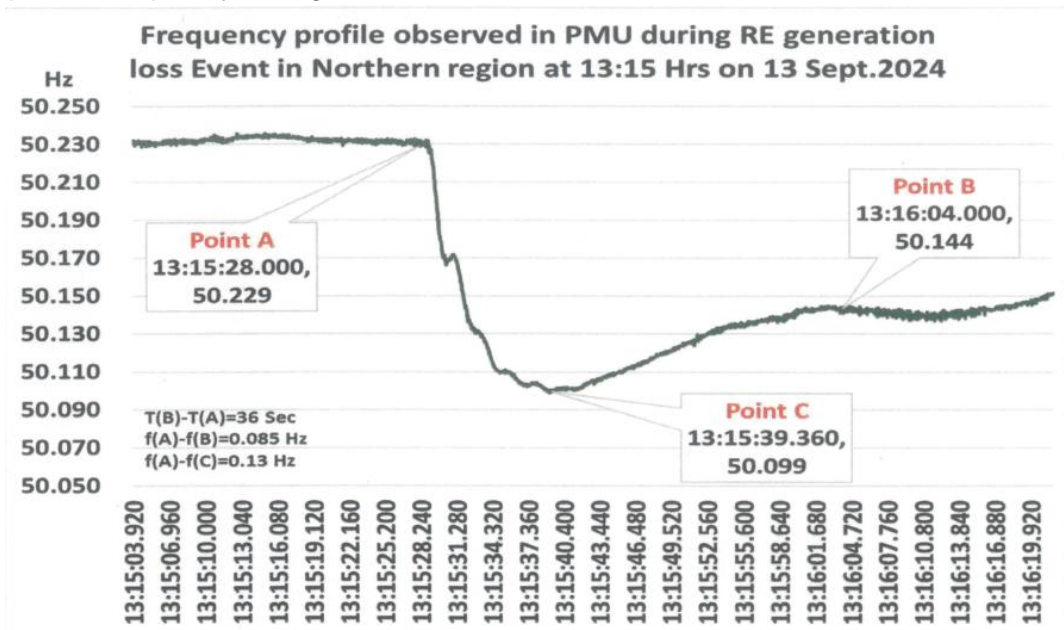
- OCC agreed with the concern of BRBCL regarding further reduction in load near technical minimum
- OCC advised BRBCL to submit the requisite details of the event to ERPC for consideration.
- OCC advised ERLDC to follow-up with NLDC on the issue of Beta Factor computation in months when no frequency event is reported.
- OCC suggested that non-receipt of data against frequency event reported on 06.04.2025 and 10.05.2025 may be sorted mutually between BRBCL and ERLDC. BRBCL was thereby advised to regularly share high resolution data against each reportable frequency event with ERLDC on time (ideally within two days of the event) to facilitate accurate assessment of FRP.

BRBCL's response (**Annex B.2.9**) regarding the event on **13-09-2024 at 13:15** hrs was submitted vide letter dated **02-04-2025**.



As per NLDC's report ([Annex B.2.9](#)) the event on 13-09-2024 at 13:15 hrs occurred due to RE generation loss 850 MW. 400kV Ajmer Substation and Azure 34 generating station were directly affected due to this event.

PMU plot for frequency during this event:



ERLDC may update. Members may discuss.

## 2.10 Shutdown proposal of generating units for the month of May & June 2025: ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2025-26									
System	Station	Unit	Capacity (MW)	Period		No. of Days	As per CEA		Reason
				From	To		From	To	
DVC	CTPS	8	250	25-06-2025	29-07-2025	35	25-06-2025	29-07-2025	COH-Boiler RLA, turbogen. & De-Nox
NPGCL	New Nabinagar STPS	1	660	21-06-2025	19-08-2025	60	01-11-2025	30-12-2025	AOH: Boiler+Turbine + Gen
WBPDC	Kolaghat TPS	4	210	27-06-2025	21-07-2025	25	15-07-2025	08-08-2025	AOH

OCC may approve.

**Members may discuss.**

## 2.11 Workforce Adequacy Guidelines for Load Despatch Centres: ERPC

The 'Workforce Adequacy Guideline for Load Dispatch have been circulated vide **Ministry of Power's** letter dated **30.10.2024**.

For enabling effective implementation of these guidelines the **Monitoring Committee for PSDF**, in its **24<sup>th</sup> Meeting** dated **18.02.2025**, has resolved to link the sanction of new proposals from various STUs/SLDCs under PSDF with the implementation of these guidelines **w.e.f 01.04.2025**. The following points were approved in the meeting:

- All SLDCs shall be required to submit the details of number of sanctioned posts and the current manpower deployed at their respective centers to NLDC. This will provide the baseline understanding of existing workforce at SLDCs.
- SLDCs shall be asked to submit a plan outlining the steps to address the gaps between existing workforce and the staffing levels recommended in the "Workforce Adequacy Guidelines ". This plan should include a timeline of 2 to 3 years with clearly defined milestones every 6 months to track the progress. This structured approach will ensure that SLDCs can gradually build up the required workforce to meet the guidelines.
- The new projects received which are falling under the category of – 5.1 (b), (c), (e) and (f) of the "**Guidelines/Procedure for Disbursement of Funds from Power System Development Fund (PSDF)**" shall be linked to the deployment of the manpower in SLDCs as mentioned above.

**Members may discuss.**

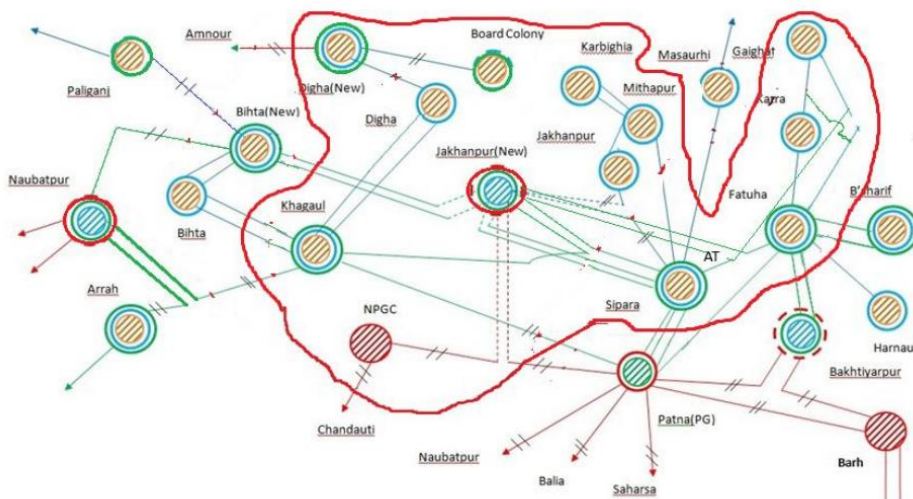
## 2.12 Update on Patna Islanding scheme: ERPC

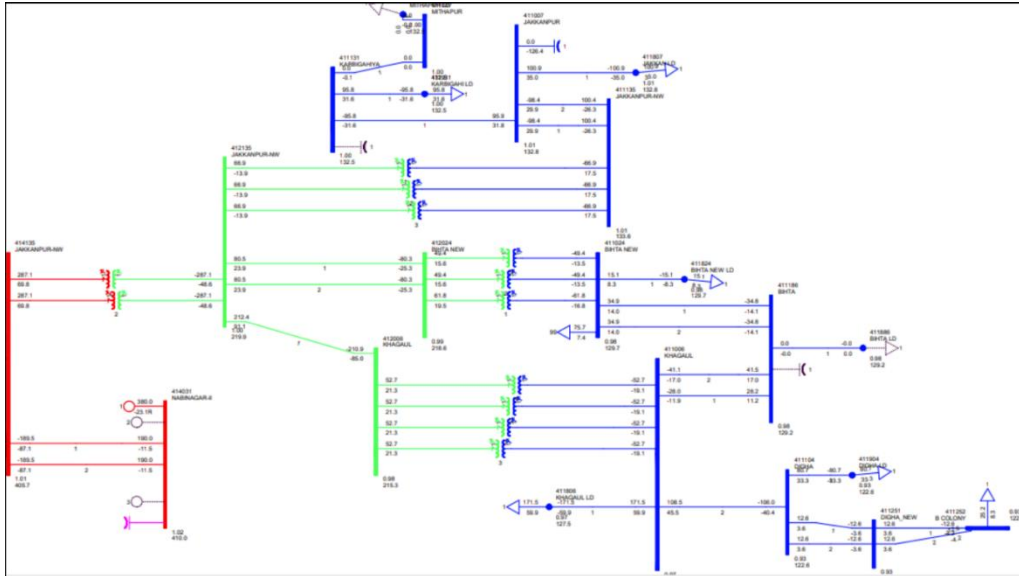
The Patna islanding scheme would be formed with Units of NPGCL along with loads of Patna city.

NTPC was entrusted for carrying out study of NPGC units and 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.

- The proposed Patna islanding scheme aims to isolate one running unit of NPGC (660 MW) with pre-identified load of Patna city and nearby areas. After isolation of selected loads and NPGC through the identified network, run the island in islanded mode to cater the city load and to extend start-up supply to generating stations in adjoining area to facilitate early restoration.
- Patna city and nearby loads will be islanded with one of the running units of NPGC (660 MW). NPGC is connected to the grid through 400 kV NPGC-Jakkanpur D/c and 400 kV NPGC Gaya D/c lines. For the islanding 400 kV NPGC-Jakkanpur D/c and at Jakkanpur through 400/220 kV ICTs, pre-deintified 220 kV feeders will be selected which will be isolated to confirm the islanding of the Patna loads from the rest of the grid with one unit of NPGC.





### **Deliberation in 53<sup>rd</sup> TCC meeting**

SLDC Bihar apprised that DPR of the islanding scheme has been prepared with tentative cost implications of around 5.5-6 Cr.

### **TCC decision**

- ✓ TCC recommended the Patna Islanding Scheme and referred to ERPC for concurrence.
- ✓ TCC advised Bihar to put up the proposal for funding from PSDF.

### **Deliberation in 53<sup>rd</sup> ERPC meeting**

ERPC agreed with the proposal of Patna Islanding Scheme and advised Bihar to go ahead with the implementation scheme in a time bound manner.

As per **225<sup>th</sup> OCC** Deliberation:

Bihar updated:

- ✓ For preparation of estimate, budgetary offers are awaited to be received from the concerned vendors (M/S GE, M/S Schneider and M/S Siemens).
- ✓ Approved DPR of the islanding scheme shall be submitted for PSDF funding latest by April 2025.

### **225<sup>th</sup> OCC Decision**

OCC advised Bihar SLDC to expedite submission of Final DPR of Patna islanding scheme along with detailed cost breakup for PSDF grant.

**SLDC Bihar may update.**

### **2.13 Shifting of Tower#1 (dead end tower) of the 400 kV D/C Transmission Line at Teesta-V Power Station: ERPC**

- PGCIL has constructed 400 kV D/C Transmission Line from Teesta–V Power Station Balutar Singtam Sikkim to Binnaguri with the commissioning of Teesta-V Power Station in 2008 which was later on terminated to PGCIL Pooling Substation at Rangpo.

- A devastating flash flood occurred on the intervening night of 3rd and 4th October 2023. The said flood damaged many installations of Teesta-V Power Station. The Tower#1 of PGCIL was also washed away in the flood. Also, Potheadyard Gantry, Lightning Arresters, CVTs, Wave Traps, and GIS to Air Bushing etc. got damaged. The restoration work started after the occurrence of the flood.
- Tower #1 has been re-erected by PGCIL, and the line was made available for power evacuation from Teesta-V Power Station.
- Later on, a massive landslide occurred on 20th August 2024 at TRT area of the Power House resulting in the catastrophic collapse of the entire GIS building and the equipment housed within it. The majority of the GIS building was completely damaged, except for a small portion containing the DG sets, meter room, and 11kV switchgear. As complete impact of the landslide was faced by GIS building itself, therefore Tower #1 was remained protected.
- This land slide area is vulnerable and therefore, location of GIS building needs to be shifted to safe place about 200 meters away from the previous location. NHPC is taking suitable measures to stabilize the vulnerable area. However, in case any boulder/rock mass falls and hits the existing PGCIL Tower#1 it will get damaged affecting transmission line.
- Therefore, NHPC had suggested that Dead End Tower#1 may be relocated beyond the reach of sliding zone. This issue was also communicated to Power Grid, subsequently officials from Power Grid visited the site also.
- Complete restoration activities are expected to be completed by Nov. 2025.

