AGENDA

FOR

225th OCC MEETING

Date: 18.03.2025

Eastern Regional Power Committee

Contents

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 225th OCC MEETING TO BE HELD ON 18.03.2025 (TUESDAY) AT 10:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 224th OCC Meeting held on 25th February 2025 physically at Kolkata

The minutes of 224th Operation Coordination Sub-Committee meeting held on 25.02.2025 was circulated vide letter dated 06.03.2025.

Members may confirm the minutes of 224th OCC meeting.

2. PART-B: ITEMS FOR DISCUSSION

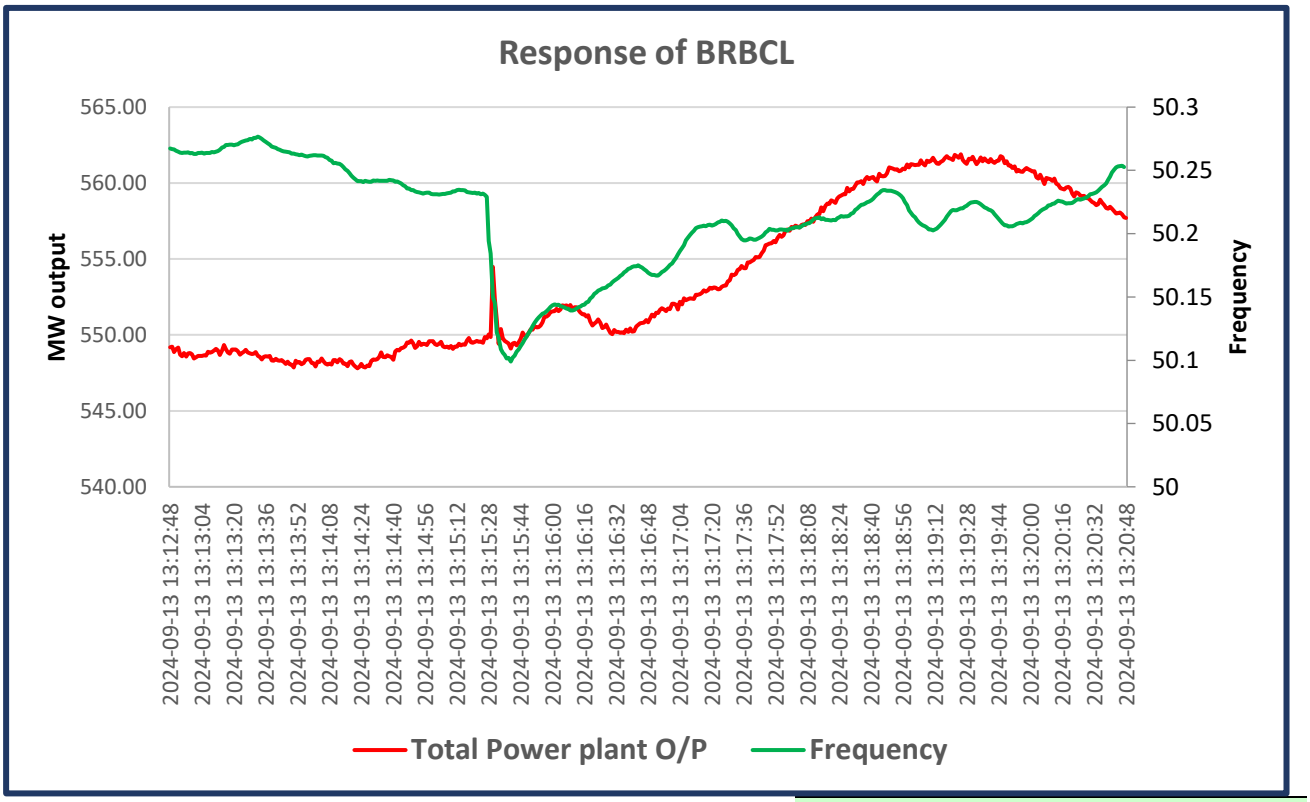
2.1 Review of Beta factor evaluation for FRP response: NTPC

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: 6th April 2024 and 10th May 2024.

S.No.	Particulars (loss event of around 1200 MW in Tamilnadu , Southern Region control areas on 23rd August 2024 at 12:34 hrs)	Dimension	BRBCL	
			RLDC SCADA Data	Generator High Resolution Data
1	**Actual Net Interchange before the Event, PA (Import +ve / Export -ve)**	MW	-487	-550
2	**Actual Net Interchange after the Event, PB (Import +ve / Export -ve)**	MW	-485	-552
3	**Change in net interchange, PB-PA (2 - 1)**	MW	2.0	-1.6
4	**Generation Loss (+) / Load Throw off (-) during the Event, PL**	MW	0.0	0.0
5	**Control Area Response, ΔP=(PB-PA) – PL (3-4)**	MW	2.0	-1.6
6	**Frequency before the Event, fA**	HZ	50.229	50.229
7	**Frequency after the Event, fB**	HZ	50.144	50.144
8	**Change in Frequency, Δf=(fB-fA) (7-6)**	HZ	-0.09	-0.09
9	**Frequency Response Characteristic, ΔP/ Δf (5 / 8)**	MW/Hz	-23	19
10	**Frequency Response Obligation (FRO) of each control area**	MW/Hz	46	46
11	**Frequency Response Performance (FRP) (9/10)**		-0.50	0.41
Consideration of FRP for computation of Average Monthly FRP, Beta 'ß'			0.00	0.41



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	DATA NOT RECEIVED	959
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, ΔP=(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, Δf=(fB-fA) (7-6)	HZ	-0.27		-0.27
9	Frequency Response Characteristic, ΔP/ Δf (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

S.No.	Particulars (Event-2: 1071 MW Gen Loss in Khedar(RGTPS) at 19:35 hrs_10.05.2024)	Dimension	RLDC SCADA Data	Generator High Resolution Data	Corrected Data
1	Actual Net Interchange before the Event, PA (Import +ve / Export -ve)	MW	-754	-947	-947
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, ΔP=(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, Δf=(fB-fA) (7-6)	HZ	-0.04	-0.04	-0.04
9	Frequency Response Characteristic, ΔP/ Δf (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 'ß'			0.00	0.00	1.00

NTPC may explain. ERLDC may update. Members may discuss.

2.2 Request to furnish the data for preparation of LGBR 2025-26 of Eastern region – ERPC

As per the IEGC Clause **32.3**(**a**) & (**b**) issued by CERC on **29.05.2023**, *"*RPCs shall prepare and finalize the annual outage plan for the next financial year in respect of grid elements of their respective regional grid*", "RPCs shall prepare Load Generation Balance Report (LGBR) for the respective region based on the LGBR submitted by SLDCs for their respective states and the data submitted by the regional entity generating stations, inter-State transmission licensees and other entities directly connected to ISTS in such format as may be stipulated by the RPCs and shall prepare annual outage plan for generating units and transmission elements in their respective region after carrying out necessary system studies in order to ensure system security and resource adequacy."*

In this regard, Load Generation Balance Report (LGBR) for the year 2025-26 in respect of Eastern Region is to be finalized by September, 2024. The approved programme of planned maintenance in respect of Thermal and Hydro stations in the region, along with the estimated monthly generation programme, the estimated monthly energy requirement (MU) and estimated monthly peak/off-peak demand (MW) for the year 2025-26 of each state / utility shall be the input for preparation of LGBR of Eastern Region for 2025-26.

To prepare the LGBR of Eastern Region, the following data/ information for the financial year 2025-26(April'2025 to March'2026) in respect of the constituents/ generators of Eastern Region is required:

State and Central Sector Generators/IPPs/CPPs/SLDCs/Utilities

i) The Unit-wise and Station-wise monthly energy generation proposed from existing units during 2025-26 (thermal, hydro and RES).
ii) Annual maintenance programme for each of the generating units (thermal, hydro and RES)
iii) Generating units under R&M/ long outage indicating date of outage and reasons of outage and expected date of return (thermal and hydro both).
iv) Partial and forced outage figures (in %) of generating units and auxiliary power consumption for the last 3 years.
v) Month-wise peak/off-peak demand (MW) – restricted and unrestricted.
vi) Month-wise energy requirement (in MU) – restricted and unrestricted.
vii) Month-wise and source-wise power purchase and sale plan (both MU & MW).
viii) Schedule of commissioning of new generating units during 2025-26 and unit-wise monthly generation programme (in MU) upon COD.
ix) Allocation of power from new generating units.

ISTS/STU/Transmission licenses in the states and Central Sector

i) Monthly and annual planned outage of transmission system (Transmission lines 220kV and above / ICTs / Reactors/ other elements (TCSC, SC etc.)).

LGBR data for West Bengal, Bihar and Sikkim have not been received.

It is therefore requested to provide the above information (as applicable), at earliest, for compilation of data and preparation of draft **LGBR of ER for the year 2025-26.**

Concerned constituents may update. Members may discuss.

2.3 Bus split operationalization at NTPC Kahalgaon: ERPC

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

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

1. Determination of underground cable conduit path for 400/132 kV ICT-3, 4 and 5 allocated for stage 2 supply.
2. Excavating the existing cable and relaying from Stage-1 132kV to New Stage-2 132 kV switchyard, where ICT 3 & 4 will be connected.
3. Laying of additional 22.8 ckt. km control cable for STs.
4. Jumpering of ICTs in 132kV & 400kV level.
5. Bay equipment testing.

- NTPC apprised that determination of underground power cables is one of the major challenges to proceed further with laying of cables between two 132kV switchyards. The tentative time to complete the ICT commissioning is **25th May 2025**.
- Meanwhile in view of increased fault level of NTPC Kahalgaon and to facilitate interim arrangement of standby ISTS connectivity to Godda Thermal Power project of M/s Adani Power (Jharkhand) Ltd. (APJL) with Indian grid, Bus splitting at 400KV Kahalgaon needs to be done on priority.

As per **224th OCC Deliberation**

NTPC submitted:

- ✓ A Gantt chart was shared detailing the timeline of activities and completion target by June 2025.
- ✓ Excavation process for laying of 132 kV Power cables has already stated. Laying of Power cables shall commence from First week of March 2025.Presence of CW ducts and Fire Hydrant pipes in the path of the cable has delayed progress.
- ✓ Control cables for ICT charging are being sourced from other NTPC projects.

224th OCC Decision

- OCC urged NTPC to strictly adhere to the committed timeline for bus splitting at Kahalgaon, i.e. June 2025.
- NTPC ER-I Headquarters was advised by OCC to facilitate the availability of control cables at NTPC Kahalgaon.
- NTPC was advised to submit fortnightly progress report to ERPC/ERLDC with timeline of all intermediate activities (target v/s progress achieved).

No update has been received after 224th OCC from NTPC on the progress of work at NTPC Kahalgaon.

NTPC to update current status. Member may discuss.