As per Deliberation in the **225<sup>th</sup> OCC** meeting

❖ NHPC submitted:

- ✓ A massive landslide occurred on 20th August 2024 at TRT area of the Power House resulting in the catastrophic collapse of the entire GIS building and the equipment housed within it.
- ✓ Currently the dead-end tower of the Teesta – V power evacuation switchyard is located near a hill which has become prone to landslide.
- ✓ So, they have decided to shift their GIS switchyard along with the dead-end tower to another safe nearby location.
- ✓ The PGCIL dead end tower will be relocated along with the GIS switchyard to avoid damage from future landslides.
- ❖ Powergrid submitted that the additional tower may be vulnerable due to erosion of river bank and there would be ROW and clearance issues due to close proximity to the nearby Helipad. However, he assured that a joint survey with NHPC would be carried out and appropriate measures shall be taken to address the concern of NHPC.

#### **225<sup>th</sup> OCC Decision**

- ✓ OCC recommended for another joint site visit by NHPC and Powergrid for further planning i.r.o the tower arrangement and thereby evading potential damage from probable landslide.
- ✓ OCC also advised the concerned i.e NHPC and Powergrid to make a detailed study about landslide mitigation structures, like boulder nets, and provide a cost estimate for the same. They may approach authorities like NHA for seeking advice regarding the same.

NHPC has further submitted vide letter dated on **03.04.2025 (Annex B.2.13)**:

- The importance of the dead-end tower #1 of PGCIL has been emphasized again. Since there is only one double circuit line available from Teesta-V and Rangpo pooling substation no option for power evacuation from Teesta-V will be available in the event of tower collapse.
- Currently hill slope protection is carried out along with the rebuilding of Teesta-V power station which is expected to be commissioned by **December 2025**.
- Powergrid was requested to relocate dead end tower as per schedule.

**NHPC and Powergrid may explain. Members may discuss.**

#### **2.14 Bus split operationalization at NTPC Kahalgaon: ERPC**

As decided in **219<sup>th</sup> 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 **25<sup>th</sup> 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.

As per **225<sup>th</sup> OCC** Deliberation

NTPC updated:

- Laying control cable for ICTs is being undertaken. Long distance control cables from ICT to control room are being mobilised from NTPC Vindhyanchal and NTPC Singrauli. Laying of control cables will be finished in next 15 days.
- Shutdown of station transformer for unit 7 will be taken up next followed by laying of 132 kV power cable.
- Survey for laying fire hydrant pipes has been done around switchyard area. Any excavation work can be taken up after shutdown of station transformer.
- Status of other activities detailed as follows:

SI No	Description	Status	Remark
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1	Revival of 400KV isolators of ICT-3 & 4	2/4 revived	Revived isolators Jumpers will be connected during Bus-4 shutdown. For revival of rest of the isolators, Bus-3 shutdown reqd.
2	ICT-3 400KV side and 132KV side LA erection	completed	
3	ICT-3 Earthing work	80% completed	Target date- 25.03.2025
4	132KV side BPI structure modification work	50% completed	Target date- 31.03.2025
5	132KV relay interpanel wiring work	70% completed	Target date- 31.03.2025
6	400KV relay interpanel wiring work	80% completed	Target date- 31.03.2025

### 225<sup>th</sup> OCC Decision

- OCC urged NTPC to strictly adhere to the committed timeline for bus splitting at Kahalgaon, i.e June 2025.
- NTPC was advised to share the update of work done as progress report on fortnightly basis (target v/s progress achieved).

As per latest update from NTPC( 15.04.2025):

SI No	Description	Status	Remark
1	Contractual issue	Resolved	
2	Arrangement of 5KM 19Cx2.5 sqmm and 21 KM 10Cx2.5 sqm Control cable	Arrived at site	
3	Laying of control and power cables towards 400KV side	Completed	
4	Laying of control cables towards 132KV side	50% completed	<b>Target date- 30.04.2025</b>
5	Revival of 400KV isolators of ICT-3 & 4	2/4 revived	<ul style="list-style-type: none"> <li>✓ Revived isolators Jumpers will be connected during Bus-4 shutdown.</li> <li>✓ For revival of rest of the isolators, Bus-3 shutdown reqd.</li> </ul>
6	ICT-3 Earthing work	Completed	
7	132KV side BPI structure modification work	60% completed	<b>Target date- 30.04.2025</b>
8	132KV relay interpanel wiring work	Completed	
9	400KV relay interpanel wiring work	Completed	

10	Revival of 400KV & 132KV CBs	Defective spares arrived at site. Service engineer will be deployed for attending the defects	<b>Target Date: 30.04.2025</b>
11	Charging of ICT-3 & ICT-4 towards 400KV side		<b>Target Date: 30.04.2025</b>

**NTPC may update. Members may discuss.**

**2.15 Frequent outage in Generating units of Tenughat: ERPC**

- TTPS Unit#2 has tripped almost **23** times in **last 3 months** i.e from 01/01/2025 to 03/04/2025 due to high turbine vibration. Because of ageing and no AOH & R&M activities of units since last four years, no: of trippings has increased considerably.
- So in order to reduce to reduce the outage, An R&M activity of the units is needed.

**TVNL may update. Members may discuss.**

**2.16 Frequency Response Performance (FRP) of Generators: ERLDC**

As per IEGC 2023 Clause 30, Sub clause 10(q): NLDC, RLDCs and SLDCs shall grade the median Frequency Response Performance annually, considering at least 10 reportable events. In case the median Frequency Response Performance is less than 0.75 as calculated as per mentioned table, NLDC, RLDCs, SLDCs, as the case may be, after analysing the FRP shall direct the concerned entities to take corrective action. All such cases shall be reported to the concerned RPC for its review.

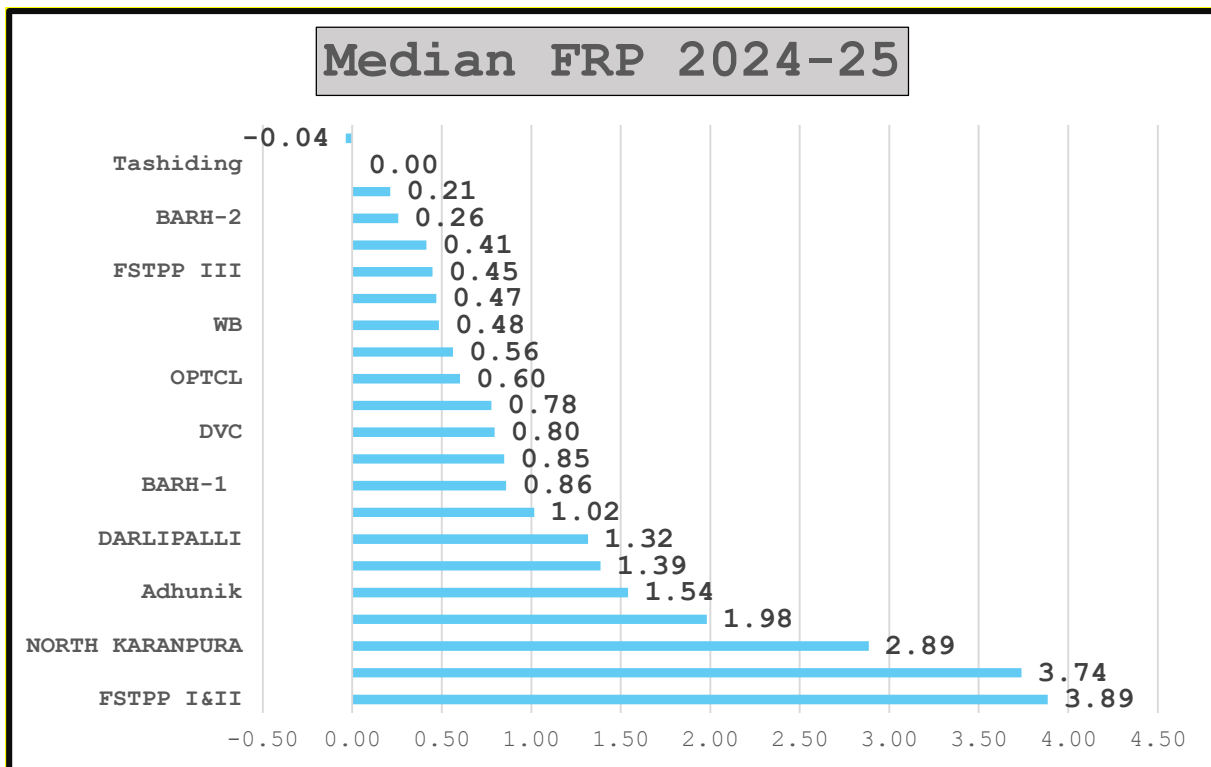
**TABLE C: FREQUENCY RESPONSE CRITERIA**

S. N	Performance*	Grading
i.	FRP ≥ 1	Excellent
ii.	0.85 ≤ FRP < 1	Good
iii.	0.75 ≤ FRP < 0.85	Average
iv.	0.5 ≤ FRP < 0.75	Below Average
v.	FRP < 0.5	Poor

*\*Provided that for wind/solar generating stations and state control areas with internal generation less than 100 MW or annual peak demand less than 1000 MW, the FRP grading shall be indicative only.*

ERLDC has prepared the annual FRP grading response for all ISGSs and IPPs and performance was mailed on 11-04-2025.

Generating Plant	Median FRP	FRP Performance
FSTPP I&II	3.89	Excellent
BRBCL	3.74	Excellent
NORTH KARANPURA	2.89	Excellent
GMR	1.98	Excellent
Adhunik	1.54	Excellent
NPGC	1.39	Excellent
DARLIPALLI	1.32	Excellent
ER exchange	1.02	Excellent
BARH-1	0.86	Good
KhSTPP I	0.85	Average
DVC	0.80	Average
Bihar	0.78	Average
OPTCL	0.60	Below Average
TSTPS-I	0.56	Below Average
WB	0.48	Poor
Jharkhand	0.47	Poor
FSTPP III	0.45	Poor
KhSTPP II	0.41	Poor
BARH-2	0.26	Poor
MPL	0.21	Poor
Tashiding	0.00	Poor
JITPL	-0.04	Poor



**Generators may review the same and those whose Median FRP is less than 0.75 may share corrective action plans within 30th April 2025.**

During **224th OCC**:

- ✓ All SLDCs were advised to submit the FRP data for all the reportable events during 2024-25 to ERLDC by 15th April-2025.
- ✓ FRP response for State control areas are also prepared by ERLDC as per IEGC mandate and sent to SLDCs via mail dated 10.04.2024.
- ✓ SLDCs are requested to ensure calculation of annual median Frequency Response Performance of eligible units in their jurisdiction and submit the same along with corrective action for generators having FRP less than 0.75 to ERLDC and ERPC by 30th April 2025.

**ERLDC may explain. Member may discuss.**

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

#### 3.1. ER Grid performance during March 2025.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month March-2025 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)
530 MU	598 MU, 29.03.2025	28119 MW, 28.03.2025 at 20:50 Hrs.	16453 MW, 23.03.2025 at 05:01 Hrs.	4297	4411

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

#### 3.2. Update on 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 52<sup>nd</sup> 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 Gazol (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)
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ERES-44	18 months (15 months on best effort basis) from the date of allocation	RTM	Powergrid	385.77
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### **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 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).
- ✦ 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.
- ✦ 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**.

#### **As per 224<sup>th</sup> OCC Deliberation**

Powergrid apprised:

- ✓ NIT for reconductoring under ERES-44 scheme shall be floated on 04.3.2025.
- ✓ Modalities of reconductoring in Bhutan portion could not be finalized yet due absence of response from Bhutan end after bilateral meeting being held.
- ✓ MOU has already been done with WBSETCL for reconductoring in intra-state portions of West Bengal network.

### **224<sup>th</sup> OCC Decision**

- Powergrid was urged to expedite the tendering process of reconductoring works under ERES-44.
- Powergrid was advised to write a letter to Bhutan Power system operator with copy to CEA and MOP for expediting finalization of modalities of reconductoring with Bhutan.

As per **225<sup>th</sup> OCC** Deliberation

No further update was received from Powergrid ER-II.

### **225<sup>th</sup> OCC Decision**

OCC noted.