2.4 Reliability and Healthiness of equipment at 400kV KHSTPP: ERPC

- ✓ Emanating lines from KHSTPP (NTPC) which are equipped with BHEL-manufactured circuit breakers have exceeded 25 years of service. These aging assets have deteriorated significantly due to hydraulic mechanism issues and increased SF6 leakage.
- ✓ Furthermore, several isolators located at KHSTPP(NTPC) are stuck-up and inoperable. In addition to these challenges, KHSTPP has been experiencing extended outages of multiple critical elements. The details of these outages are as follows:

Name of the Elements	Remarks
400kV-Kahalgaon- Barh-2	Out of service since 07.12.24
400kV tie bay of FSTPP-1 & Barh-2	Out of service since 18.10.24
400kV Tie Bay of Durgapur-2 & Future	Out of service since 06.07.24
400kV Main Bay of Banka-1	Out of service since 24.02.24
400kV Main Bay of Kahalgaon-Lakhisarai-1	Reliability of the BHEL make CB has significantly deteriorated due to issues with their hydraulic mechanisms and increased SF6 leakage. These CBs are being obsolete models over 25 years old. (**4 nos. of CB**)
400kV Tie Bay of 400/132kV ICT-2 and Kahalgaon-Lakhisarai-1	
400kV Main Bay of Kahalgaon-Lakhisarai-2	
400kV Tie Bay of Kahalgaon-Durgapur-1 and Kahalgaon-Lakhisarai-1	
Bus-3 side Isolator of Bus-1 & 3 sectionaliser	Isolators are in stuck-up condition (**9 nos. of isolators**)
Bus-1 side Isolator of Bus-1 & 3 sectionaliser	
Bus-4 side Isolator of Bus-2 & 4 sectionaliser	
400kV Main Bay of Kahalgaon-Banka-2	
400kV Tie Bay of Kahalgaon-Banka-2	

- ✓ With the approaching summer season, power demand will increase significantly and power flow in this corridor during solar hours will surge due to high solar injection from solar rich Northen region & high space cooling load in West Bengal.
- ✓ Being a critical substation in the high-power flow corridor, the healthiness of all equipment needs to be ensured to maintain a stable electricity supply.

Moreover, it is observed that other NTPC stations also lacking in maintenance activity over past few years.

As updated by ERLDC in **224th OCC**:

	Bus					ICT					Line (For Line Bay)				
Plant Name	**Total Available**	2021	2022	2023	2024	**Total Available**	2021	2022	2023	2024	**Total Available**	2021	2022	2023	2024
BARH	**4**				2	**3**	2	3	3	3	**8**	4	4	4	8
DARLIPALI	**2**				2	**2**				2	**2**				0
FSTPP	**2**				1	**2**		2	1	0	**10**	5	10	4	1
KHSTPP	**4**				0	**2**				0	**12**	8	1	1	3
NABINAGAR(BRBCL)	**2**				0	**3**				0	**2**				0
NABINAGAR(NPGC)	**2**	1	1		0	**3**		1	1	0	**4**				1
TSTPP	**6**				0	**2**	1			0	**10**	2	1	3	0

As per **224th OCC Deliberation**

- ERLDC presented details of maintenance carried out in NTPC generating stations w.r.t Bus, ICTs and Line Bay over last four years. It was informed that maintenance of Bus & ICTs is irregular at Barh, Darlipalli, Farakka and Nabinagar generating stations while line bay maintenance is regular only at Barh, Farakka and Kahalgaon stations.
- ERLDC also raised concerns in the forum regarding the multiple circuit breaker (CB) outages and stuck isolators at Kahalgaon STPP. These incidents have not only reduced the reliability of Kahalgaon STPP but have also impacted the reliability of neighbouring generating stations, including Farakka and Barh, as well as the overall stability of this critical power corridor.
- NTPC Kahalgaon STPP informed the forum that a design-related issue with Siemens-manufactured isolators is the cause of the stuck isolators. They confirmed that a replacement plan is already in place.
  Kahalgaon STPP was requested by ERLDC to share the detailed work plan and progress updates for these replacements.

224th OCC Decision

- OCC opined that lack of proper maintenance at NTPC generating stations may potentially cause forced outage of switchyard equipment and hence generating unit(s).
- NTPC was advised to be vigilant in ensuring proper and timely maintenance activities at switchyards of all their generating stations.
- NTPC was advised to plan for maintenance activities in coordination with ERLDC.
- OCC advised ERLDC to regularly monitor the status of maintenance in all generating stations of ER and highlight the deficiencies in OCC forum.

ERLDC may explain. NTPC may update. Members may discuss.

2.5 DSM loss due to lack of update of SG in AGC system for 23rd & 24th Feb 2025 in BRBCL – NTPC

In BRBCL, SG was updated in ABT system after start of block and the same was updated in the WBES system as well. BRBCL is currently having 2 API logins and the number of hits allowed per hour for fetching SG through API is 30. Data fetching through API was being done as per the prescribed limit.

However, during block changeover both APIs were getting blocked and SG was not getting updated. Due to this BRBCL incurred huge DSM loss on 23rd, 24th Feb 2025 in the blocks given in the following table.
A log of number of hits through API could be beneficial for resolve the issue.

Date	Block No.	Block Time (Hrs)	Time of updation in new WBES system (Hrs)
23rd Feb 2025	45	11:00 - 11:15	10:48
24th Feb 2025	59	14:30 - 14:45	14:18
	61	15:00-15:15	14:48

NTPC may explain. ERLDC may update. Members may discuss.

2.6 Inconsistency in the implementation of the amended Regulation 49 of the IEGC 2023: WBSEDCL

The following provision has been inserted under sub-clause b(ii) of Clause (4) of Regulation 49 of the IEGC 2023:
Quote
"Provided that downward revision of schedules by the buyers for 'D' day, after 14:30 hrs on 'D-1' day in the generating station is permissible only for beneficiaries which have scheduled above their respective share of minimum turndown level in the generating station: Provided also that downward revision by such beneficiaries, which have scheduled above their respective share of minimum turndown level in the generating station, shall be permissible limited to a quantum such that overall schedule of the generating station is at least at Minimum turndown level. The downward revision of schedules by such beneficiaries for 'D' day, after 14:30 hrs on 'D-1' day shall be permissible on a pro-rata basis of the power scheduled above the minimum turndown level of their share at 14:30 hrs of 'D-1' day"
Unquote

- It has been noticed that the regulation does not mention anywhere that the downward revision for a beneficiary will be capped at their respective MTDL, even if the generator has a schedule above its Minimum Technical Limit and has scope to revise down its present schedule before reaching its Minimum Technical Limit.
- ✓ For instance, considering 21.02.2025 as the 'D' day, WB State (WBSEDCL) as beneficiary, FSTPP I & II as generator, and Block No. 69, the initial schedule punched up to 14:30 hrs of (D-1) day was "Total Requisition," i.e., 490.34 MW.
- ✓ After 14:30 hrs of the same day, the schedule was revised as "MTDL Restriction," i.e., 269.69 MW.
- ✓ Now, at 14:00 hrs of 'D' day, for the said block, the schedule of FSTPP I & II was 1380.45 MW.
- ✓ In the MTDL page, it was correctly showing that the generator can further reduce its schedule up to an additional quantum of 446.53 MW.

- Since the pre-fixed back-downable percentage of WBSEDCL with respect to FSTPP I & II for Block No. 69 was 32.23%, WBSEDCL could further reduce its schedule by 32.23% of 446.53 MW.
- However, since WBSEDCL had already reached its MTDL level with respect to the FSTPP I & II share allocation (55% of the Share Entitlement), i.e., 269.69 MW, further reduction of the schedule was not allowed in the WBES portal.
- Such restriction is not regulated under the addition of sub-clause b(ii) of Clause (4) of Regulation 49 of the Principal Regulations, where it is mentioned that *"The downward revision of schedules by such beneficiaries for 'D' day, after 14:30 hrs on 'D-1' day, shall be permissible on a pro-rata basis of the power scheduled above the minimum turndown level of their share at 1430 hrs of 'D-1' day."*
- Additionally, such conditions compel WBSEDCL to back down cheaper generating stations (including State Generators) and schedule costlier generating stations, thereby violating its commercial Merit Order-based scheduling.
- Moreover, this condition also violates the Economic Despatch principle, particularly in the context of DISCOM's power purchase portfolio, as stipulated under the Indian Electricity Act, 2003

Under such circumstances, WBSEDCL has requested that beneficiary-based capping be removed in WBES Portal during downward revision of generators when the post-backdown schedule of such generating stations is above MTDL, and downward revision shall be allowed as per the amendment clause as long as the generator is scheduling above its Minimum Technical Limit.

WBSEDCL may explain. ERLDC may update. Members may discuss.

2.7 Request for Incorporation of Additional Provision in WBES Portal: WBSEDCL

As per the prevailing provisions in the WBES portal, generating station-wise SCED, SCUC, and Ancillary participation are made available.

However, the reverse information, i.e., SCED, SCUC, and Ancillary service provider-wise generation anticipation, is not available, which would facilitate beneficiaries to monitor and manage their power purchase portfolio more easily and effectively, given the impact of such participation on their portfolio management.

WBSEDCL has requested NLDC to incorporate such a provision.

WBSEDCL may explain. ERLDC may update. Members may discuss.

2.8 Regarding Shifting the location of existing Tower#1 (dead end tower) of the 400 kV D/C Transmission Line at Teesta V Power Station: NHPC

- 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. The proposed layout plan is attached as **Annex B.2.8.1.**
- Complete restoration activities are expected to be completed by Nov. 2025.
- Preliminary report is attached as **Annex B.2.8.2.**

NHPC may explain. Members may discuss.

2.9 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.

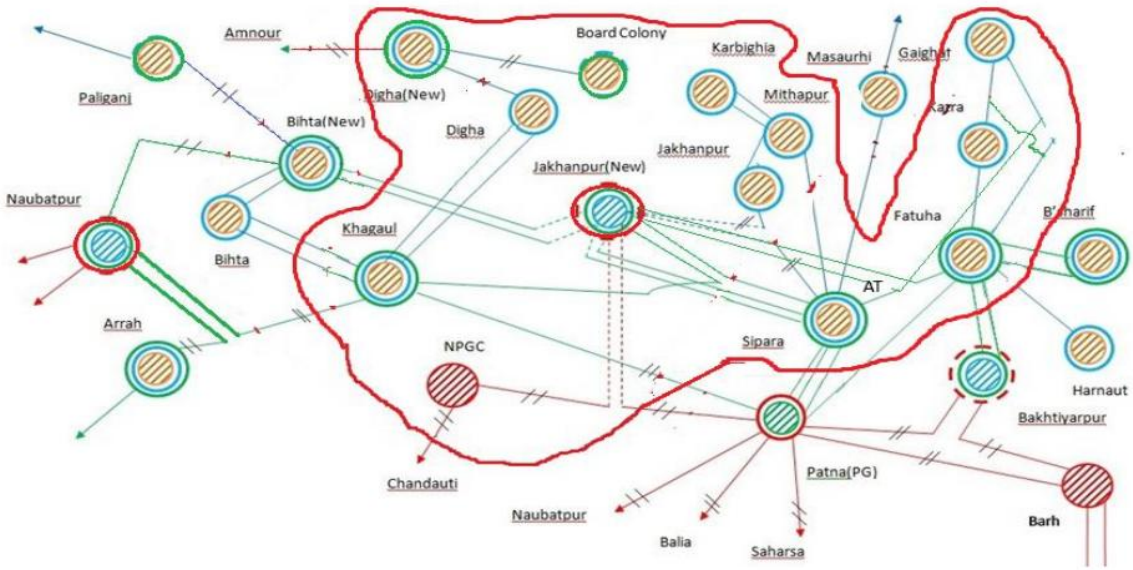
2.10 Update on Patna Islanding scheme: ERPC