**Powergrid may respond. Members may discuss.**

### **3.3. Update on Rajarhat GIS (POWERGRID) 400/220kV S/S: 2x500MVA and : ERLDC**

- ◆ During the deliberations in the 222<sup>nd</sup> OCC meeting held on 23.12.24, West Bengal SLDC representative expressed deep concern regarding a potential power crisis at Rajarhat (PG) in 2025-2026, based on the current loading pattern in and around the Kolkata area. It was also emphasized the need to prioritize the installation of a 3<sup>rd</sup> 400/220KV,500MVA ICT at Rajarhat (PG) with the same urgency as Subhasgram (PG) to prevent a recurrence of similar critical situations in the future.
  - ◆ It was further highlighted that if the proposed 3<sup>rd</sup> ICT is not operational by the summer of 2026, severe congestion is likely to affect the ICTs at Rajarhat (PG). Additionally, it was noted that the state assembly elections are expected to take place in 2026, adding to the significance of addressing this issue promptly.
  - ◆ Powergrid ER-II updated in the meeting that tender for procurement of the 3<sup>rd</sup> ICT has been annulled twice and currently re-tendering is under progress. Bid opening is scheduled tentatively in Feb 2025, thereafter, commissioning of the ICT will take 18 months. It is expected to be commissioned by end of 2026 or first half of 2027.
  - ◆ In view of the above, an alternative arrangement may be thought off to ensure 3<sup>rd</sup> ICT at Rajarhat before 2026 Summer.
- 
- The need for augmenting the transformation capacity at Subhasgram, Kolkata, was first discussed during the **45<sup>th</sup> TCC** meeting on **06.08.2022** in Siliguri, West Bengal.
  - Subsequently, considering the urgency of augmenting ICT capacity to meet the increasing demand in the Kolkata area, it was decided during the 50<sup>th</sup> TCC/ERPC meeting on 10.08.2023 at Lonavala to utilize the regional spare 500 MVA ICT located at Maithon as 7<sup>th</sup> ICT at Subhasgram. This ICT was transported and commissioned in June 2024, thereby enhancing the transformation capacity for the Kolkata area.

As per update in **53<sup>rd</sup> TCC** meeting

❖ Powergrid ER-II updated:

- ✓ The 6<sup>th</sup> ICT at Subhasgram(PG) can be made available from Maithon(PG) as discussed in recent bilateral meeting with WBSETCL but transportation from Maithon(PG) would be extremely challenging.
- ✓ All civil and electrical works for 6<sup>th</sup> ICT at Subhasgram(PG) to be tentatively completed by

December 2025.

- ✓ Tender for procurement of the 3<sup>rd</sup> ICT at Rajarhat(PG) had been annulled twice. Presently re-tendering under progress whose NIT will be floated within 7 days. LOA shall be placed by August 2025.
- ✓ The 3<sup>rd</sup> ICT can be commissioned at Rajarhat (PG) by August 2026.
- ❖ WB SLDC submitted :
  - ✓ Raised serious concern over the inordinate delay, especially in initiating the re-tendering process by Powergrid and consequently lapsing crucial 19 months in between.
  - ✓ Despite continuous pursuance in several OCC meetings, no significant headway could have been achieved in this regard.
  - ✓ It was highlighted that while Summer 2025 will be difficult but Summer 2026 will definitely encounter a power supply crisis i.r.o Kolkata in absence of 3<sup>rd</sup> ICT at Rajarhat(PG).
  - ✓ Regular monitoring of the progress was requested.
  - ✓ Interim solution of load management in upcoming Summer with existing resources was requested.

#### **As per 224<sup>th</sup> OCC Deliberation**

POWERGRID ER-II updated:

- ✓ The GIS package at Rajarhat(PG) is yet to be finalized.
- ✓ The 3<sup>rd</sup> ICT(500 MVA) is expected at Rajarhat(PG) by December 2026.
- ✓ As per MOM of the meeting chaired by Power Secretary (Govt of WB) dated 20.02.2025, the 500 MVA transformer has been planned for transportation from ER spare pool at Maithon (PG) to Subhasgram (PG) tentatively in April 2025. Necessary administrative clearance & assistance shall be required to facilitate challenging transportation process.

#### **224<sup>th</sup> OCC Decision**

- OCC noted and advised Powergrid to abide by the submitted timeline of 500 MVA ICT commissioning i.r.o both Rajarhat(PG) and Subhasgram (PG) .
- Powergrid was advised to submit to ERPC Secretariat: Gantt chart with timeline of each activity to be carried out as well as fortnightly progress report on ICT commissioning at Rajarhat and Subhasgram substations.

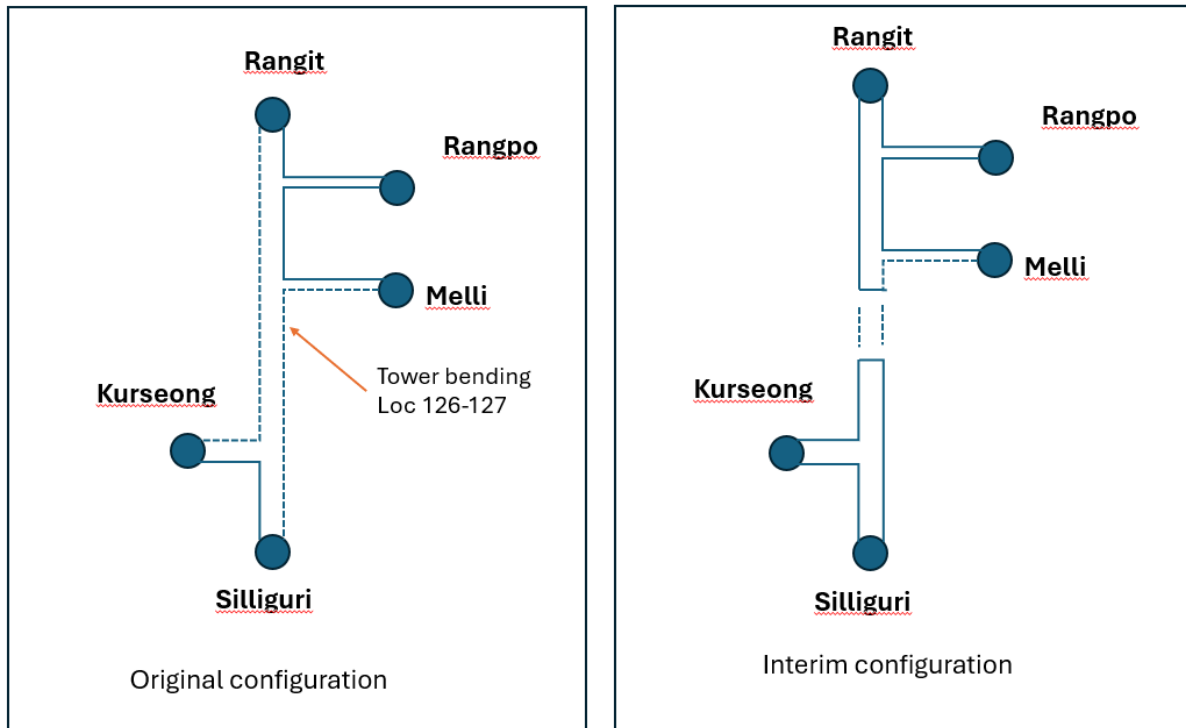
**POWERGRID ER-II may update. Members may discuss.**

#### **3.4. 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 **22<sup>nd</sup> October**. POWERGRID intimated that it would take 15-20 Days to restore the original configuration after rectifying damaged towers.



As per **225<sup>th</sup> OCC** Deliberation

Powergrid ER-II updated:

- ✓ For resolving ROW issues, a special meeting was held on 20.03.2025 with SDM(Darjeeling) and after discussion with Soom Tea Garden, they have assured to settle the problem within 07.04.2025 as compensation amount need to be approved/settled after concurrence of owner and presently, the owner is out of India.
- ✓ In view of above, ROW issues expected to be resolved by 10.04.2025 and the restoration work may be considered for completion by July-2025.

#### **225<sup>th</sup> OCC Decision**

- OCC expressed serious concern on the delay in restoration of the original configuration of 132 kV which may adversely impact reliable power supply to hilly regions of West Bengal amid upcoming peak demand period.
- Powergrid was urged to expedite and submit revised plan of restoration in the next OCC.

**Powergrid may update. Members may discuss.**

**3.5. 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.

**225<sup>th</sup> 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.
- ✓ All generating utilities were also urged to update the google sheet (link mentioned above) with email address where notifications of reportable events will be shared.

The latest data receipt status is given below: ( as on **11.04.2025**):

STATIONS		12-03-2025 14:51HRS	12-03-2025 15:37HRS
FSTPP #STG 1 & 2	ISGS		
FSTPP # STG 3	ISGS		
KhSTPP #STG 1	ISGS		
KhSTPP #STG 2	ISGS		
TSTPP #STG 1	ISGS		
Barh stage-1	ISGS		
Barh stage-2	ISGS		
BRBCL	ISGS		
Darlipalli	ISGS		
North Karanpura	ISGS		
NPGC	ISGS		
TEESTA V	ISGS		
GMR	CPP		
MPL	CPP		
ADHUNIK	CPP		
JITPL	CPP		
TEESTA III	CPP		
Bihar	STATE		
Jharkhand	STATE		
DVC	STATE		
OPTCL	STATE		

WB	STATE		
Updated as on	11.04.2024		

Received
Not Received
Plant Out
Data freeze at plant

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](https://docs.google.com/spreadsheets/d/1slvAOmQIEQVIMn0LnB78eKMa2sz2QYICZ-sPEpeV_jk/edit?usp=sharing)

**ERLDC may explain. 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.

#### 225<sup>th</sup> OCC Decision

- OCC advised all SLDCs for strictly adhering to the schedule of demand estimation as mandated in IEGC 2023, timely sharing with ERLDC in specified format 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 for their respective control areas on weekly as well as monthly basis with ERLDC.
- All SLDCs were urged to regularly furnish resource adequacy data besides demand forecast.

Latest Forecast receipt status is shown below:

	01-03-25	02-03-25	03-03-25	04-03-25	05-03-25	06-03-25	07-03-25	08-03-25	09-03-25	10-03-25	11-03-25	12-03-25	13-03-25	14-03-25	15-03-25	16-03-25	17-03-25	18-03-25	19-03-25	20-03-25	21-03-25	22-03-25	23-03-25	24-03-25	25-03-25	26-03-25	27-03-25	28-03-25	29-03-25	30-03-25	31-03-25
<i>Bihar</i>																															
<i>Jharkhand</i>																															
<i>DVC</i>																															
<i>Odisha</i>																															
<i>West Bengal</i>																															
<i>Sikkim</i>																															

Status of Furnishing of Day Ahead <i>Resource adequacy data</i> by ER States																															
Bihar																															
Jharkhand																															
DVC																															
Odisha																															
West Bengal																															
Sikkim																															
	01-03-25	02-03-25	03-03-25	04-03-25	05-03-25	06-03-25	07-03-25	08-03-25	09-03-25	10-03-25	11-03-25	12-03-25	13-03-25	14-03-25	15-03-25	16-03-25	17-03-25	18-03-25	19-03-25	20-03-25	21-03-25	22-03-25	23-03-25	24-03-25	25-03-25	26-03-25	27-03-25	28-03-25	29-03-25	30-03-25	31-03-25

Status of Furnishing of Week Ahead <i>Forecast data</i> by ER States	Status of Furnishing of Week Ahead <i>Resource Adequacy data</i> by ER States	Status of Furnishing of Month Ahead <i>Forecast data</i> by ER States	Status of Furnishing of Month Ahead <i>Resource Adequacy data</i> by ER States
Bihar			
Jharkhand			
DVC			
Odisha			
West Bengal			
Sikkim			
	03.03.25 to 09.03.25	10.02.25-16.02.25	24.02.25-02.03.25
	10.03.25-16.03.25	17.02.25-23.02.25	
	17.03.25-23.03.25		
	24.03.25-30.03.25		
	31.03.25-06.04.25		
			March
			March

Status of Furnishing of Intra Day <i>Forecast data</i> by ER States																																	
Bihar																																	
Jharkhand																																	
DVC																																	
Odisha																																	
West Bengal																																	
Sikkim																																	
	01-03-25	02-03-25	03-03-25	04-03-25	05-03-25	06-03-25	07-03-25	08-03-25	09-03-25	10-03-25	11-03-25	12-03-25	13-03-25	14-03-25	15-03-25	16-03-25	17-03-25	18-03-25	19-03-25	20-03-25	21-03-25	22-03-25	23-03-25	24-03-25	25-03-25	26-03-25	27-03-25	28-03-25	29-03-25	30-03-25	31-03-25		

Status of Furnishing of Intra Day <i>Resource adequacy data</i> by ER States																																	
Bihar																																	
Jharkhand																																	
DVC																																	
Odisha																																	
West Bengal																																	
Sikkim																																	
	01-03-25	02-03-25	03-03-25	04-03-25	05-03-25	06-03-25	07-03-25	08-03-25	09-03-25	10-03-25	11-03-25	12-03-25	13-03-25	14-03-25	15-03-25	16-03-25	17-03-25	18-03-25	19-03-25	20-03-25	21-03-25	22-03-25	23-03-25	24-03-25	25-03-25	26-03-25	27-03-25	28-03-25	29-03-25	30-03-25	31-03-25		

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

### 3.7. 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.
- Eastern region has 16 hydro power plants, which has capability to play a crucial role during restoration after any grid disturbance. Mock black start testing along with grid forming capability is being carried out on yearly basis, as mandated by IEGC reg 34.3, to ensure the capability & readiness of those generators for any contingency.
- 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:
  - (a) Black start capability of the generator;
  - (b) Ability of black start generator to build cranking path and sustain island;
  - (c) Impact of block load switching in or out;
  - (d) Line/transformer charging;
  - (e) Reduced fault levels;
  - (f) Protection settings under restoration condition

So far, Balimela, Burla, U. Indravati, TLDP-IV, and Subarnarekha have completed their mock black start tests, while Jorethang and Tashiding have confirmed tentative dates for FY25. The remaining generators are yet to schedule their tests and are requested to confirm their mock drill dates. Status of mock black start is as follows:

Sl. No.	Name of Hydro Station	2024-25 Actual Date of Test	Tentative date as on 18.02.25
1	U. Kolab		Yet to be informed
2	Balimela	15 <sup>th</sup> January 2025	
3	Rengali		Yet to be informed
4	Burla	December-24	
5	U. Indravati	Sep-24	
6	Maithon	December-24	
7	TLDP-III		Yet to be informed
8	TLDP-IV	December-24	
9	Subarnarekha	3 <sup>rd</sup> December 2024	
10	Teesta-V	N/A	N/A
11	Chuzachen		Yet to be informed
12	Teesta-III	N/A	N/A
13	Jorethang		25th February 2025
14	Tashiding		29-31 March 2025
15	Dikchu	N/A	Yet to be informed

16	Rongnichu		Yet to be informed
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The rest of the generators are requested to confirm dates for 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.