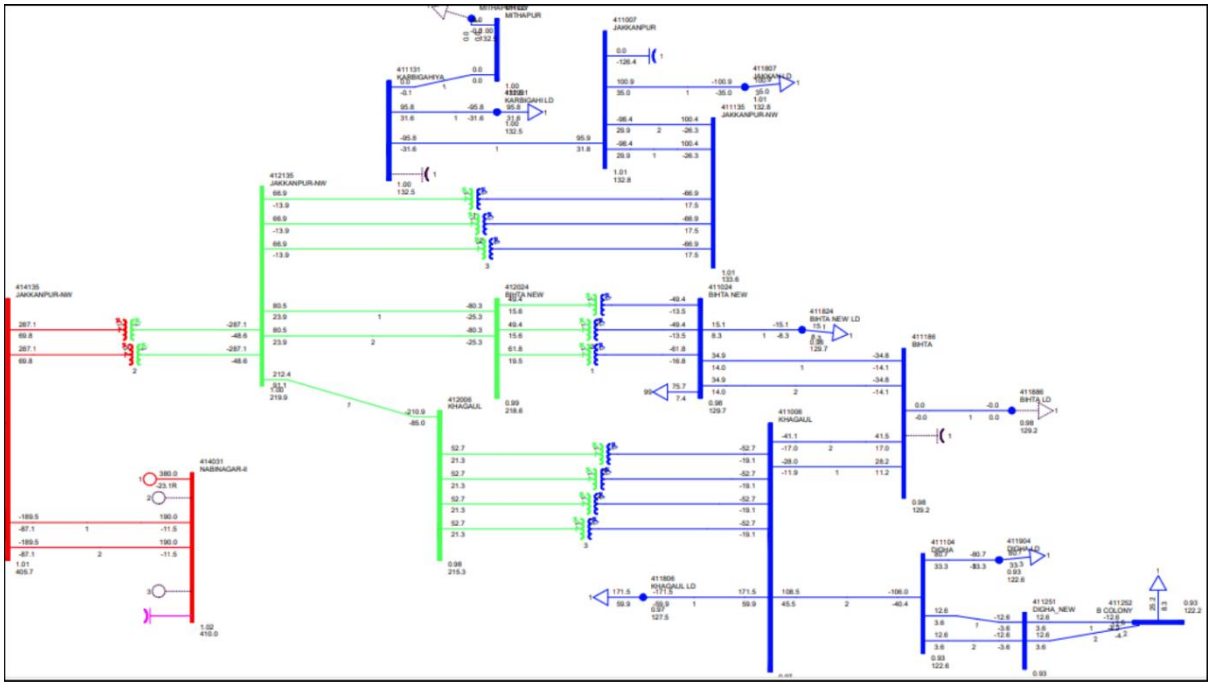
The Patna islanding scheme would be formed with Units of NPGCL along with loads of Patna city.

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-deintifed 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.



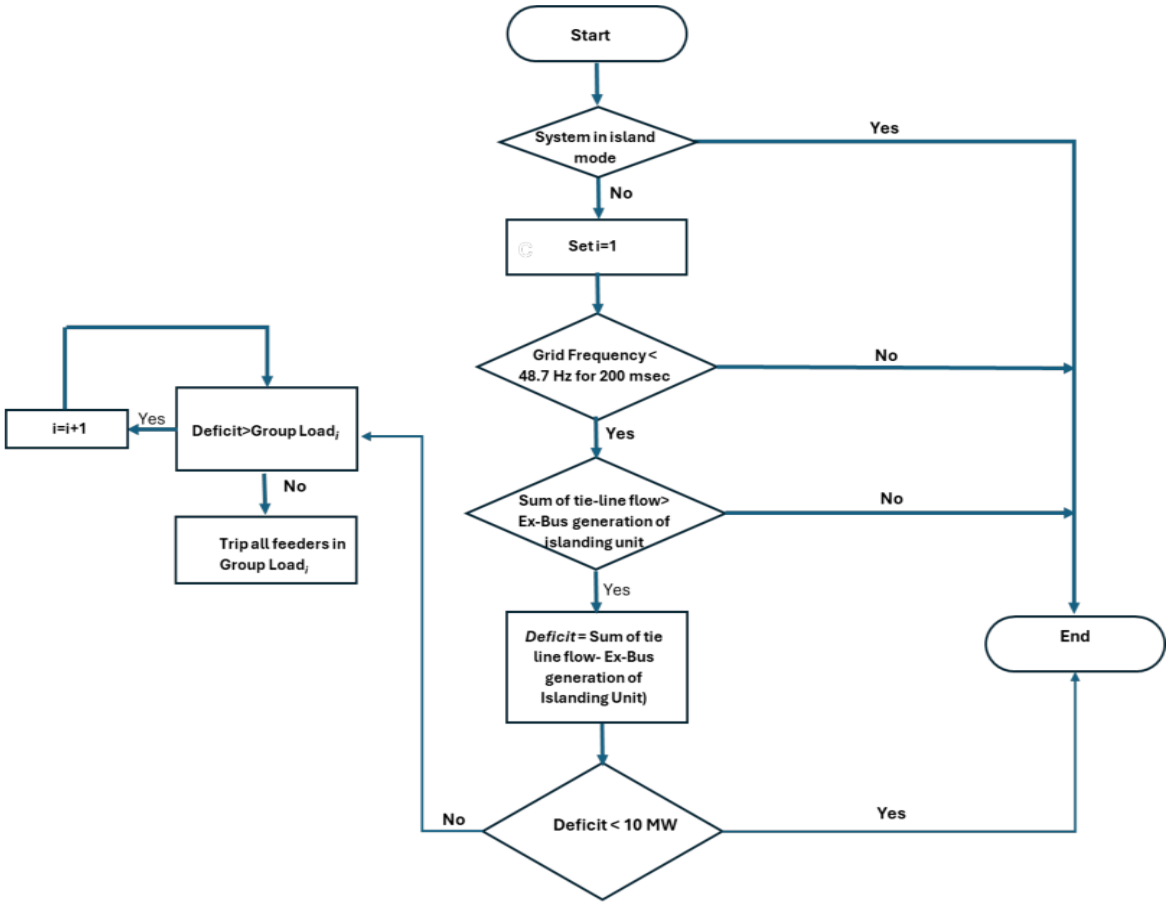


Islanding Logic(proposed by ERLDC):

As demand of identified feeders may increase/decrease with time, to maximize chance of survival, it is necessary to have a central logic system which will monitor load and generation balance and will trip feeders prior to islanding if frequency reaches below a certain point.

- **Pre-islanding (Centralized Island Monitoring Unit):**
    - There will be a Centralized Island monitoring and control unit needs to be incorporated at SLDC Bihar for continuous monitoring of load generation balance in the island. It is necessary to maintain the load generation balance within the island for island stability.
    - The control scheme will continuously monitor load generation imbalance and will trip identified feeders' priority wise if load generation imbalance goes beyond a certain limit and frequency reaches 48.7 Hz for 200 msec.
- **Islanding (2 stages):**
    - When Frequency reaches 48.4 Hz, then with a delay of 500 msec, identified system will be islanded. For islanding, a number of tie lines need to be tripped to isolate the system from the grid. The command to trip the feeders will go from the Central master controller. As a back-up UFR relays may be installed in the identified feeders set at 48.4 Hz and 500 msec time delay.
    - After islanding, another stage of feeder disconnection is also to be done if island frequency decreases. Three sub-stages are set after islanding and UFR relays will be installed on the identified feeders to get the desired load relief.
        - Stage 2A: 80 MW at 48.2 Hz
        - Stage 2B: 40 MW at 48.0 Hz
        - Stage 2C: 50 MW at 47.8 Hz

Feeders selected for pre-islanding disconnection will be identified as per below logic:



As per **224th OCC Deliberation**
SLDC Bihar updated:

- ✓ A letter on estimated cost of the islanding scheme has been shared with the nodal agency for PSDF(NLDC).
- ✓ DPR will be shared with PSDF after rate justification from different agencies.

224th 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. Members may discuss.

2.11 Update on Grid Disturbance at 765/400kV Angul S/S, 400kV GMR and 400kV JIPL: 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**
- ✓ Due to inclement weather with cyclonic storm at 765/400kV Angul Station, 400kV Bus 1 &2, 765 kV Bus 1 & 2 along with all transmission element emanating from Angul station

(Except 400kV Bolangir feeder, 765kV Jharsuguda Feeder 2, 765/400kV 1500 MVA ICT 1 & 2) tripped. Tripping of 400kV Angul JIPL D/C line led to loss of evacuation path for JIPL Generating station. Due to this, both the running units (Unit 1 & 2) of JIPL got tripped at 16:20 Hrs. Similarly tripping of 400kV Angul GMR D/C line caused tripping of Unit #1 & 2 at 400kV GMR generating station.

❖ Following are 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.

Flash report attached at **Annex-B.2.11**
As per **224th OCC Deliberation:**
Powergrid Odisha presented a detailed report (**Annex B.2.11**) on the Grid disturbance at 765 kV Angul S/S, encompassing the sequence of events along with preliminary findings.
Powergrid Odisha further submitted:

✓ Internal flashover was observed in the SF_6 filled CTs while oil filled CTs remained intact. The failed CTs were of the same make & type as that observed in the previous incident (12.10.2023).
✓ The primary cause of CT failure is that somehow lightning surge is entering the substation and travelling to the CT's, leading to CT failure, insulation breakdown, and flashover of CTs, so DLSP (Direct lightning stroke Protection) to be further reviewed.
✓ After the past incident in October 2023 in which 4 Nos of CTs failed, out of which they replaced two no's of CTs with Oil filled and two with SF6 filled CT and in recent event also total 6 Nos of SF6 CTs failed in which 2 Nos of CT which were earlier replaced with SF6 failed.
✓ SF6 CTs are more susceptible to failure during lightning surges due to their different capacitance compared to oil-filled CTs. While oil-filled CTs exhibit greater resilience to lightning surges, they present a higher risk of bursting in case of failure and causing significant damage to adjacent equipment.
✓ Concerned OEM of the CTs has been called in to carry out Root cause analysis (RCA). Report will be submitted within a month.
✓ Previously a third-party earthing audit was carried out following the incident in October 2023 and some findings regarding earthing pointed out by an external agency have been duly addressed. The recommended actions, such as strengthening earth pits and raising riser heights, were subsequently implemented.

- ✓ The disturbance took place despite DSLP (Direct Stroke Lightning Protection) being in place at Angul S/S.
- ✓ As suggested by Powergrid Corporate Engineering team, measures have been taken to strengthen DSLP (Direct Stroke Lightning Protection) with deployment of additional earth wires.
- ✓ Study on proper discharge of lightning impulse to the ground shall be carried out.

ERLDC raised the following observations:

- ✓ Similar incidents involving multiple faults in Current Transformers (CTs) due to lightning occurred at the 765/400 kV Angul Substation (S/S) on October 12, 2023. Where similar faults resulted in bus tripping at both 765 kV and 400 kV levels. Notably, some of the CTs affected in the previous incident were also involved in the current event.
- ✓ It is gathered that only SF6 filled CTs have been affected due to lightning, while oil filled CTs are unaffected.
- ✓ An investigation is required to determine if the problem is confined to a specific batch of CTs. Furthermore, the root cause analysis (RCA) of the failed CTs from the previous incident is still outstanding. This analysis must be completed for the current event as well, and the RCA report should be shared as soon as possible.
- ✓ It is suspected that flashover is occurring at junction box due to overvoltage induced by lightning strike in both the events. After the last event, an Earthing audit was carried out and the Compliance of recommendations to be submitted as the same nature of event occurred again.
- ✓ As GMR and JITPL are connected to the same Dia, a simultaneous outage of both buses will result in generation loss. To minimize this risk of generation loss in future, possibility of shifting generator bays to a future bay within the Dia connected to the 765/400 kV ICTs or any other lines needs to be explored.