Members may note.

#### 4. PART-D: OPERATIONAL PLANNING

##### 4.1. Anticipated power supply position during May-2025

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of May-2025 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 16-02-2025)

###### a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	TENUGHAT	JHARKHAND	TVNL	2	210	Due to high vibration in Turbine	13-Apr-2025
2	BANDEL TPS	WEST BENGAL	WBPDC	2	60	Boiler Tube Leakage	11-Apr-2025
3	BOKARO-A'	DVC	DVC	1	500	Annual Overhauling	25-Mar-2025
4	KOLAGHAT	WEST BENGAL	WBPDC	4	210	Low System Demand	14-Apr-2025

**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
1	SOUTHERN	WEST BENGAL	CESC	1	67.5	Low system demand	30-Mar-2025
1	SOUTHERN	WEST BENGAL	CESC	2	67.5	Low system demand	13-Apr-2025

###### 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	200	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	2	200		
3	TEESTA STG III Hep	SIKKIM	TUL	3	200		
4	TEESTA STG III Hep	SIKKIM	TUL	4	200		
5	TEESTA STG III Hep	SIKKIM	TUL	5	200		
6	TEESTA STG III Hep	SIKKIM	TUL	6	200		
7	DIKCHU Hep	SIKKIM	SKPPL	2	48	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	TEESTA HPS	SIKKIM	NHPC	1	170	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
9	TEESTA HPS	SIKKIM	NHPC	2	170		
10	TEESTA HPS	SIKKIM	NHPC	3	170		
11	JORETHANG	SIKKIM	DANS	1	48	Annual Maintenance	11-Mar-2025

**d) Long outage report of transmission lines (As on 16.01.2025):**

Transmission Element / ICT	Outage From	Reasons for Outage
220/132KV 100 MVA ICT II AT LALMATIA	22.01.2019	220/132KV, 100MVA Transformer (NTPC side) is charged on 07.02.2024 from HV side on no load. Now, it is in idle charged condition
220KV-FSTPP-LALMATIA-I	21.04.2021	Two nos. of tower collapsed on 29.05.2024 near to Lalmatia GSS in the Loc. No. 246 & 247. Presently 220 kV Farakka-Lalmatia line is charged (from loc no 241 to loc 84) at 132 kV voltage level for anti-theft purpose by tapping at loc. No. 100-101.
220KV-WARIA-BIDHANNAGAR-1 & 2	08.06.2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
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	
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	Initially line out due to rectification of gas leakage problem from B-Ph breaker pole. Line declared under breakdown after charging attempt after return of shutdown. After that fault found in b-phase cable.
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
132KV-PATRATU-PATRATU-1 & 2	16-11-2024	Diversion/Heightening of line due to inadequate clearance from under construction railway Line by PVUNL
132KV-CHUZACHEN-RANGPO-1	29-11-2024	Rangpo : B-N ,Z-1, 7.8 KA, 5.61 KM
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-2	02-12-2024	SD Availed by Bhutan for rectify/Replace the LA for 400kV Jigmeling _Puna_ALI-1.
400KV-KHSTPP-BARH-2	07-12-2024	Uprating of bay & line equipments

400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-1	10-12-2024	Jumper connection and interconnection removal at Kamichu
400KV/220KV 315 MVA ICT 2 AT MEJIA-B	20-01-2025	Tripped during charging of ICT#1 bay with cable from 220 kv GIS side
400KV-BINAGURI-TALA-2	24-01-2025	Binaguri end: R-N, F dist 125.3 kM, F Current Ir-3.26kA
132KV-CHUZACHEN-RANGPO-1	04-02-2025	Maintenance Activities
220KV-DALKHOLA (PG)-GAZOLE-1&2	06-02-2025	To reduce loading of malda gazole after dalkhola pg bus return
132KV-NAGARUNTARI-NABINAGAR-1	07-02-2025	Re-sagging of conductors at various locations on OCB till 25/02/2025
400KV-NEW PURNEA-KISHANGANJ-1 & 2	18-02-2025	Facilitating Erection of New Tower on Pile foundation
220KV-KATAPALLI-BOLANGIR(PG)-1	20-02-2025	To avoid tripping due to overloading
220KV-KISHANGANJ(PG)-DALKHOLA (PG)-2	22-02-2025	Bus Isolator & Bus Conductor Replacement
400KV-KOLAGHAT-KHARAGPUR-2	17-03-2025	Line tripping
400KV-MEDINIPUR-KHARAGPUR-1 & 2	17-03-2025	Line tripping
132KV TRANSFER BUS COUPLER BAY AT GANGTOK	20-03-2025	For conversion of existing TBC bay into upcoming ICT-3 feeder Bay.
400KV/220KV 315 MVA ICT 1 AT LATEHAR(JUSNL)	30-03-2025	REF protection operated
132KV-BIRPARA(PG)-BIRPARA(WB)-1	01-04-2025	FOR INTEGRATION OF 132KV CRP PANELS IN NEW SAS

**Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5<sup>th</sup> 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 March -2025.

NEW ELEMENTS COMMISSIONED DURING March, 2025							
उत्पादन इकाइयाँ / GENERATING UNITS							
Sl. No.	स्थान Location / Pooling Station	मालिक/यूनिट का नाम OWNER/UNIT NAME	यूनिट संख्या /स्रोत Unit No/S ource	संकलित क्षमता (मेगावाट) Capacity added (MW)	कुल/स्थापित क्षमता (मेगावाट)	दिनांक DATE	टिप्पणी Remarks क्र

					<b>Total /Inst alled Capa city (MW)</b>		
1	बाढ़, बिहार Barh, Bihar	एनटीपीसी बरह - यूनिट 3 (स्टेज-1) NTPC BARH -UNIT 3(Stage-1)	3/Coal	660	1980	21.03.2025	Infirm generation, unit stabilization, and Pre-Trial Run activities are currently in progress.
2	चंदवा, झारखंड Chandwa, Jharkhand	एनटीपीसी उत्तर करनपुरा - यूनिट 3 NTPC NORTH KARANPURA - UNIT 3	3/Coal	660	1980	19.03.2025	Infirm generation, unit stabilization, and Pre-Trial Run activities are currently in progress.
3	पतरातू, झारखंड Patratu, Jharkhand	पीवीयूएनएल-1 PVUNL-1	1/Coal	800	800	11.03.2025	Maximum of 80 MW shall be injected by PVUNL through the Tenughat line, considering the full generation of Tenughat and N-1 reliability of the 220 kV Tenughat- Biharsharif line. This restriction shall remain in effect until the construction of the 400 kV PVUNL-Patratu D/C line is completed.
4	दिकचू सिक्किम Dikchu, Sikkim	मेसर्स स्नेहा काइनेटिक पावर प्रोजेक्ट्स प्राइवेट लिमिटेड/ डिकचू एच ई पी-2 M/s Sneha Kinetic Power Projects Pvt. Ltd/ DIKCHU HEP-2	2/water	48	96	05.03.2025	FTC of GT2 post restoration work after the October 2023 flash flood in Sikkim. Hence ,may not be consider as capacity addition

**आई.सी.टी./जी.टी./एस.टी / ICTs/ GTs / STs**

क्र. Sl. No.	एजेंसी/ मालिक Agency /Owner	उप-केन्द्र SUB-STATION	आई सीटी संख्या ICT NO	वोल्टेज (केवी) Voltage Level (kV)	क्षमता (एमवी ए) CAPA CITY (MVA )	दिनांक DATE	टिप्पणी Remarks
1	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	बक्सर टीपीपी BUXAR TPP	ICT-1	400/220	500	15.03.2025	First time charged from 400 kV side only

2	एसजेवीएन थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	बक्सर टीपीपी BUXAR TPP	ICT-2	400/220	500	21.03.2025	First time charged from 400 kV side only
3	बीएसपी टीसीएल BSPTCL	बख्तियारपुर(बिहार) BAKHTIYARPUR(BH)	ICT-1	400/220	500	06.03.2025	
4	बीएसपी टीसीएल BSPTCL	बख्तियारपुर(बिहार) BAKHTIYARPUR(BH)	ICT-2	400/220	500	06.03.2025	
5	पीवीयूएनएल PVUNL	पीवीयूएनएल PVUNL	GT-1	400/11	795	11.03.2025	
6	M/s Sneha Kinetic Power Projects Pvt. Ltd	DIKCHU HEP	GT-2	132/11	75	05.03.2025	FTC of GT2 post restoration work after the October 2023 flash flood in Sikkim. Hence ,may not be consider as capacity addition

**प्रेषण लाइन / TRANSMISSION LINES**

क्र . Sl . No .	एजेंसी/ मालिक Agency /Owner	लाइन का नाम LINE NAME	लंबाई (किमी) Length (KM)	कंडक्टर प्रकार Conductor Type	दिनांक DATE	टिप्पणी Remarks
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NIL

**लिलो / प्रेषण लाइन की पुनर्व्यवस्था / LILO/RE-ARRANGEMENT OF TRANSMISSION LINES**

क्र . Sl . No .	एजेंसी/ मालिक Agency /Owner	लाइन का नाम / लिलो पर Line Name/LILO at	लंबाई (किमी) Length (KM)	कंडक्टर प्रकार Conductor Type	दिनांक DATE	टिप्पणी Remarks
1	PGCIL	220 KV Dalkhola(PG)-Purnea(PG) D/C	41	Single Zebra	28.03.2025	The circuit configuration restored to its original state
2	WBSET CL	220 KV Dalkhola (PG)-Dalkhola(WB) D/C	1	Single Zebra	27.03.2025	The circuit configuration restored to its original state
3	PGCIL ODISHA PROJECT	400KV-ROURKELA-JHARSUGUDA-1	126	HTLS	29.03.2025	Reconductoring of Jharsuguda/Sundargarh (PG) – Rourkela (PG) 400kV 2xD/c Twin Moose line with Twin HTLS conductor

						(with ampacity of equivalent to single HTLS as 1228 A at nominal voltage) along with bay upgradation at Rourkela S/S.
4	PGCIL ODISHA PROJEC T	400KV-JHARSUGUDA- ROURKELA-3	126	HTLS	05.03.2025	Reconductoring of Jharsuguda/Sundargarh (PG) – Rourkela (PG) 400kV 2xD/c Twin Moose line with Twin HTLS conductor (with ampacity of equivalent to single HTLS as 1228 A at nominal voltage) along with bay upgradation at Rourkela S/S.
5	PGCIL	132KV-RANGPO-GANGTOK-2	26	HTLS	05.03.2025	Reconductoring of 132 KV Rangpo-Gangtok-II (Conductor Type-Gapped Type HTLS, 26 KM) along with upgraded line Bay (Bay No-104)

**बस/लाइन रिएक्टर / BUS/LINE REACTOR**

क्र . SI No.	एजेंसी/ मालिक Agency /Owner	एलेमेंट का नाम Element Name	उप-केन्द्र SUB- STATION	वोल्टे ज (केवी) Volta ge Level (kV)	दिनांक DATE	टिप्पणी Remarks
1	BGCL	125MVAR 400KV B/R-1 AT JAKKANPUR(BH)	JAKKANPU R(BH)	400	20.03.2025	
2	BGCL	125MVAR 400KV B/R-2 AT JAKKANPUR(BH)	JAKKANPU R(BH)	400	20.03.2025	

**बस / BUS**

क्र . SI No.	एजेंसी/ मालिक Agency /Owner	एलेमेंट का नाम Element Name	उप-केन्द्र SUB- STATION	वोल्टे ज (केवी) Volta ge Level (kV)	दिनांक DATE	टिप्पणी Remarks
1	M/s Sneha Kinetic Power Projects Pvt. Ltd	DIKCHU - 132KV - Bus 2	DIKCHU	132	03.03.2025	

**एच.वी.डी.सी/ए.सी फिल्टर बैंक/फैक्ट्स डिवाइस संबद्ध प्रणाली / HVDC /AC Filter bank / FACTS DEVICE associated System**

क्र . SI No.	एजेंसी/ मालिक Agency /Owner	एलेमेंट का नाम Element Name	उप-केन्द्र SUB- STATION	वोल्टे ज (केवी) Volta ge Level (kV)	दिनांक DATE	टिप्पणी Remarks
NIL						
<b>बे / BAYS</b>						
क्र . SI No.	एजेंसी/ मालिक Agency /Owner	एलेमेंट का नाम Element Name	उप-केन्द्र SUB- STATION	वोल्टे ज (केवी) Volta ge Level (kV)	दिनांक DATE	टिप्पणी Remarks
1	बी.एस.पी .टी.सी.ए ल. BSPTCL	400KV MAIN BAY OF 500 MVA ICT 1 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	400	06.03.2025	
2	बी.एस.पी .टी.सी.ए ल.	400KV MAIN BAY OF 500 MVA ICT 2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	400	06.03.2025	
3	बी.एस.पी .टी.सी.ए ल.	220KV MAIN BAY OF 500 MVA ICT 1 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	220	10.03.2025	
4	बी.एस.पी .टी.सी.ए ल.	220KV MAIN BAY OF 500 MVA ICT 2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	220	10.03.2025	
5	बी.एस.पी .टी.सी.ए ल.	400KV TIE BAY OF ( PATNA-2 AND ICT-2 ) AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	400	06.03.2025	
6	बी.एस.पी .टी.सी.ए ल.	400KV TIE BAY OF ( PATNA-1 AND ICT-1 ) AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYAR PUR (BH)	400	06.03.2025	
7	बी.एस.पी .टी.सी.ए ल.	400KV MAIN BAY OF 125MVAR B/R-2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
8	बी.एस.पी .टी.सी.ए ल.	400KV MAIN BUS - 2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	

9	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	400KV MAIN BAY OF 500 MVA ICT 1 AT BUXAR TPP	बक्सर टीपीपी BUXAR TPP	400	15.03.2025	
10	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	220KV MAIN BAY OF 500 MVA ICT 1 AT BUXAR TPP	बक्सर टीपीपी BUXAR TPP	220	17.03.2025	
11	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	400KV MAIN BAY OF 500 MVA ICT 2 AT BUXAR TPP	बक्सर टीपीपी BUXAR TPP	400	21.03.2025	
12	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	220KV MAIN BAY OF 500 MVA ICT 2 AT BUXAR TPP	बक्सर टीपीपी BUXAR TPP	220	19.03.2025	
13	BGCL	400KV MAIN BAY OF 125MVAR B/R-2 AT JAKKANPUR(BH)	JAKKANPU R(BH)	400	20.03.2025	
14	BGCL	400KV TIE BAY OF ( 125MVAR B/R-1 AND 125MVAR B/R-2) AT JAKKANPUR(BH)	JAKKANPU R(BH)	400	20.03.2025	
15	BGCL	400KV MAIN BAY OF 125MVAR B/R-1 AT JAKKANPUR(BH)	JAKKANPU R(BH)	400	20.03.2025	
16	PGCIL	400KV TIE BAY OF (CHAIBASA(PG)-I AND JHARSUGUDA-I) AT ROURKELA	ROURKELA	400	29.03.2025	
17	PGCIL	400KV MAIN BAY OF CHAIBASA(PG)-I AT ROURKELA	ROURKELA	400	29.03.2025	
18	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	132KV MAIN BAY OF GT-2 AT DIKCHU	DIKCHU	132	05.03.2025	FTC of GT2 post restoration work after the October 2023 flash flood in Sikkim. Hence ,may not be consider as capacity addition
19	एसजेवीए न थर्मल	132KV MAIN BAY OF SAT AT DIKCHU	DIKCHU	132	03.03.2025	FTC of GT2 post restoration work after the October

	प्राइवेट लिमिटेड SJVN Thermal Pvt Limited					2023 flash flood in Sikkim. Hence ,may not be consider as capacity addition
20	एसजेवीए न थर्मल प्राइवेट लिमिटेड SJVN Thermal Pvt Limited	132KV BUS COUPLER BAY AT DIKCHU	DIKCHU	132	03.03.2025	FTC of GT2 post restoration work after the October 2023 flash flood in Sikkim. Hence ,may not be consider as capacity addition

**Members may note.**

#### 4.4. UFR operation during the month of March 2025

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
	(DATE/TIME)	(DATE/TIME)			
<b>March, 2025</b>	50.46 Hz on 05-03-2025 at 13:11 Hrs	49.62 Hz on 30-03-2025 at 00:08 Hrs	5.32	77.90	16.78

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

**Members may note.**

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**Annexure-B.2.1**

**Voltage Problems**

**1. Low Voltage**

<b>Control area</b>	<b>Nodes</b>	<b>Description of the constraints</b>	<b>Violation</b>	<b>Active remedial plans</b>
Odisha	400kV Mendhasal 400kV Pandiabili & 400kV Bolangir	High loading of lines connected to these S/S(s) feeding a high percentage of cooling load which draws a significant amount of reactive power during peak hours, without enough VAR compensation.	IEGC clause 29(15)	Under voltage load trimming
	400 kV Subhasgram	Non-availability of Haldia unit resulting in high loading in other lines connected to Subhasgram (PG).  FIDVR has been experienced recently due to a high concentration of cooling loads (AC load) near Subhsgram and sub-urban areas.	IEGC clause 29(15)	-
West Bengal	400 kV Subhasgram, 400 kV Rajarhat, 400 kV Jeerat, 400kV New Chanditala & Other sub-stations in West Bengal	Tripping of any one 765 kV New Ranchi-Medinipur circuit or both  Or  Tripping of any one or both Medinipur-New Jeerat circuits	IEGC clause 29(15)	-

## Annex B.2.3

### **Minutes of Meeting held on 11.04.25 to discuss Feasibility of Shifting JITPL/ GMR bay to facilitate Generation evacuation in the event of 400kV Double Bus tripping at Angul S/s**

ERLDC convened a meeting on 11<sup>th</sup> April 2025 via online mode (MS Teams) to discuss about feasibility of generation evacuation in the event of 400kV double bus tripping at Angul S/s. Representatives from ERPC, JITPL, GMR and POWERGRID participated in the meeting. The list of Participants is attached as **Annexure-I**.

At the outset, CGM(System Operation), ERLDC welcomed the participants to the meeting and sensitized about the importance of ensuring reliability of power evacuation. ERLDC made a brief presentation explaining alternate arrangement of power evacuation by shifting termination bay of GMR Line#1. The summary of the meeting are as follows:

1. ERLDC presented the SLD of substation at POWERGRID, Angul (attached at **Annexure-II**) and explained that shifting of GMR Line#1 from existing bay no. 427 to spare bay no. 421 (in dia with 765/400kV 1500MVA ICT#4) will facilitate evacuation of power through the tie bays in the event of outage of both the 400kV buses.
2. Shifting of GMR Line #1 was proposed since the evacuation line from GMR is having quad moose conductor while the evacuation line from JITPL is having twin moose conductor. In the event of double bus tripping, only one line of JITPL will be connected to GMR through tie bay at Angul. Generated power of JITPL will be routed through GMR and finally reaching Angul substation to be evacuated through the ICT#4.
3. The proposed work would require construction of a new 400kV bay at place of spare bay 421 or shifting the bay equipment from the existing bay 427 along with destringing of conductor from old bay and stringing to the proposed spare bay.

The profile of dead end multi circuit tower needs to be assessed on stability aspects for the proposed termination to the spare bay and suitable actions need to be taken if any issues are found.

4. Both JITPL and GMR acknowledged that the proposed scheme will increase the reliability of power evacuation. However, they sought time to discuss the matter with their higher management and discuss on cost sharing mechanism for the proposed shifting. POWERGRID intimated that the integration issues will be taken up by them once confirmation is received from JITPL and GMR.
5. GMR also intimated that they would check and intimate the equipment rating so as to ensure that their switchyard equipment is capable of evacuating combined generation of JITPL and GMR.

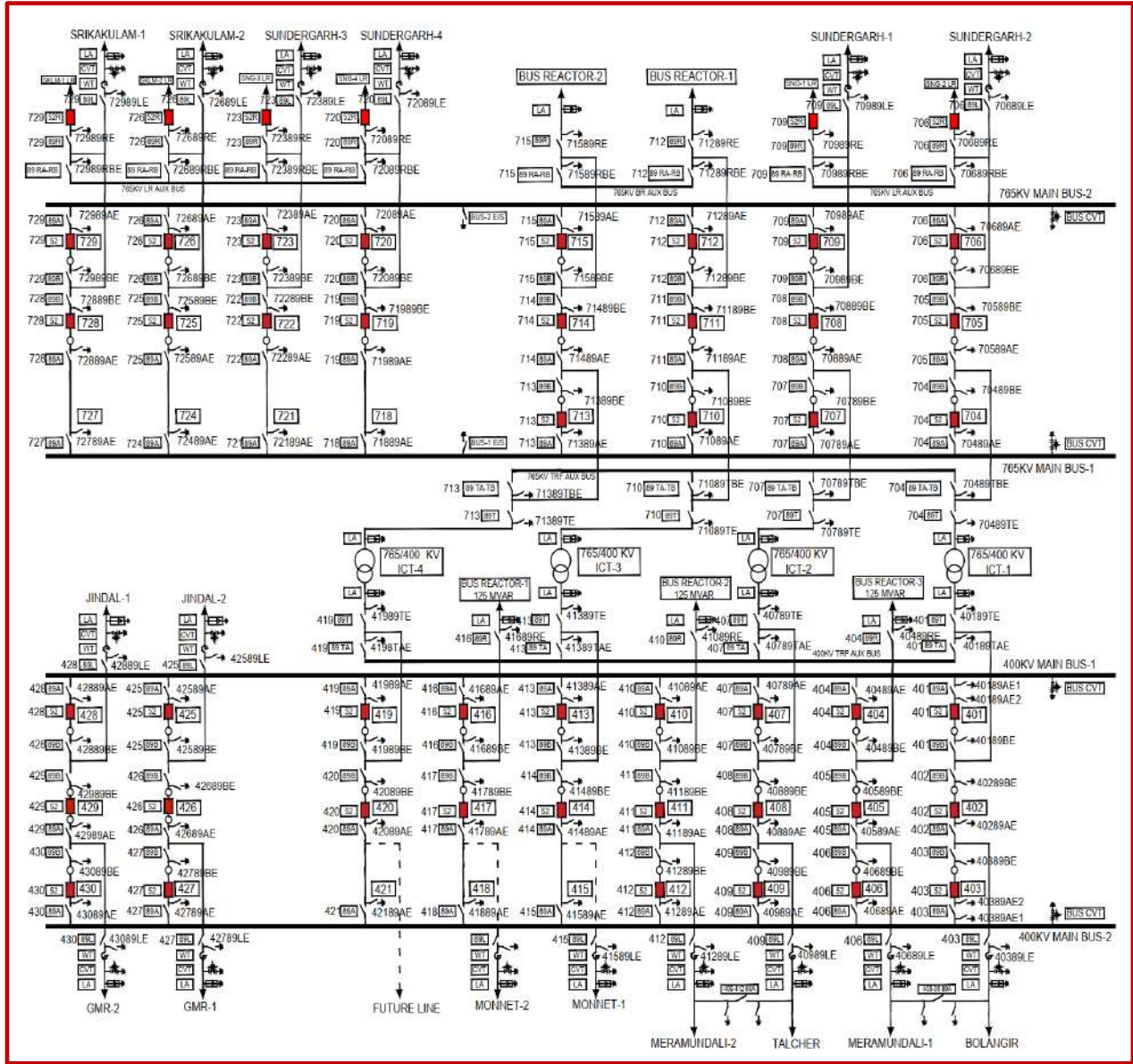
ERPC directed JITPL and GMR to intimate their decision on the proposal before 226<sup>th</sup> OCC meeting so that it can be deliberated in the said meeting and further actions can be taken.