224th OCC Decision

- OCC opined that occurrence of similar nature of fault being repetitive at 765 kV Angul S/S, the same may be attributed to certain design deficiency in the system.
- Powergrid Odisha was advised to carry out root cause analysis, thereby pin-pointing the exact cause for failure of DSLP (Direct Stroke Lightning Protection) at Angul S/S and submit the findings in next OCC.
- Powergrid Odisha was also advised to take up with concerned OEM of the CTs and ascertain the reasons of failure along with RCA report in next OCC. Based on the outcome, Powergrid may take suitable decision.
- Implementation status of previous third-party earthing audit of the entire Angul substation should be furnished by Powergrid Odisha in the next OCC.
- Feasibility of shifting of GMR /JITPL Dia to be explored by Powergrid Odisha at Angul S/S for taking up the issue for further implementation.
- OCC recommended for constitution of a committee by ERLDC comprising members from ERLDC, Powergrid and CPRI for detailed analysis of the causes of CT failure during Grid disturbance at 765 kV Angul (PG) S/S. A comprehensive report delineating the reasons and preventive measures needs to be submitted within 3 months for review in OCC forum.

Powergrid Odisha may update. Members may discuss.

2.12 Trial of Resource Adequacy Portal: ERLDC

- Resource adequacy is a critical aspect ensuring sufficient generation capacity is available to reliably meet electricity demand. The importance of timely submission of demand estimation and resource adequacy data was reiterated during the meeting between the Central Electricity Regulatory Commission (CERC), chaired by Shri Ramesh Babu Veeravalli, Member (Technical), CERC, and the State Load Dispatch Centers (SLDCs) of the Eastern Region, along with ERLDC and ERPC, held at the ERPC Conference Room on **22nd February 2025**.
- As discussed in the meeting, ERLDC has developed a Resource Adequacy Portal to streamline the submission of demand forecasts and resource adequacy data across different timelines (Daily, Weekly, Monthly, and Yearly). The portal is expected to go live on **1st April 2025.**
- To facilitate familiarization with the portal, a test URL has been made available for trial submissions starting from **10th March 2025**, during the daily time window of 10:00 AM – 3:00 PM. The URL and login credentials have already been sent via email dated **7th March 2025** to all constituents.
- All states are requested to submit their demand forecasts and resource adequacy data on a trial basis using the test URL during this specified period.

Test URL: https://ra.erldc.in/

Members may note.

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

3.1. ER Grid performance during February 2025.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month February-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)
477 MU	492 MU, 18.02.2025	24440 MW, 04.02.2025 at 18:01 Hrs.	16374 MW, 03.02.2025 at 01:33 Hrs.	4798	4956

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

Name of the scheme	Implementation timeframe	Implementation mode	Implementing agency	Estimated Cost (Rs. in Cr)

ERES-44	18 months (15 months on best effort basis) from the date of allocation	RTM	Powergrid	385.77

WBSETCL works associated with reconductoring of ISTS lines

- In the NCT (National Committee on Transmission) meeting dated 23.10.2024, the following were decided:
- WBSETCL shall reconductor their following lines sections under intra-state scheme matching with completion of ISTS scheme namely ERES-44:
- ✓ About 4 km intra-state portion of Alipurduar (POWERGRID) Falakata (WBSETCL) 220 kV D/C line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
- ✓ About 4 km intra-state portion of Birpara (POWERGRID) - Falakata (WBSETCL) 220 kV D/C line at Falakata end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Falakata (WBSETCL) end commensurate with rating of HTLS (1250 A).
- ✓ About 2 km intra-state portion of Dalkhola (POWERGRID) - Gazole (WBSETCL) 220 kV D/C line at Gazole end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).
- ✓ About 2km intra-state portion of Gazole (WBSETCL) - Malda (POWERGRID) 220 kV D/C line at Gazole end with HTLS conductor of ampacity 1250 A along with necessary upgradation of associated 220 kV bay equipment at Gazole (WBSETCL) end commensurate with rating of HTLS (1250 A).
- 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 **224th 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.

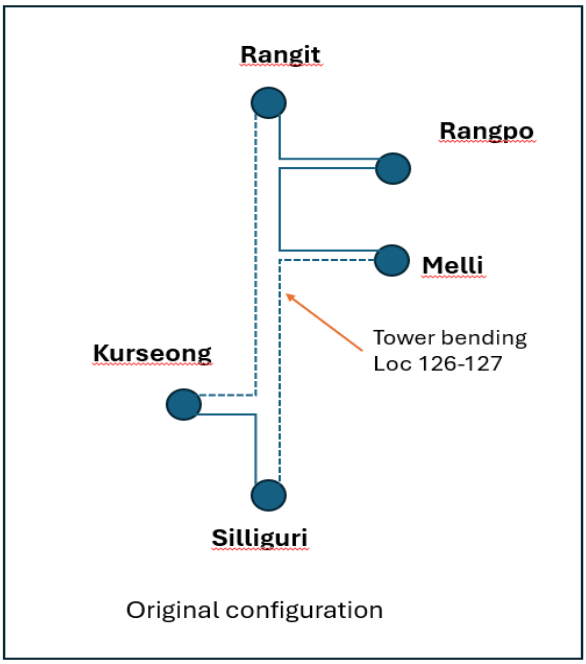
224th OCC Decision

- 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.

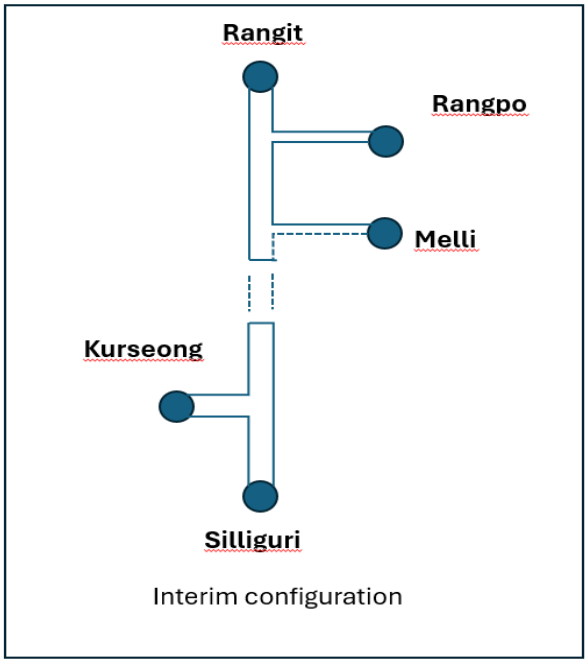
Powergrid may respond. Members may discuss.

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

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



Original configuration



Interim configuration

As per **224th OCC Deliberation**
Powergrid ER-II updated:

- ✓ Persistent ROW issues have been resolved to a larger extent in the area of Soom Tea Garden.
- ✓ Confirmation from District collector is pending for commencing works in that area.A meeting has been scheduled in this regard District collector with on 26.02.2025.

224th OCC Decision
OCC noted the proceedings and urged Powergrid to expedite for adhering to the completion target i.e. End of April, 2025.

Powergrid may update. Members may discuss.

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

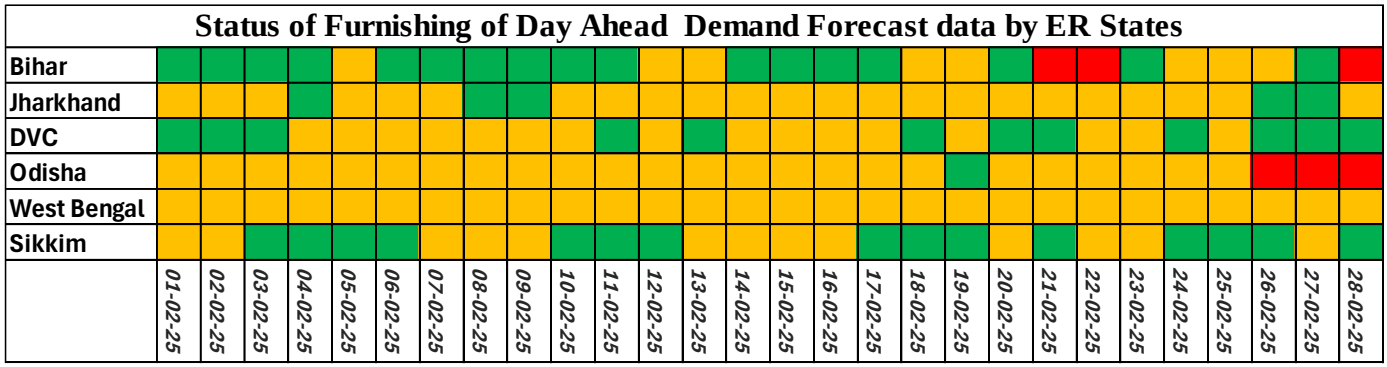
The **Clause 2** of **Regulation 31** of **IEGC 2023** has mandated all the SLDCs to timely submit the demand estimate data to the respective RLDC and RPC.
The demand estimation data provided by SLDCs will be required in resource adequacy planning and regional load forecasts conducted by the RLDC.
Currently, the day ahead data is regularly received from all the states except Sikkim.

224th OCC Decision

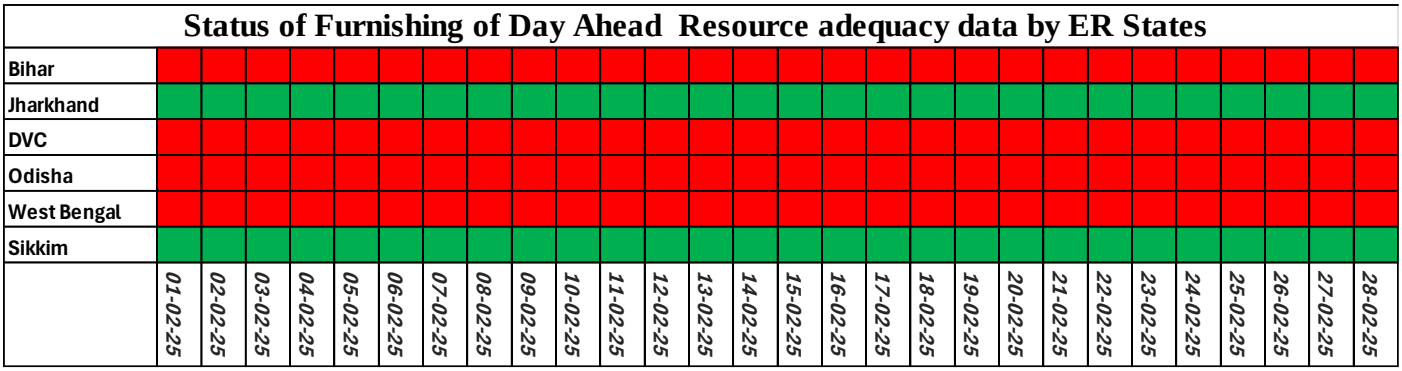
- OCC advised all SLDCs for strictly adhering to the schedule of demand estimation as mandated in IEGC 2023, timely sharing with ERLDC in specified format as well as uploading of forecasting error on their respective websites.
- SLDCs who are submitting day ahead forecast was advised to also share the 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:

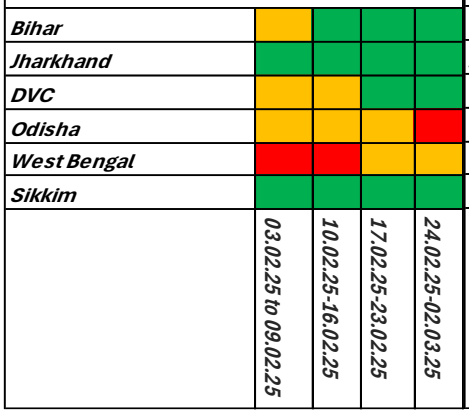
Status of Furnishing of Day Ahead Demand Forecast data by ER States



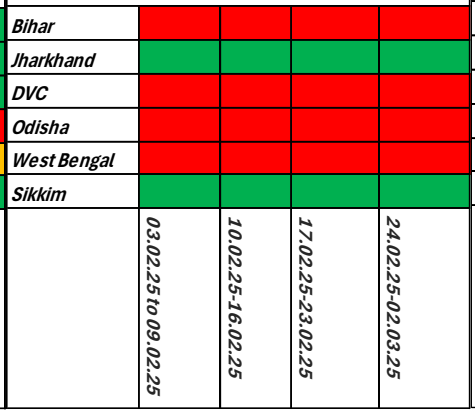
Status of Furnishing of Day Ahead Resource adequacy data by ER States



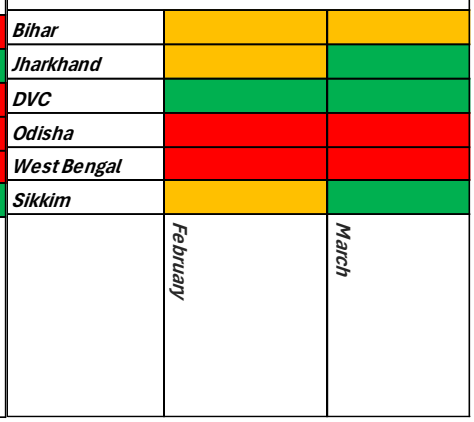
Status of Furnishing of Week Ahead Forecast data by ER States



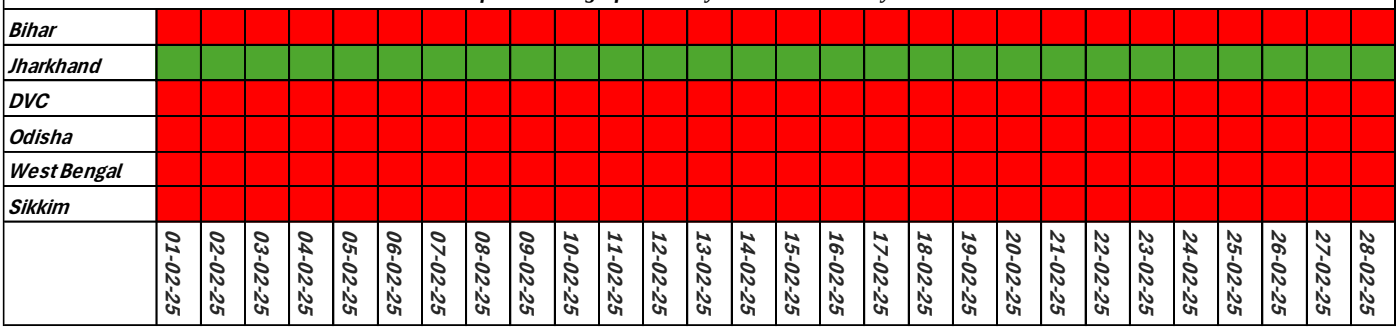
Status of Furnishing of Week Ahead Resource Adequacy data by ER States



Status of Furnishing of Month Ahead Forecast data by ER States



Status of Furnishing of Intra Day Forecast data by ER States



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

ERLDC may explain and all SLDCs 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.

224th 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 **19.02.2025):**

STATIONS	Event Date	20.02.2025
	Event Time	16:20
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	**11.03.2024**	

	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/1slvAOmQIEQVlMn0LnB78eKMa2sz2QYICZ-sPEpeV_jk/edit?usp=sharing

ERLDC may explain. Members may discuss.

3.6. Commissioning Status of ADMS: ERLDC

The automatic demand management scheme (ADMS) has been already commissioned in West Bengal, DVC, Odisha, and Jharkhand and partially implemented by Bihar.
In the 216th OCC meeting the forum advised Bihar to share detailed action plan for implementation of additional 400 MW load under ADMS.
DVC has shared revised list of feeders under ADMS after exclusion of feeders present in CTPS islanding scheme.
BSPTCL yet to update the status.

Bihar may update. Members may discuss.

4. PART-D: OPERATIONAL PLANNING

4.1. Anticipated power supply position during April-2025

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of April 2025 is prepared by ERPC Secretariat on the basis of LGBR for 2025-26 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	Low vacuum	05-Mar-2025
2	MEJIA TPS	DVC	DVC	7	500	Boiler Tube Leakage	05-Mar-2025
3	IB.TPS	ODISHA	OPGC	2	210	Boiler Tube Leakage	04-Mar-2025
4	HEL HIRANMAYEE	WEST BENGAL	HEL	2	150	ESP conveying hampered	04-Mar-2025
5	KOLAGHAT	WEST BENGAL	WBPDCL	3	210	Boiler Tube Leakage	03-Mar-2025
6	JSWEUL	ODISHA	JSWEUL	1	350	Previously was out due to Circulating water pipeline leak. Currently out due to turbine lube oil system since 00:00 hrs of 21.02.2025.	19-Feb-2025
7	BARAUNI TPS	BIHAR	NTPC	9	250	Annual Overhauling	23-Feb-2025
8	MEJIA TPS	DVC	DVC	3	210	Capital Overhauling	10-Feb-2025
9	FSTPP	WEST BENGAL	NTPC	2	200	Annual Overhauling	06-Mar-2025
10	NORTH KARANPURA	JHARKHAND	NTPC	1	660	Annual Overhauling	23-Feb-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	14-Dec-2024
2	SOUTHERN	WEST BENGAL	CESC	2	67.5	Low system demand	11-Dec -2024

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	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
8	TEESTA HPS	SIKKIM	NHPC	2	170		
9	TEESTA HPS	SIKKIM	NHPC	3	170		
10	DIKCHU Hep	SIKKIM	SKPPL	2	48	Unit desynchronised after testing for restoration after flash floods	05-Mar-2025
11	RANGIT HPS	SIKKIM	NHPC	2	20	Annual Overhauling	06-Mar-2025
12	TASHIDING	SIKKIM	DANS	2	48.5	Annual maintenance and repair activities.	10-Feb-2025
13	CHIPLIMA HPS / HIRAKUD II	ODISHA	OHPC	1	24	Capital Overhauling	15-Dec-2023
14	INDRAVATI	ODISHA	OHPC	3	150	For replacement of Main Inlet Valve (MIV)	17-Dec-2024
15	BALIMELA HPS	ODISHA	OHPC	6	60	Initially unit was out due to Severe water leakage from turbine, later unit was taken under Repair and maintenance work from 00:00 hrs of 16.01.25	06-Jan-2025

16	U. KOLAB	ODISHA	OHPC	1	80	Capital Overhauling	07-Jan-2025
17	BALIMELA HPS	ODISHA	OHPC	5	60	Repair and maintenance work	16-Jan-2025
18	CHUZACHEN	SIKKIM	GATI	2	55	Annual Overhauling	06-Feb-2025
19	RENGALI HPS	ODISHA	OHPC	4	50	Annual Maintenance	10-Feb-2025
20	RONGNICHU	SIKKIM	MBPGCL	1	56.5	Annual maintenance	14-Feb-2025
21	RONGNICHU	SIKKIM	MBPGCL	2	56.5	Annual maintenance	14-Feb-2025
22	BURLA HPS/HIRAKUD I	ODISHA	OHPC	4	32	Annual Maintenance	04-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 Destringing 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

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

4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of January -2025.

The details of new units/transmission elements commissioned in the month of January 2025 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING February, 2025							
उत्पादन इकाइयाँ / GENERATING UNITS							
क्र. Sl. No.	स्थान Location / Pooling Station	मालिक/यूनिट का नाम OWNER/UNIT NAME	यूनिट संख्या/स्रोत Unit No/Source	संकलित क्षमता (मेगावाट) Capacity added (MW)	कुल/स्थापित क्षमता (मेगावाट) Total/Installed Capacity (MW)	दिनांक DATE	टिप्पणी Remarks
NIL							
आई.सी.टी/जी.टी/एस.टी / ICTs/ GTs / STs							
क्र. Sl. No.	एजेंसी/मालिक Agency/Owner	उप-केन्द्र SUB-STATION	आईसीटी संख्या ICT NO	वोल्टेज (केवी) Voltage Level (kV)	क्षमता (एमवीए) CAPACITY (MVA)	दिनांक DATE	टिप्पणी Remarks
NIL							
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	
1	LILO Portion - 10.3 Km (BSPTCL)	400 केवी-बाढ़-बख्तियारपुर(बी.एच.)-2 400KV-BARH-BAKHTIYARPUR(BH)-2	51.04	QUAD MOOSE	01-02-2025	first time charged	

2	LILO Portion-10.45 Km (BSPTCL)	400 केवी-पटना-बख्तियारपुर(बी.एच)-2 400KV-PATNA-BAKHTIYARPUR(BH)-2	62.204	QUAD MOOSE	01-02-2025	first time charged
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	पावर ग्रिड PGCIL	220 केवी-दालखोला (पश्चिम बंगाल)-पूर्णिया (पुराना)-1 220KV-DALKHOLA (WB)-PURNEA(OLD)-1	41.4	Single Zebra	04-02-2025	220kV Purnea(PG) - Dalkhola (WB) line -1 &2 (through ERS) on bypassing Dalkhola (PG)
2	पावर ग्रिड PGCIL	220 केवी-दालखोला (पश्चिम बंगाल)-पूर्णिया (पुराना)-2 220KV-DALKHOLA (WB)-PURNEA(OLD)-2	41.4	Single Zebra	03-02-2025	
3	पावर ग्रिड PGCIL	132 केवी-रंगपो-गंगटोक-1 132KV-RANGPO-GANGTOK-1	28	HTLS	24-02-2025	Reconductoring of 132 KV Rangpo-Gangtok-I (Conductor Type-Gapped Type HTLS, 28 KM) along with upgraded line Bay
4	डब्ल्यू.बी. एस.ई.टी.सी.एल. WBSETCL	132 केवी-एनबीयू-पीजीसीआईएल (एस.एल.जी) सीकेटी-2 132KV-NBU-PGCIL(SLG) ckt-2	10.62	Panther	31-01-2025	132 kV Siliguri (PG) -NBU (WB) Ckt-2 (Reconfiguration of Siliguri (PG) – NJP (WB) S/C and NBU (WB)-NJP (WB) S/C)
5	पावर ग्रिड ओडिशा परियोजना PGCIL ODISHA PROJECT	400 केवी-राउरकेला-झारसुगुड़ा-4 400KV-ROURKELA-JHARSUGUDA-4	126.069	HTLS	28-02-2025	Reconductoring of Jharsuguda–Rourkela (PG) 400kV 2xD/c Twin Moose line with Twin HTLS along with bay upgradation at Rourkela S/S.
बस/लाइन रिएक्टर / BUS/LINE REACTOR						
क्र. Sl. No.	**एजेंसी/मालिक Agency/Owner**	**एलेमेंट का नाम Element Name**	**उप-केन्द्र SUB-STATION**	**वोल्टेज (केवी) Voltage Level (kV)**	**दिनांक DATE**	**टिप्पणी Remarks**
1	बी.एस.पी.टी.सी.एल. BSPTCL	125MVAR 400KV B/R-1 AT BAKHTIYARPUR (BH)	बख्तियारपुर (बी.एच)	400	01-02-2025	