The meeting ended with a vote of thanks.

**List of Participants**

1. Agniva Chatterjee, ERPC
2. Pratham Kumar, ERPC
3. Manjunatha M, ERPC
4. Sajan George, ERLDC
5. Bilash Achari, ERLDC
6. Rakesh Kumar Pradhan, ERLDC
7. Chandan Mallick, ERLDC
8. Alok Pratap Singh, ERLDC
9. Shabari Pramanick, ERLDC
10. Saibal Ghosh, ERLDC
11. Sandip Goswami, JITPL
12. S V Srinivas Rao, JITPL
13. B N Panda, JITPL
14. Manoj Mishra, GMR
15. Jitendra Prasad Malik, GMR
16. Prasant Kumar Senapathy, GMR
17. Raghunath P V, GMR
18. Ch. Mohan Rao, POWERGRID
19. Boda Bhoja, POWERGRID

Single Line Diagram of POWERGRID, Angul Substation



## Annex-B.2.5

### List of Tie-lines having SEM Vs SCADA difference more than 3% for the week 31-03-2025 to 06-04-2025:

#### PG ER I:

1. 765\_NEW RANCHI(PG)\_DHARMJAIGHAR(WR)\_2
2. 765\_NEW RANCHI(PG)\_DHARMJAIGHAR(WR)\_1
3. 765\_GAYA(PG)\_VARANASI(NR)\_2
4. 765\_GAYA(PG)\_VARANASI(NR)\_1
5. 400\_RANCHI(PG)\_SIPAT(WR)\_1
6. 400\_PURNEA\_NEW(PG)\_GOKARNA(WB)
7. 400\_MUZAFFERPUR(PG)\_GHORAKPUR(NR)\_2
8. 400\_MUZAFFERPUR(PG)\_DHALKABARI(NEPAL)\_2
9. 400\_MUZAFFERPUR(PG)\_DHALKABARI(NEPAL)\_1
10. 400\_MOTHIHARI(PG)\_GHORAKPUR(NR)\_2
11. 400\_MOTHIHARI(PG)\_GHORAKPUR(NR)\_1
12. 400\_JAMSHEDPUR(PG)\_MEJIA B(DV)
13. 400\_GAYA(PG)\_KODARMA(DV)\_2
14. 400\_GAYA(PG)\_KODARMA(DV)\_1
15. 400\_BIHARSHARIFF(PG)\_VARANASI(NR)\_2
16. 400\_BIHARSHARIFF(PG)\_VARANASI(NR)\_1
17. 400\_BIHARSHARIFF(PG)\_BALIA(NR)\_2
18. 400\_BIHARSHARIFF(PG)\_BALIA(NR)\_1
19. 220\_DALTONGANJ(PG)\_GARWA(JH)\_2
20. 220\_DALTONGANJ(PG)\_GARWA(JH)\_1

#### PG ER II:

1. 400\_SILUGURI400(PG)\_BONGAIGOAN(NE)\_2
2. 400\_SILUGURI400(PG)\_BONGAIGOAN(NE)\_1
3. 400\_DURGAPUR(PG)\_SAGARDIGHI(WB)\_2
4. 400\_DURGAPUR(PG)\_SAGARDIGHI(WB)\_1
5. 400\_ALIPURDWAR(PG)\_BONGAIGOAN(NE)\_2
6. 400\_ALIPURDWAR(PG)\_BONGAIGOAN(NE)\_1
7. 220\_SUBHASGRAM(PG)\_SUBHASGRAM(WB)\_2
8. 220\_MAITHON(PG)\_KALYANESWARI(DV)\_2
9. 220\_MAITHON(PG)\_KALYANESWARI(DV)\_1
10. 220\_DUGRAPUR(PG)\_PURLIA (DV)\_2
11. 132\_MALDA(PG)\_MALDA(WB)\_2
12. 132\_MALDA(PG)\_MALDA(WB)\_1

#### PG Odisha Project:

1. 765\_JHARSUGUDA(PG)\_DHARMJAIGHAR(WR)\_3
2. 765\_JHARSUGUDA(PG)\_DHARMJAIGHAR(WR)\_2
3. 765\_JHARSUGUDA(PG)\_DHARMJAIGHAR(WR)\_1
4. 400\_TALCHER(PG)\_MERAMANDALI(GR)\_2
5. 400\_TALCHER(PG)\_MERAMANDALI(GR)\_1
6. 400\_KALABADIA(PG)\_PANDIABILI(PG)

7. 400\_KALABADIA(PG)\_KHARAGPUR(WB)
8. 400\_JHARSGUDA(PG)\_STERLITE(GR)\_2
9. 400\_JHARSGUDA(PG)\_STERLITE(GR)\_1
10. 400\_JHARSGUDA(PG)\_RAIGHAR(WR)\_2
11. 400\_JHARSGUDA(PG)\_RAIGHAR(WR)\_1
12. 400\_INDRAVATHI(PG)\_INDRAVATHI(GR)\_1
13. 400\_BOLANGIR(PG)\_MERAMUNDALI(GR)
14. 220\_TALCHER(PG)\_MERAMANDALI(GR)\_1
15. 220\_RENGALI(PG)\_RENGALI S/S(GR)\_2
16. 220\_BOLANGIR(PG)\_BURLA(GR)
17. 220\_BOLANGIR(PG)\_BOLANGIR(GR)\_1

**WB:**

1. 400\_SAGARDIGHI(WB)\_DURGAPUR(PG)\_2
2. 400\_SAGARDIGHI(WB)\_DURGAPUR(PG)\_1
3. 400\_NEW(PG)\_PURNEA\_GOKARNA(WB)
4. 400\_KHARAGPUR(WB)\_KALABADIA(PG)
5. 220\_SUBHASGRAM(WB)\_SUBHASGRAM(PG)\_2

**OPTCL:**

1. 400\_MERAMANDALI(GR)\_TALCHER(PG)\_1
2. 400\_MENDHASAL(GR)\_PANDIABILI(PG)\_1
3. 400\_INDRAVATHI(GR)\_INDRAVATHI(PG)\_1
4. 400\_DUBRI NEW(GR)\_KALABADIA(PG)
5. 400\_OPGC(GR)\_JHARSUGUDA(PG)\_1
6. 220\_TARKERA(GR)\_ROURKELA(PG)\_1
7. 220\_RENGALI S/S(GR)\_RENGALI(PG)\_2
8. 220\_RENGALI S/S(GR)\_RENGALI(PG)\_1
9. 220\_JSPL(GR)\_JAMSHEDPUR(DV)
10. 220\_BUDHIPADAR(GR)\_RAIGHAR(WR)\_1
11. 220\_BURLA(GR)\_BOLANGIR(PG)

**DVC:**

1. 400\_RAGHUNATHPUR(DV)\_MAITHON(PG)
2. 400\_KODARMA(DV)\_GAYA(PG)\_2
3. 400\_KODARMA(DV)\_GAYA(PG)\_1
4. 400\_DSTPS(DV)\_JAMSHEDPUR(PG)\_1
5. 220\_KALYANESWARI(DV)\_MAITHON(PG)\_2
6. 220\_KALYANESWARI(DV)\_MAITHON(PG)\_1
7. 220\_JAMSHEDPUR(DV)\_JSPL(GR)

**JUSNL:**

1. 220\_RAMCHANDRAPUR(JH)\_JODA(GR)
2. 220\_CHANDIL(JH)\_RANCHI(PG)\_1

## **Annex B.2.6.1**

### **CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI**

**No.- L-1/210/2016/CERC**

**CORAM:**

**Shri Jishnu Barua, Chairperson**

**Shri I. S. Jha, Member**

**Shri Arun Goyal, Member**

**Shri P. K. Singh, Member**

**Date of Order: 19<sup>th</sup> January, 2024**

**In the matter of:**

Approval of “Guidelines on Availability of Communication System” under the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017.

#### **Order**

The Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 (hereinafter referred to as the ‘Communication Regulations’) were published on 29.05.2017 in the Gazette of India Extraordinary (Part-III, Section-4, No. 218).

2. Regulation 7.3 of the Communication Regulations requires NPC to prepare Guidelines on “Availability of Communication System” in consultation with the stakeholders and submit the same for approval of the Commission.
3. Accordingly, NPC has submitted the “Guidelines on Availability of Communication System”, after stakeholder consultation, for approval of the Commission.

4. The Commission has examined the Guidelines submitted by NPC, and after incorporating suitable changes, the Commission hereby approves the “Guidelines on Availability of Communication System” which are enclosed as an Annexure to this Order.

<b>Sd/-</b>	<b>Sd/-</b>	<b>Sd/-</b>	<b>Sd/-</b>
<b>(P. K. Singh)</b>	<b>(Arun Goyal)</b>	<b>(I. S. Jha)</b>	<b>(Jishnu Barua)</b>
<b>Member</b>	<b>Member</b>	<b>Member</b>	<b>Chairperson</b>



**GUIDELINES  
ON  
AVAILABILITY OF COMMUNICATION SYSTEMS**

*Prepared in Compliance*

*To*

*Central Electricity Regulatory Commission*

*(Communication System for inter-State transmission of electricity)*

*Regulations, 2017*

January 2024

## **GUIDELINES ON AVAILABILITY OF COMMUNICATION SYSTEM**

### **1. INTRODUCTION:**

1.1 As per Regulation 7.3 of the Central Electricity Regulatory Commission (Communication System for inter-State transmission of Electricity), Regulations, 2017, National Power Committee (NPC) has been entrusted to prepare Guidelines on Availability of Communication System in consultation with RPCs, RLDCs, CTU and other stakeholders. Accordingly, these Guidelines have been prepared for determining Availability of Communication System.

1.2 The relevant provisions in the Central Electricity Authority (Technical Standards for Connectivity to the Grid), Regulations, 2007, CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020 and CERC (Indian Electricity Grid Code) Regulations, 2023 in respect of Communication System are as follows:

1.2.1 **Regulation 6(3) of the CEA (Technical Standards for Connectivity to the Grid)** stipulates that *'the requester and user shall provide necessary facilities for voice and data communication and transfer of online operational data, such as voltage, frequency, line flows and status of breaker and isolator position and other parameters as prescribed by the appropriate load dispatch centre.'*

1.2.2 **Regulation 5(1) of the CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020** stipulates that user shall be capable of transmitting all operational data as required by appropriate control centre.

1.2.3 **Regulation 11 of the Indian Electricity Grid Code (IEGC) 2023 stipulates as follows:**

*"11. DATA AND COMMUNICATION FACILITIES (1) Reliable speech and data communication systems shall be provided to facilitate necessary communication, data exchange, supervision and control of the grid by the NLDC, RLDC and SLDC in accordance with the CERC (Communication System for inter-State Transmission of Electricity) Regulations, 2017 and the CEA Technical Standards for Communication.*

*(2) The associated communication system to facilitate data flow up to appropriate data collection point on CTU system including inter-operability requirements shall also be established by the concerned user as specified by CTU in the Connectivity Agreement.*

*(3) All users, STU and participating entities in case of cross-border trade shall provide, in coordination with CTU, the required facilities at their respective ends as specified in the connectivity agreement. The communication system along with data links provided for speech and real time data communication shall be monitored in real time by all users, CTU, STU, SLDC and RLDC to ensure high reliability of the communication links.”*

## **2. DEFINITION:**

2.1 Words and expressions used in these guidelines shall have the same meaning assigned in the Electricity Act, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulation ,2007, CEA (Technical Standards for Communication System in Power System Operation) Regulations, 2020, CERC (Communication System for Inter-State transmission of Electricity), Regulations, 2017 and Indian Electricity Grid Code Regulations, 2023 and amendments thereof.

2.2 Other words have been explained as per the context in these Guidelines.

## **3. SCOPE AND APPLICABILITY:**

3.1 As per Regulation 5 (i) of the CERC (Communication System for inter-State transmission of Electricity), Regulations, 2017, *“These regulations shall apply to the communication infrastructure to be used for data communication and tele -protection for the power system at National, Regional and inter-State level and shall also include the power system at the State level till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commissions.”*

3.2 Accordingly, these guidelines shall be applicable to the CTU for the Communication System Infrastructure of inter-State Transmission System. The guidelines shall also be applicable to STU for the Communication System Infrastructure of intra-State Transmission System, till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commission.

3.3 The CTU (or STU as the case may be) shall have back to back co-ordination/agreement with transmission licensees, generators, dedicated transmission line owners, bulk consumers and concerned entities for providing power system communication on their network.