			BAKHTIYARPUR (BH)			
2	बी.एस.पी.टी.सी.एल. BSPTCL	125MVAR 400KV B/R-1 AT BAKHTIYARPUR (BH)	बख्तियारपुर (बी.एच) BAKHTIYARPUR (BH)	400	01-02-2025	
बस / BUS						
क्र. Sl. No.	**एजेंसी/मालिक Agency/Owner**	**एलेमेंट का नाम Element Name**	**उप-केन्द्र SUB-STATION**	**वोल्टेज (केवी) Voltage Level (kV)**	**दिनांक DATE**	**टिप्पणी Remarks**
NIL						
एच.वी.डी.सी/ए.सी फिल्टर बैंक/फैक्ट्स डिवाइस संबद्ध प्रणाली / HVDC /AC Filter bank / FACTS DEVICE associated System						
क्र. Sl. No.	**एजेंसी/मालिक Agency/Owner**	**एलेमेंट का नाम Element Name**	**उप-केन्द्र SUB-STATION**	**वोल्टेज (केवी) Voltage Level (kV)**	**दिनांक DATE**	**टिप्पणी Remarks**
NIL						
बे / BAYS						
क्र. Sl. No.	**एजेंसी/मालिक Agency/Owner**	**एलेमेंट का नाम Element Name**	**उप-केन्द्र SUB-STATION**	**वोल्टेज (केवी) Voltage Level (kV)**	**दिनांक DATE**	**टिप्पणी Remarks**
1	बी.एस.पी.टी.सी.एल. BSPTCL	400KV MAIN BUS - 2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.) BAKHTIYARPUR (BH)	400	01-02-2025	
2	बी.एस.पी.टी.सी.एल.	400KV TIE BAY OF PATNA-2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
3	बी.एस.पी.टी.सी.एल.	400KV TIE BAY OF PATNA-1 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
4	बी.एस.पी.टी.सी.एल.	400KV TIE BAY OF (BARH -2 AND 125MVAR B/R-2) AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
5	बी.एस.पी.टी.सी.एल.	400KV TIE BAY OF BARH -1 AND 125MVAR B/R-1 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
6	बी.एस.पी.टी.सी.एल.	400KV MAIN BAY OF 125MVAR B/R-1 AT BAKHTIYARPUR(BH	बख्तियारपुर (बी.एच.)	400	01-02-2025	
7	बी.एस.पी.टी.सी.एल.	400KV MAIN BAY OF 125MVAR B/R-2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	
8	बी.एस.पी.टी.सी.एल.	400KV MAIN BUS - 2 AT BAKHTIYARPUR(BH)	बख्तियारपुर (बी.एच.)	400	01-02-2025	

Members may note.

4.4. UFR operation during the month of January 2025

Frequency profile for the month as follows:

MONTH	MAX (DATE/TIME)	MIN (DATE/TIME)	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
February, 2025	50.33 Hz on 06-02-2025 at 13:02 Hrs and 24-02-2025 at 08:00 Hrs	49.55 Hz on 19-02-2025 at 12:43 Hrs and 20-02-2025 at 19:02 Hrs	6.25	75.35	18.40

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

Members may note.

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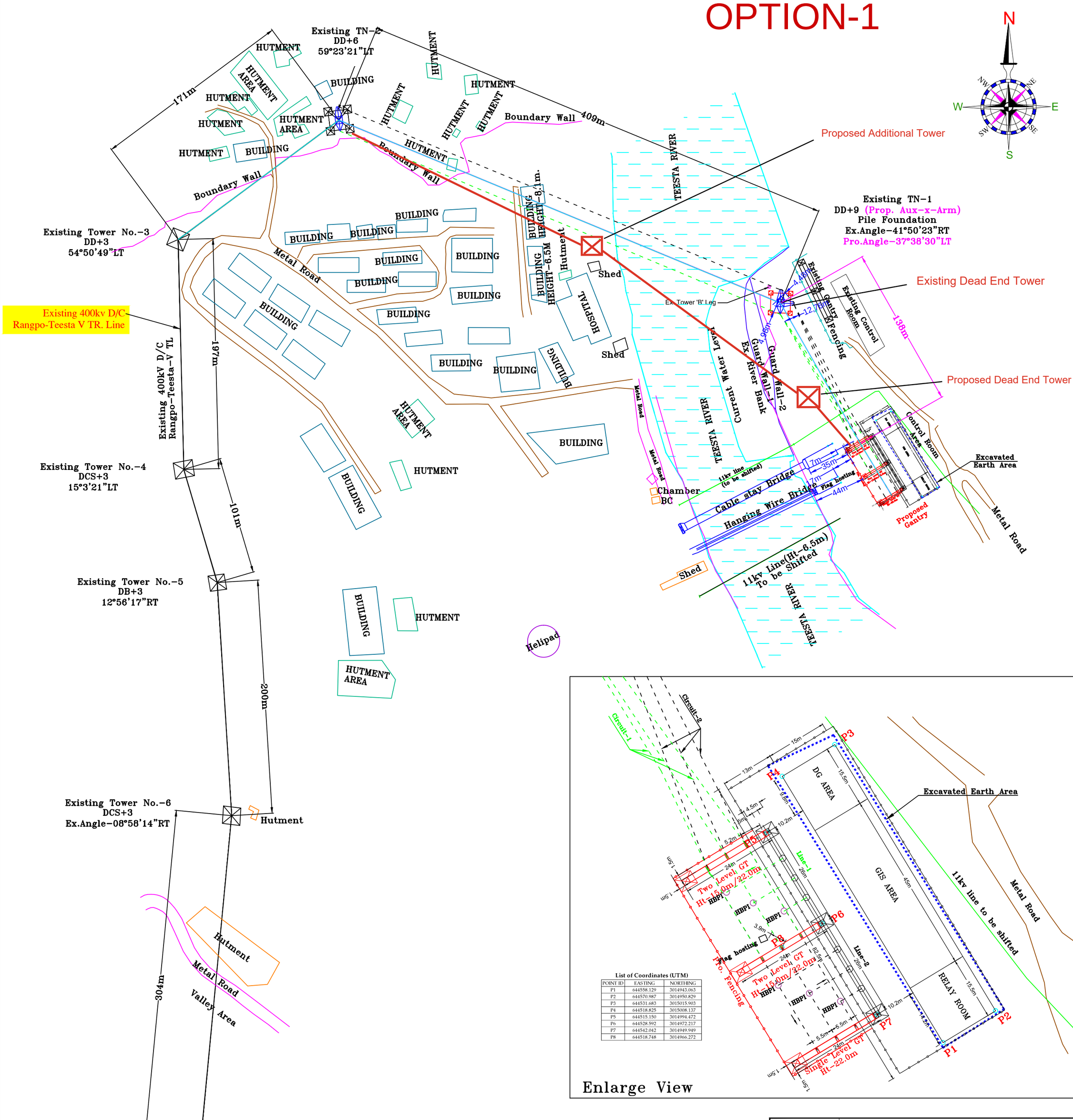
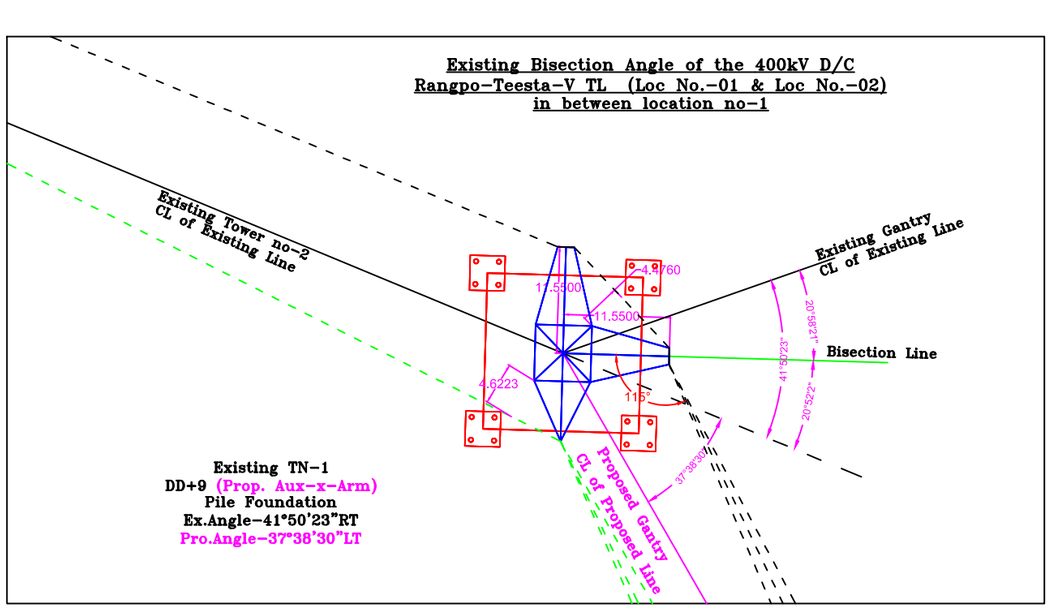
ANNEXURE-B.2.8.1

OPTION-1



List of Coordinates (UTM)

POINT ID	EASTING	NORTHING
P1	644558.129	3014943.063
P2	644570.987	3014950.829
P3	644531.683	3015015.903
P4	644518.825	3015008.137
P5	644515.150	3014994.472
P6	644528.592	3014972.217
P7	644542.042	3014949.949
P8	644518.748	3014966.272



CLIENT:	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		
PROJECT TITLE :	Detailed survey for restoration of 400kV D/C Rangpo-Teesta-V TL (Loc No.-01 & Loc No.-02) Project-2		
Surveyed By:-	Dynamic Engineering Services Vill: Gohaildanga, P.O.: Kaigram, Dist.: Purba Bardhaman, WB-713145		
DRAWING TITLE :-	Route Alignment Drawing for for restoration of 400kV D/C Rangpo-Teesta-V TL (Prop. Gantry & Loc No.-03)		
Work Order No.	Dt.		
DRAWN BY	SUBMITTED BY	CHECKED BY	Scale: 1:2500
			DATE- 07.01.2025
M/S - Dynamic Engineering Services			DRAWING NO: DES/PGCIL-KOL/ TEESTA-V/ 400KV/Plan/NO-1
CHECKED BY	RECOMMENDED BY	APPROVED BY	SHEET NO 1/1 / REV 07
POWER GRID CORPORATION OF INDIA LIMITED			

Annexure-B.2.8.2

Date: 20.08.2024

Preliminary Report on damages occurred at TRT & Pot head Area of Teesta-V Power Station at Balutar on 20th August 2024.

Incident:

On 20.08.2024 (about 07:00AM to 10:00 AM), incident of land slide which might have triggered due to vertical and lateral movement of hill mass on left bank of Teesta River adjacent to Pot head area occurred. The land slide caused several significant damages to TRT outlet area, Pot-head area and part of GIS building.

Causes: The causes of land slide subsequent to hill slope failure and factors triggering slope failure is unknown, however, it is apprehended that that subsidence of hill slope mass might have triggered the hill slope failure and caused landslide. The detailed study is in progress.

Extent of Damage:

a) Power Plant: Due to above incident, Gantry alongwith rope drum arrangement at TRT outlet area, various installations at Pot-head yard, part of GIS building(about 50%) and entire GIS installation got several damaged and buried into debris.
b) IT infrastructure: PowerTel OPGW connectivity has got severely damaged due to massive land slide occurred at GIS building. OFC connectivity to Power House and Right Bank has also got damaged due to the same.
c) The National Highway NH-10A near Dipudara, upstream of Adit to Pressure Shaft(Top) witnessed subsidence/sinking in about 100-150m stretch.

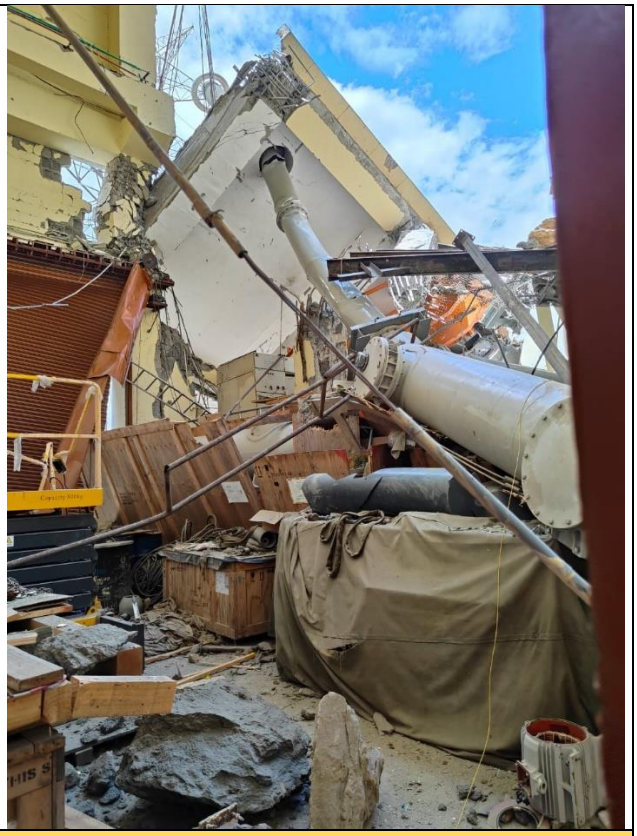
Photographs:

Occurrence of Landslide due to hill slope failure on 20th August 2024

TRT outlet area & Pot head area damaged and buried in debris/hill slope material

Damage occurred to GIS installations

Damage occurred to Pot head yard area & GIS building



Damage occurred to GIS installations

Subsidence of road (NH-10A) near Dipudar Village due to land slide

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Annex B.2.9

Bhutan Power Corporation Limited

(An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Company)

Registered Office, Thimphu

Transmission Department

Thimphu : Bhutan

01/BPC/TD/GEN/2024/ 30 February 20, 2025

1) Deputy General Manager
Eastern Transmission System
PGCIL, Kolkata, WB, India
Email: partha.ghosh@powergrid.in

2) The Director
O&M Department
Druk Green Power Corporation (DGPC)
Thimphu: Bhutan

Sub: LILO of 400kV Tala - Binnaguri line Circuit-4 and Establishment of new PLCC link.

Dear Sir(s),

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 Binaaguri. 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 require the following PLCC links:

1) Tala – NIP
2) NIP – Binnaguri (New Siliguri)

For Link 1 (Tala – NIP), new PLCC panels are planned under the scope of the NIP Project. For Link 2 (NIP – Binnaguri), the existing PLCC panels from Tala will be relocated to NIP to maintain compatibility with the existing system and avoid modifications at Binnaguri. A proposed network diagram is attached for reference.

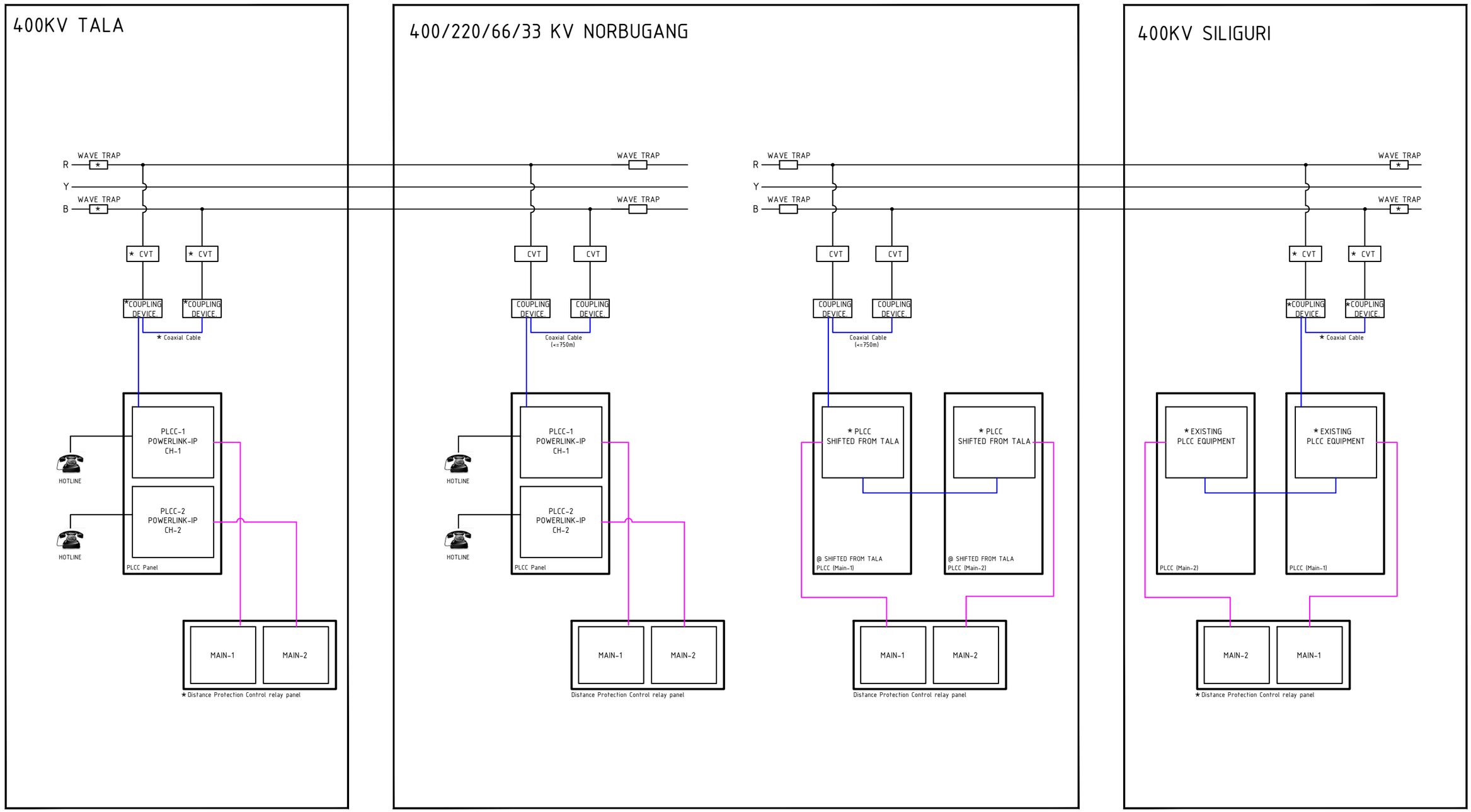
In this regard, we request DGPC and POWERGRID to review and plan for the necessary modifications at their respective ends to facilitate this new PLCC configuration. BPC is available for discussions and coordination to ensure smooth implementation. We would appreciate confirmation to proceed, along with any specific technical requirements that need to be considered.

We look forward to your cooperation.
Best regards,

(Dechen Dema)
Director

Copy to:
1) Chief Executive Officer, BPC, Thimphu for kind information.
2) Chief Executive Officer, BPSO, Thimphu for kind information.
3) Director, CPD, BPC, Thimphu for kind information

NETWORK DIAGRAM FOR PLCC SYSTEM



@ SHIFTED FROM TALA
*=EXISTING/NOT IN SIEMENS SCOPE.

NOTE: EXISTING PLCC FROM TALA SS WILL BE SHIFTED TO NORBUGANG SS TO ESTABLISH LINK BETWEEN NORBUGANG TO SILIGURI SS.
EXISTING WAVE TRAP, CVT, COUPLING DEVICE & COAXIAL CABLE SHALL BE USED AT TALA & SILIGURI S/S FOR PLCC LINK ESTABLISHMENT
AT TALA & SILIGURI REQUIRED CONTROL CABLE BETWEEN DISTANCE PROTECTION RELAY & PLCC IS IN BPC SCOPE

COAXIAL CABLE
CONTROL CABLE

			SGP	APPD	PROJECT : 400/200/66/33 KV INDOOR GIS SUBSTATION , SAMTSE, BHUTAN.	SIEMENS	NETWORK DIAGRAM
			BBS	CHKD	END CUSTOMER : BHUTAN POWER CORPORATION LIMTED (BPC).		
0	FIRST SUBMISSION	22.04.24	WAS	PREP	EPC CONTRACTOR : SIEMENS LTD.		Drawing No.: BPC-SE-PLCC-ND-022
REV	REMARKS	DATE	NAME	22.04.24	SUPPLIER : SIEMENS LTD		SHEET No. 02 OF 02

Annex B.2.11

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre
कार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033
CIN : U40105DL2009GOI188682, Website : www.erldc.in, E-mail : erldcinfo@grid-india.in, Tel.: 033 23890060/0061

Flash report for Grid Incident at 765/400 kV Angul SS, 400kV GMR and 400kV JIPL

(To be submitted by RLDC during GD/GI/Near Miss Event as per IEGC section 37.2(d))

(आई ई जी सी 37.2 (डी) के अनुपालन में)

1. **Date and Time of the Grid Event (ग्रिड घटना की तिथि और समय): 16:20 hrs/ 20-02-2025.**
2. **Location/Control Area (स्थान/नियंत्रण क्षेत्र): Odisha**
3. **Name of the Substation/Generating Station/Pooling Station Affected (सब-स्टेशन का नाम): (Along with LV/HV voltage level): 765/400kV Angul Station, 400kV GMR, 400kV JIPL Generating station.**
4. **Event Type (ग्रिड घटना का प्रकार): Grid Disturbance (GD)-1**
5. **Antecedent Conditions (पूर्ववर्ती स्थिति):**

	Frequency	Regional Generation	Regional Demand	State Generation	State Demand
				Odisha	Odisha
Pre-Event (घटना पूर्व)	49.840	28913	21029	3225	4449
Post Event (घटना के बाद)	49.780	27136	21029	3225	4449

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है	765kV Angul Jharsuguda -4, 400kV Angul Meramundali -1, 400kV Angul Meramundali -2
Weather Condition (मौसम स्थिति)	Due to Inclement weather at Odisha

6. **Generation Loss/Load loss (MW) (उत्पादन/भार क्षति): 1777** MW
7. **Duration of interruption (रुकावट की अवधि)**:01 Hrs and 37 Minutes. Restoration got delayed due to inclement weather condition at Angul area.
8. **Brief Details of the Grid Event (ग्रिड घटना का संक्षिप्त विवरण)**:

Due to inclement weather with cyclonic storm at 765/400kV Angul Station, 400kV Bus 1 &2 , 765 kV Bus 1 & 2 along with all transmission element emanating from Angul station (Except 400kV Bolangir feeder, 765kV Jharsuguda Feeder 2, 765/400kV 1500 MVA ICT 1 & 2) tripped. Tripping of 400kV Angul JIPL D/C leads to loss of evacuation path for JIPL Generating station. Due to this, both the running units (Unit 1 & 2) of JIPL got tipped at 16:20 Hrs. Similarly tripping of 400kV Angul GMR D/C caused tripping of Unit #1 & 2 at 400kV GMR generating station. At present (as on 20:23 Hrs 20/02/2025) 765 kV Bus 1 at Angul , 765/400 kV ICT 3, 765 kV Angul Jharsuguda #3 are out of service and restoration work is in progress.