### **3.4 Responsibility of CTU and STU:**

- a) CTU (or STU as the case may be) shall be responsible for submission of the details of communication channels including the redundant channels configured for use of voice / data / video exchange, protection, Tele-protection / SPS to respective RLDC (SLDC as the case may be) on monthly basis incorporating the details of new channels configured during previous month. The total number of communication channels (N) is based on the requirement of RLDCs/NLDC and the same would be decided in consultation with respective RPCs/NPC.
- b) CTU (or STU as the case may be) shall be responsible for submission of the performance/availability of configured channels of the previous month to respective RLDCs for verification by RLDCs and onward submission to respective RPC for computation of availability of the communication system for previous month.
- c) CTU (or STU as the case may be) shall submit availability reports of configured channel including the redundant channels in format prescribed by RLDC/RPC, generated from the centralized NMS. The availability report of the call logging facility (with time stamp) may be provided till commissioning of centralized NMS for availability computation.

## **4. TREATMENT OF COMMUNICATION SYSTEM OUTAGES:**

- 4.1 Outage time of communication system elements (i.e. channels) due to acts of God and force majeure events beyond the control of the communication provider shall be considered deemed available. However, onus of satisfying the Member Secretary, RPC that element outage was due to aforesaid events shall rest with the communication provider.
- 4.2 Any outage of duration more than one (01) minute in a time-block shall be considered as not available for the whole time-block. Any outage of duration less than or equal to one (01) minute in a time-block shall be treated as deemed available provided such outages are not more than ten (10) times in a day.

Illustration: If a channel is out for a duration less than or equal to one (01) minute in a time-block, and such outages are more than ten (10) times in a day, all the time-blocks with such outages shall be treated as not available.

4.3 All other outages not covered under 4.1 and 4.2 shall be considered as not available during the whole block for the computation of channel availability.

**5. METHODOLOGY FOR COMPUTATION OF AVAILABILITY OF COMMUNICATION SYSTEM:**

5.1 Availability of Communication System (**A<sub>CS</sub>**) shall be calculated as under:

$$A_{CS} = \frac{\sum_{i=1}^N A_i}{N}$$

Where - **N** is total number of communication channels as specified in 3.4(a) above.  
 - **A<sub>i</sub>** is Availability of *i<sup>th</sup>* Channel which shall be calculated as given in 5.2 below.

5.2 Availability of *i<sup>th</sup>* Channel (**A<sub>i</sub>**) shall be arrived as under:

$$A_i = \frac{B_T - B_{Ni}}{B_T} \times 100$$

Where **B<sub>T</sub>** is Total number of time-blocks in a month

**B<sub>Ni</sub>** is the total number of time-blocks, in which *i<sup>th</sup>* channel was not available after considering deemed availability status of 4.1 & 4.2 above.

$$B_{Ni} = B_{ANi} - B_{Gi} - B_{LTTi}$$

Where-**B<sub>ANi</sub>** is absolute number of time-blocks in which the *i<sup>th</sup>* channel was 'not available' on account of any reason.

-**B<sub>Gi</sub>** is Number of time-blocks out of **B<sub>ANi</sub>**, in which *i<sup>th</sup>* channel was 'not available' on account of act of God as specified in 4.1 above.

-**B<sub>LTTi</sub>** is Number of time-blocks out of **B<sub>ANi</sub>**, in which *i<sup>th</sup>* channel was 'not available' for a duration less than or equal to one (01) minute in a time-block and not more than ten (10) times in a day as specified in 4.2 above.

**Illustrations:**

**Case1:** If there are 2880 time-blocks (**B<sub>T</sub>**) in a month, and a particular channel is not available for a total of 70 time-blocks; and out of this, the above mentioned channel was not available for 20 (**B<sub>Gi</sub>**) time-blocks due to act of God, six (06) time-blocks for less than one (01) minute (**B<sub>LTTi</sub>**), then **B<sub>ANi</sub>**=70, **B<sub>LTTi</sub>** =06, **B<sub>Ni</sub>** =70-20-06 = 44, and **A<sub>i</sub>** = (2880-44)/2880 = 98.47%

**Case 2:** If there are 2880 time-blocks (**B<sub>T</sub>**) in a month, and a particular channel is not available for a total of 70 time-blocks; and out of this, the above mentioned channel was not

available for 20 ( $B_{Gi}$ ) time-blocks due to act of God, 11 time-blocks for less than 1 minute, then  $B_{ANi}=70$ ,  $B_{LTTi} = 0$ ,  $B_{Ni}=70-20-0=50$ , and  $A_i = (2880-50)/2880 = 98.26\%$ .

## **6. Revision of these Guidelines**

6.1 As and when required, these Guidelines shall be reviewed and revised by NPC with the approval of the Commission.

\*\*\*

## Annex B.2.6.2

Availability Certification of Communication Channel for the Month, Year											
Name of the channel	Start Date	Start Time (hh:mm:ss)	Start Time Block	End Date	End Time (hh:mm:ss)	End Time Block	In TL /User account	B <sub>Gi</sub> (If applicable)	B <sub>LTTi</sub> (If applicable)	Reason for Downtime	Channel routing (source to sink indicating ownership)
Configured Channel 1											
Event 1											
Event 2											
Event 3											
Sum of Configured Channel 1											
Configured Channel 2											
Event 1											
Event 2											
Event 3											
Sum of Configured Channel 2											

....

**Note: All Cells are frozen, Non-editable by User/TL**

Data format for Availability of all Channels as per Guidelines on Availability of Communication Systems for the Month, Year						
Name of the channel	Total No of Blocks in a month ( $B_T$ )	Final $B_{ANi}$ , absolute number of time-blocks in which the ith channel was 'not available' on account of any reason.	Final $B_{Gi}$ , Number of time-blocks out of $B_{ANi}$ , in which ith channel was 'not available' on account of act of God as specified in 4.1 above.	Final $B_{LTTi}$ , Number of time-blocks out of $B_{ANi}$ , in which ith channel was 'not available' for a duration less than or equal to one (01) minute in a time-block and not more than ten (10) times in a day as specified in 4.2 above.	Final $B_{Ni}$ = Final $B_{ANi}$ - Final $B_{Gi}$ - Final $B_{LTTi}$ , the total number of time-blocks, in which ith channel was not available after considering deemed availability status of 4.1 & 4.2 above.	Availability of ith Channel, $A_i = (B_T - \text{Final } B_{Ni}) * 100 / B_T$
Sum of Configured Channel 1						
Sum of Configured Channel 2						
....						

Sum ( $A_i$ )

**Availability of Communication System ( $A_{CS}$ ) (Owner wise)**       $A_{CS} = \text{Sum}(A_i) / N$

is total number of communication channels

..

$A_i$  is Availability of ith Channel which shall be calculated

Note: System Generated



Availability Certification of Communication Channel (POWERGRID) for the Month, Year														Change in Categorization suggested by TL/User	Reason in Change in Categorization suggested by TL/User	Change in Categorization suggested by SRLDC	Reason in Change in Categorization suggested by SRLDC	Change in Categorization suggested by SRPC	Reason in Change in Categorization suggested by SRPC
														Drop down provision from A to L		Drop down provision from A to L		Drop down provision from A to L	
Name of the channel	Start Date	Start Time (hh:mm:ss)	Start Time Block	End Date	End Time (hh:mm:ss)	End Time Block	In TL /User account (Y/N) [a]	Not in TL/User account (Y/N) [b]	B <sub>Gi</sub> (Y/N) [c]	B <sub>LTI</sub> (Y/N) [d]	Reason for Downtime	Channel routing (source to sink indicating ownership)							
Configured Channel 1																			
Event 1																			
Event 2																			
Event 3																			
Sum of Configured Channel 1							In Number of Blocks												
Configured Channel 2																			
Event 1																			
Event 2																			
Event 3																			
Sum of Configured Channel 2							In Number of Blocks												
....																			
....																			
....																			

**Note:**

1. All Grey highlighted Cells are frozen, Non-editable by User/TL
2. Column "N" & "O"; Only editable by User/TL from 1st to 10th day of the subsequent month
3. Column "P" & "Q"; Only editable by SRLDC from 11th to 20th day of the subsequent month
4. Column "R" & "S"; Only editable by SRPC
5. The Changes made by SRPC would be final and it would be reflected while generating the Summary report.
6. Provision for breaking the Event into Multiple Events by SRPC. For example: One event from 06:42hrs to 09:43hrs is to be broken under different categorization from forced majeure[FM] (08:10hrs to 09:43hrs) to TL user account. (06:42hrs to 08:09hrs may be under TL user account and remaining under FM
7. Channels only where POWERGRID elements are involved.

<b>A</b>	<b>From [a] to [b]</b>
<b>B</b>	<b>From [a] to [c]</b>
<b>C</b>	<b>From [a] to [d]</b>
<b>D</b>	<b>From [b] to [a]</b>
<b>E</b>	<b>From [b] to [c]</b>
<b>F</b>	<b>From [b] to [d]</b>
<b>G</b>	<b>From [c] to [a]</b>
<b>H</b>	<b>From [c] to [b]</b>
<b>I</b>	<b>From [c] to [d]</b>
<b>J</b>	<b>From [d] to [a]</b>
<b>K</b>	<b>From [d] to [b]</b>
<b>L</b>	<b>From [d] to [c]</b>

Data format for <b>POWERGRID</b> Availability of Channels as per Guidelines on Availability of Communication Systems for the Month, Year						
Name of the channel	Total No of Blocks in a month ( $B_T$ )	$Final B_{ANP}$ , absolute number of time-blocks in which the $i$ th channel was 'not available' on account of any reason.	$Final B_{Gi}$ , Number of time-blocks out of $B_{ANi}$ , in which $i$ th channel was 'not available' on account of act of God as specified in 4.1 above.	$Final B_{LTTi}$ , Number of time-blocks out of $B_{ANi}$ , in which $i$ th channel was 'not available' for a duration less than or equal to one (01) minute in a time-block and not more than ten (10) times in a day as specified in 4.2 above.	$Final B_{Ni} = Final B_{ANi} - Final B_{Gi} - Final B_{LTTi}$ , the total number of time-blocks, in which $i$ th channel was not available after considering deemed availability status of 4.1 & 4.2 above.	Availability of $i$ th Channel, $A_i = (B_T - Final B_{Ni}) * 100 / B_T$
		In TL /User account	Not in TL/User account			
Sum of Configured Channel 1						
Sum of Configured Channel 2						
....						

Sum ( $A_i$ )

**Availability of Communication System ( $A_{CS}$ )** (Owner wise)  $A_{CS} = \text{Sum}(A_i) / N$

$N$  is total number of communication channels  
 $A_i$  is Availability of  $i$ th Channel which shall be calculated

Note: System Generated

Availability Certification of Communication Channel (USER/TL) for the Month, Year													Change in Categorization suggested by TL/User	Reason in Change in Categorization suggested by TL/User	Change in Categorization suggested by SRLDC	Reason in Change in Categorization suggested by SRLDC	Change in Categorization suggested by SRPC	Reason in Change in Categorization suggested by SRPC
													Drop down provision from A to L		Drop down provision from A to L		Drop down provision from A to L	
Name of the channel	Start Date	Start Time (hh:mm:ss)	Start Time Block	End Date	End Time (hh:mm:ss)	End Time Block	In TL /User account (Y/N) [a]	Not in TL/User account (Y/N) [b]	B <sub>Gr</sub> (Y/N) [c]	B <sub>LTR</sub> (Y/N) [d]	Reason for Downtime	Channel routing (source to sink indicating ownership)						
Configured Channel 1																		
Event 1																		
Event 2																		
Event 3																		
Sum of Configured Channel 1						In Number of Blocks												
Configured Channel 2																		
Event 1																		
Event 2																		
Event 3																		
Sum of Configured Channel 2						In Number of Blocks												
....																		
....																		
....																		

**Note:**

1. All Grey highlighted Cells are frozen, Non-editable by User/TL
2. Column "N" & "O"; Only editable by User/TL from 1st to 10th day of the subsequent month
3. Column "P" & "Q"; Only editable by SRLDC from 11th to 20th day of the subsequent month
4. Column "R" & "S"; Only editable by SRPC
5. The Changes made by SRPC would be final and it would be reflected while generating the Summary report.
6. Provision for breaking the Event into Multiple Events by SRPC. For example: One event from 06:42hrs to 09:43hrs is to be broken under different categorization from forced majeure[FM] (08:10hrs to 09:43hrs) to TL user account. (06:42hrs to 08:09hrs may be under TL user account and remaining under FM)
7. Channels only where USER/TL elements are involved.

<b>A</b>	<b>From [a] to [b]</b>
<b>B</b>	<b>From [a] to [c]</b>
<b>C</b>	<b>From [a] to [d]</b>
<b>D</b>	<b>From [b] to [a]</b>
<b>E</b>	<b>From [b] to [c]</b>
<b>F</b>	<b>From [b] to [d]</b>
<b>G</b>	<b>From [c] to [a]</b>
<b>H</b>	<b>From [c] to [b]</b>
<b>I</b>	<b>From [c] to [d]</b>
<b>J</b>	<b>From [d] to [a]</b>
<b>K</b>	<b>From [d] to [b]</b>
<b>L</b>	<b>From [d] to [c]</b>

Data format for USERS/TL Availability of Channels as per Guidelines on Availability of Communication Systems for the Month, Year							
Name of the channel	Total No of Blocks in a month ( $B_T$ )	Final $B_{ANP}$ , absolute number of time-blocks in which the $i$ th channel was 'not available' on account of any reason.		Final $B_{Gi}$ , Number of time-blocks out of $B_{ANi}$ , in which $i$ th channel was 'not available' on account of act of God as specified in 4.1 above.	Final $B_{LTTi}$ , Number of time-blocks out of $B_{ANi}$ , in which $i$ th channel was 'not available' for a duration less than or equal to one (01) minute in a time-block and not more than ten (10) times in a day as specified in 4.2 above.	Final $B_{Ni} = \text{Final } B_{ANi} - \text{Final } B_{Gi} - \text{Final } B_{LTTi}$ , the total number of time-blocks, in which $i$ th channel was not available after considering deemed availability status of 4.1 & 4.2 above.	Availability of $i$ th Channel, $A_i = (B_T - \text{Final } B_{Ni}) * 100 / B_T$
		In TL /User account	Not in TL /User account				
Sum of Configured Channel 1							
Sum of Configured Channel 2							
....							

Sum ( $A_i$ )

**Availability of Communication System ( $A_{CS}$ )** (Owner wise)  
 $A_{CS} = \text{Sum}(A_i) / N$

$N$  is total number of communication channels  
 $A_i$  is Availability of  $i$ th Channel which shall be calculated

Note: System Generated

Annexure-B.2.7

Plant Name	Line charging & Voltage control	Frequency control	Synchronization
Jorethang	<p>39.1 Km 220 kV Line charging was done without any significant voltage rise.</p> <p>Voltage was stable. However, POWERGRID informed that at their end voltage flicker was continuously observed which was lead to synchronization issue.</p>	<p>Jorethang was facing issue to maintain frequency stable within a band. As it is a run of the river plant and penstock pressure was varying as reported by Jorethang.</p>	<ol style="list-style-type: none"> <li>1. Synchronization is done manually once delta F, V and angle are within limit at Rangpo end.</li> <li>2. Setting for delta f was kept 0.02 Hz at Rangpo. At machine end it is generally kept at 0.1 Hz as auto synchronization is there.</li> <li>3. Frequency control by Jorethang unit was highly fluctuating and it was difficult to maintain 0.02 Hz difference and 20-degree angle difference for enough time so that operator can manually give CB close instruction. This led to delay in synchronization and finally unit could not be synchronized. <b>The unit ran for around three hours but it couldn't be synchronized at Rangpo.</b></li> </ol>
Tashiding	<p>18.1Km Line charging was done without any significant voltage rise.</p>	<p>Frequency variation was high</p>	<ol style="list-style-type: none"> <li>1. Unit tripped during first attempt due to conservative over-frequency setting.</li> <li>2. In 2<sup>nd</sup> attempt it took around 1 hour to synchronize with the grid at Rangpo.</li> </ol>
Dikchu	<p>32.4 Km 400 kV Line charging was done with 150 kV voltage rise.</p> <p>In preparatory meeting it was adviced to charge</p>	<p>Frequency variation was high</p>	<ol style="list-style-type: none"> <li>1. When line was ready for charging from Dikchu end at 40% POWERGRID expressed their concern over charging line at lower voltage could lead to issues in</li> </ol>

	line in Voltage control mode with 40% voltage setting yet such high voltage jump for such a short line charge at 40% voltage is a challenge.		<p>GIS as both side of the CB will be the charged at different voltage. Therefore line isolator was opened and then line was charged. This also led to considerable amount of delay in synchronization.</p> <p>2. Unit ran for around 40 minutes but couldn't be synchronized at Rangpo.</p>
Chuzachen	20 Km 132 kV line was not closed at Chuzachen due to possibility of overvoltage due to charging at rated voltage. Unit was tripped and line breaker was pre-closed and then unit was again started at 16:03 Hrs but unit tripped twice after this.	Frequency variation was high	<p>1. Synchornization could not be attempted due to unit tripping.</p>



**एन एच पी सी लिमिटेड**  
(भारत सरकार का एक नवरत्न उद्यम)  
**NHPC Limited**  
(A Government of India Navratna Enterprise)  
CIN: L40101HR1975GOI032564



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संदर्भ/ Ref. NH/TSV/HOP-Sectt./ F-158/2025-26/08

दिनांक / Date: 03-04-2025

The Member Secretary,  
Eastern Regional Power Committee (ERPC),  
14, Golf Club Rd, Tollygunge, Kolkata,  
West Bengal 700033

**Sub: Regarding Minutes of Meeting of 225th OCC held on 18.03.2025 (published at Part-B, Sl. No. 2.7)- Shifting the location of existing Tower#1 (Dead End Tower) of the 400 kV D/C Transmission Line at Teesta-V Power Station.**

Sir,

This is with reference to the deliberations in the 225<sup>th</sup> OCC meeting regarding the shifting of Tower #1 (Dead End Tower) of the 400 kV D/C Transmission Line at Teesta-V Power Station.

We would like to draw your kind attention on the OCC decision point no 2 (ref page no 15) which is reproduced as under:

*"OCC also advised the concerned i.e., NHPC and Powergrid to make a detailed study about landslide mitigation structures, like boulder nets, and provide a cost estimate for the same. They may approach authorities like NHA for seeking advice regarding the same."*

In this regard we would like to bring to your kind information that NHPC have rich experience to tackle such type of issue and has already taken up the work for hill slope protection of the hill as it is equally important for TRT Structure/ Safe access to Power House but it will take very long time for stabilization of landslide, therefore this point may be deleted from the MOM.


NHPC had emphasized in the agenda that Tower#1 should be relocated to a safer location beyond the reach of the sliding zone due to high probability of hitting by any boulder/rock mass at any time after triggering of landslide which was occurred on 20<sup>th</sup> August 2024. As for the evacuation of power from Teesta-V there is only one double circuit transmission line exists between Teesta-V and Rangpo pooling substation, therefore in the event of collapse of dead end tower, there shall be no option of the evacuation of power of Teesta-V.

**We once again request ERPC to emphasize this matter and to ensure timely action should be taken by PGCIL for relocating the dead end Tower#1. It is to inform you that we are going to re-commission Teesta-V Power Station by Dec 2025, as such Power Grid may be advised to take up the work immediately and complete it timely.**

Your Cooperation in this regard shall be highly solicited.

Thanking you,

For & on behalf of NHPC Limited,

  
(Jitendra Kumar)  
GGM(E)/ HOP Teesta-V

Power Behind Green Power

- ✓ *Currently the dead end tower of the Teesta – V power evacuation switchyard is located near a hill which has become prone to landslide.*
- ✓ *So they have decided to shift their GIS switchyard along with the dead end tower to another safe nearby location.*
- ✓ *The PGCIL dead end tower will be relocated along with the GIS switchyard to avoid damage from future landslides.*
- ❖ *Powergrid submitted that the additional tower may be vulnerable due to erosion of river bank and there would be ROW and clearance issues due to close proximity to the nearby Helipad. However, he assured that a joint survey with NHPC would be carried out and appropriate measures shall be taken to address the concern of NHPC.*

#### **OCC Decision**

- ✓ *OCC recommended for another joint site visit by NHPC and Powergrid for further planning i.r.o the tower arrangement and thereby evading potential damage from probable landslide.*
- ✓ *OCC also advised the concerned i.e NHPC and Powergrid to make a detailed study about landslide mitigation structures, like boulder nets, and provide a cost estimate for the same. They may approach authorities like NHA for seeking advice regarding the same.*

#### **2.8 Establishment of new PLCC link for LILO of 400kV Tala - Binaguri line Circuit-4: Powergrid ER - II**

- *Bhutan Power Corporation (BPC) is constructing a 300MVA, 400/220/66/33kV GIS substation at the National Industrial Park (NIP), Samtse to cater to Industrial power demand. As part of this development, Circuit-4 of the 400kV transmission line from Tala (Bhutan) to New Siliguri / Binnaguri, WB (India) will be looped-in and looped-out (LILO) at this new substation.*
- *Currently, a Power Line Carrier Communication (PLCC) link exists between Tala and Binaguri. With the introduction of the LILO arrangement at NIP, it is essential to establish a new PLCC system to ensure reliable communication and protection signaling. The reconfiguration will establish new PLCC links as follows:*
  1. *Link 1 (Tala – NIP), new PLCC panels are planned under the scope of the NIP Project.*
  2. *Link 2 (NIP – Binaguri), the existing PLCC panels from Tala will be relocated to NIP to maintain compatibility with the existing system and avoid modifications at Binaguri. A proposed network diagram is attached as **Annex B.2.9.***

Powergrid ER-II may explain. Members may discuss.

#### **Deliberation in the meeting**

- ❖ *Powergrid submitted that 400kV Tala-Binaguri (circuit 4) is proposed to be LILOed at National Industrial Park, Samtse.*
- ❖ *Representative from Bhutan Power Corporation submitted:*
  - ✓ *Currently the LILO section is under construction.*
  - ✓ *Internal approval has been sought from the concerned ministry of Bhutan and the same was shared with NLDC(India)for clearance.*
  - ✓ *Requested Powergrid to expedite approval for the changes in PLCC due to new LILO configuration*
  - ✓ *Agreed to seek necessary approval i.r.o shutdowns for implementation of LILO in 400kV Tala-Binaguri line.*



## Annexure D.1

### Anticipated Peak Demand (in MW) of ER & its constituents for May 2025

1	<b>BIHAR</b>	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	7607	5144
	NET POWER AVAILABILITY- Own Sources	429	320
	Central Sector+Bi-Lateral	5882	4135
	SURPLUS(+)/DEFICIT(-)	-1295	-689
<b>2</b>	<b>JHARKHAND</b>		
	NET MAXIMUM DEMAND	2300	1276
	NET POWER AVAILABILITY- Own Source	271	233
	Central Sector+Bi-Lateral+IPP	1105	773
	SURPLUS(+)/DEFICIT(-)	-923	-269
<b>3</b>	<b>DVC</b>		
	NET MAXIMUM DEMAND	3550	2529
	NET POWER AVAILABILITY- Own Source	6161	3762
	Central Sector+MPL	278	174
	Bi- lateral export by DVC	2498	1858
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	392	-451
<b>4</b>	<b>ODISHA</b>		
	NET MAXIMUM DEMAND (OWN)	7100	4552
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 900 MW(peak) and average drawl of 700 MW)	7729	4192
	NET POWER AVAILABILITY- Own Source	3234	2433
	Central Sector	2349	1110
	SURPLUS(+)/DEFICIT(-) (OWN)	-1517	-1009
	SURPLUS(+)/DEFICIT(-) (In Case of CPP Drawal of 900 MW(peak) and average drawlm of 700 MW)	-2146	-649
<b>5</b>	<b>WEST BENGAL</b>		
	WBSEDCL		
<b>5.1</b>	<b>NET MAXIMUM DEMAND</b>	10718	6954
	NET MAXIMUM DEMAND (Incl. Sikkim)	10723	5682
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5673	3338
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2357	1313
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-2693	-1031
<b>5.2</b>	<b>CESC</b>		
	NET MAXIMUM DEMAND	2760	1270
	NET POWER AVAILABILITY- Own Source	830	590
	IMPORT FROM HEL	541	395
	TOTAL AVAILABILITY OF CESC	1371	985
	SURPLUS(+)/DEFICIT(-)	-1389	-285
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	13478	8224
	NET POWER AVAILABILITY- Own Source	6503	3928
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2898	1708
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-4077	-2588
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-4082	-1316
<b>6</b>	<b>SIKKIM</b>		
	NET MAXIMUM DEMAND	112	50
	NET POWER AVAILABILITY- Own Source	87	121
	Central Sector	91	54
	SURPLUS(+)/DEFICIT(-)	66	124
	<b>EASTERN REGION</b>		
	NET MAXIMUM DEMAND	34147	21775
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 800 MW(peak) and average drawl of 700 MW)	35047	21415
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2498	1858
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	478
	NET TOTAL POWER AVAILABILITY OF ER	26792	16894
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	-10499	-7222
	SURPLUS(+)/DEFICIT(-) (In Case of CPP Drawal for Odisha)	-11399	-6862