9. Transmission/Generation element Tripped during the event (संचरण लाइन / विधुत उत्पादन इकाईं जो घटना के दौरान बंद हो गयी):

S.No. (क्र० सं०)	Transmission/Generation element name (संचरण लाइन / विधुत उत्पादन इकाईं का नाम)	Trip Time (बंद होने का समय)	Restoration time (वापस आने का समय)	Reason/ Relay Indication (कारण/रिले संकेत)
1	400KV-ANGUL-JITPL-1	16:20 Hrs.	18:29 Hrs.	
2	400KV-ANGUL-JITPL-2	16:20 Hrs.	18:57 Hrs.	
3	400KV-GMR-ANGUL-1	16:20 Hrs.	20:26 Hrs.	
4	400KV-GMR-ANGUL-2	16:20 Hrs.	18:23 Hrs.	
5	765KV-ANGUL-JHARSUGUDA-3	16:20 Hrs.		
6	765KV-ANGUL-SRIKAKULAM-1	16:20 Hrs.	20:31 Hrs.	
7	765KV-ANGUL-SRIKAKULAM-2	16:20 Hrs.	19:55 Hrs.	
8	GMR - UNIT 1, 2	16:20 Hrs.		
9	JIPL - UNIT 1,2	16:20 Hrs.		
10	765/400kV 1500MVA ICT 3	16:20 Hrs.		
11	765/400kV 1500MVA ICT 4	16:20 Hrs.	18:46 Hrs.	
12	765kV 330MVAr B/R 2	16:20 Hrs.	18:09 Hrs.	
13	400kV 125 MVar Bus reactor 1	16:20 Hrs.	19:24 Hrs.	
14	400kV 125 MVar Bus reactor 2	16:20 Hrs.	19:35 Hrs.	
15	400kV 125 MVar Bus reactor 3	16:20 Hrs.		
16	400kV Main Bus 1 at Angul	16:20 Hrs.	18:51 Hrs.	
17	400kV Main Bus 2 at Angul	16:20 Hrs.	18:15 Hrs	
18	765kV Main Bus 1 at Angul	16:20 Hrs.		
19	765kV Main Bus 2 at Angul	16:20 Hrs.	17:57 Hrs.	

10. Action Taken by ERLDC (क्षे०भा०प्रे०के० के द्वारा की गयी कार्रवाई):

Co-ordinated with RTAMC Odisha, GMR, JIPL, NLDC & SRLDC for restoration.

11. Current Status of Restoration (पूर्वावस्था मे लाने की वर्तमान स्थिति): At present (as on 20:23 Hrs 20/02/2025) all elements at Angul station restored, except 765 kV Bus 1 at Angul , 765/400 kV ICT 3, 765 kV Angul Jharsuguda #3 are out of service at Angul station and restoration work is in progress. Restoration of units at JIPL and GMR are in progress , necessary curtailment is incorporated in WBES.

Shift-In Charge, ERLDC

पाली प्रभारी,पु.क्षे०भा०प्रे०के०

प्रतिलिपि :

1. **Shift-in charge, NLDC (पाली प्रभारी, रा०भा०प्रे०के०)**
2. **Affected utilities / user (घटना से प्रभावित सभी यूसर/यूटिलिटि)**
3. **MS, ERPC (सदस्य सचिव, पूर्वी क्षेत्रीय विधुत समिति)**
4. **'cenpccea@gmail.com','cenpc-cea@gov.in**

Annexure (अनुलग्नक)

1. **Network Diagram of the Affected Area**

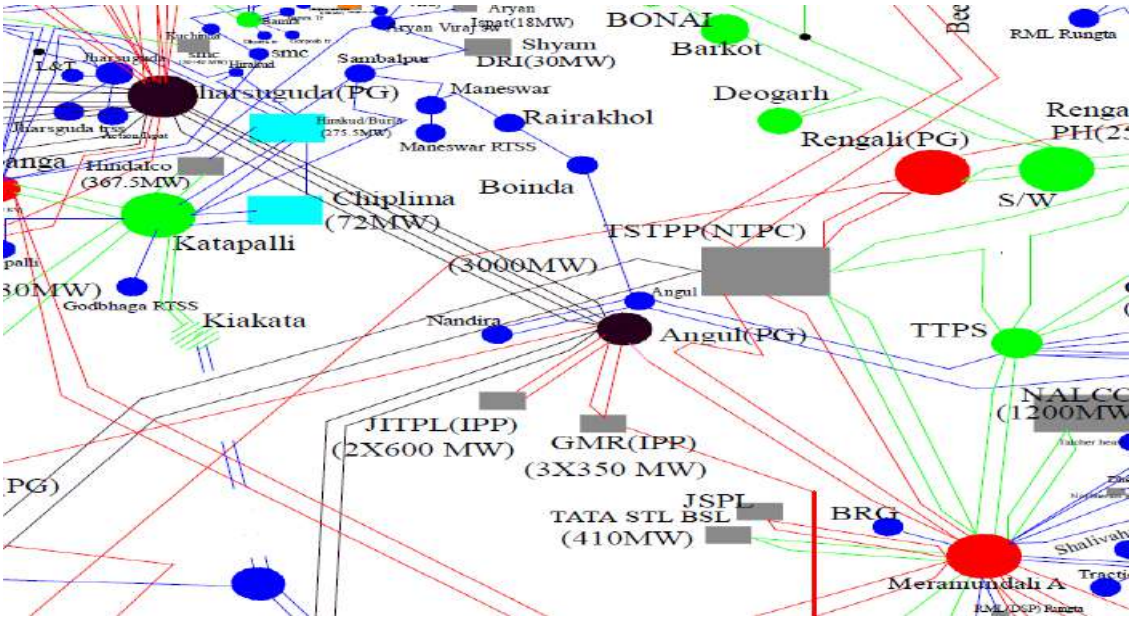


Fig 1: Network Diagram of the Affected Area

2. **State Demand plot of the affected state during the event:**

   State demand was unaffected during the said event.

3. **3- phase PMU Plot showing faults and frequency during the incident:**

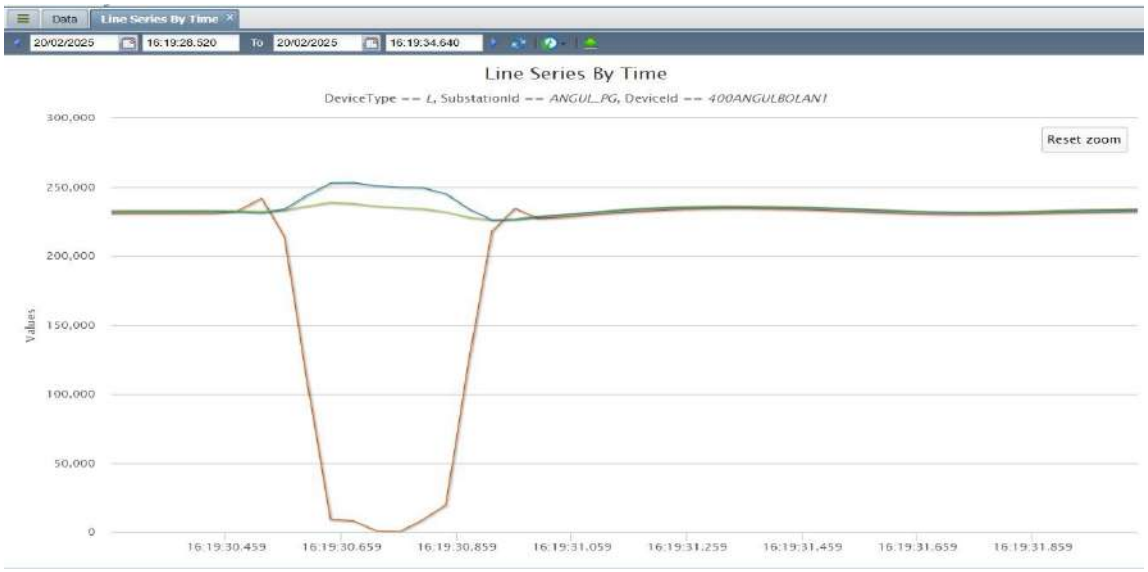


Fig**1:** PMU plot at 400 KV Angul Bolangir Line Voltage

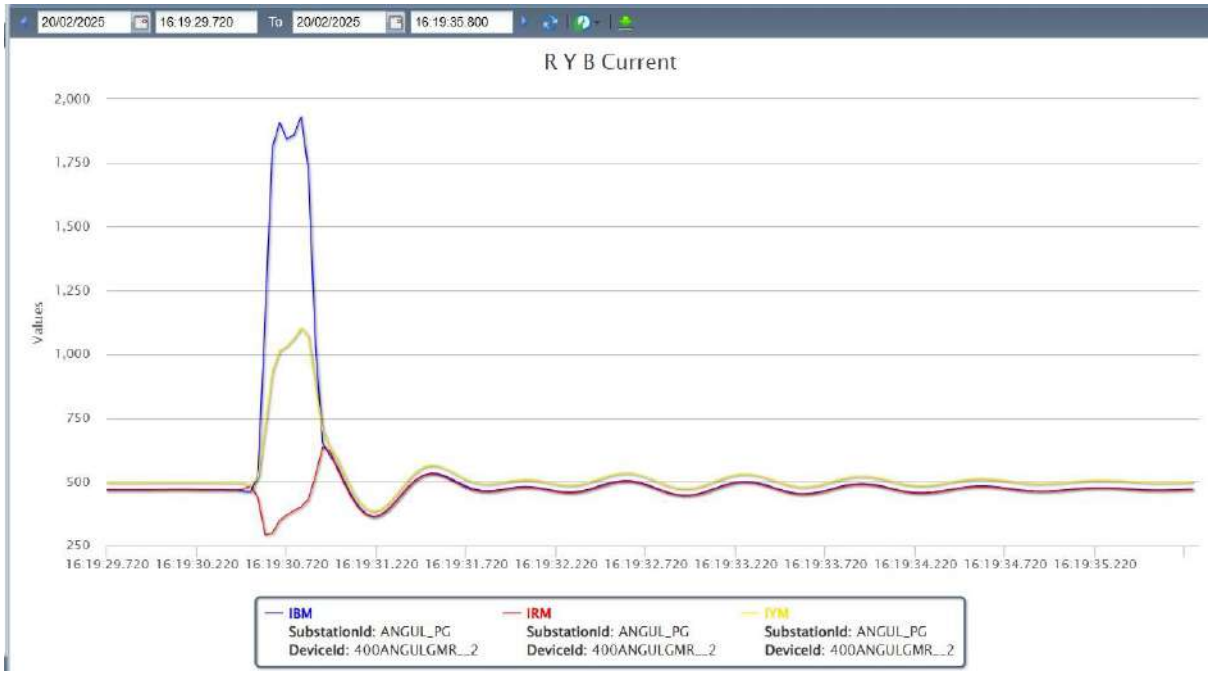


Fig 2**:** PMU plot at 400 KV Angul GMR Line Current

4. Any other information

NA