Eastern Regional Power Committee

230th OCC MEETING

Venue: OPTCL Power Training Centre, Chandaka, Bhubaneshwar

Date: 22.08.2025

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EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 230th OCC MEETING TO BE HELD ON 22.08.2025 (FRIDAY) AT 10:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 229th OCC Meeting held physically at Marriot, Ranchi on 25th July 2025

The minutes of 229th Operation Coordination Sub-Committee meeting held on 25.07.2025 was circulated vide letter dated 30.07.2025.

Members may confirm the minutes of 229th OCC meeting.

2. PART-B: ITEMS FOR DISCUSSION

2.1 Review of FGD installation for category C thermal power plants: CEA

MoEF&CC has notified amended Environment protection Rules on 11.07.2025 thereby applicability of SO2 emission standards in thermal power plants has been revised based on their location/category. As per the above amendment, Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E). dated the 30th August, 1990.

The generating utilities would be required to review the FGD installation in consultation with Discoms at the ongoing projects at category C TPPs. To assess the financial implication arising out of the amended applicability of SO2 standards as mentioned above, agenda items as finalized by Principal Chief Engineer (PCE)-II after chairing a meeting with Gencos on 18.07.2025 and with vendors on 08.08.2025 in CEA are enclosed herewith with a request to convene a special TCC/RPC meeting at the earliest and deliberate on agenda items mentioned in **Annexure-B.2.1** with Gencos & Vendors and any out outcome in this regard may be intimated to this division**.**

Members may discuss.

2.2 Near Miss event in Odisha System on 12.08.2025

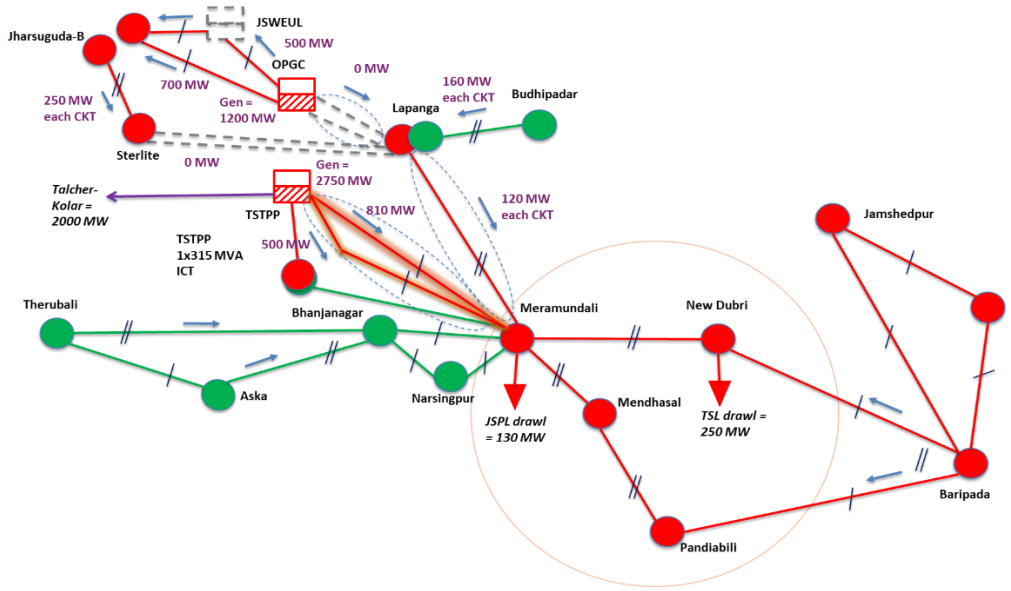
On **12.08.2025 at 22:36 hrs**, the Odisha system experienced a **near-miss event** while meeting its all-time maximum demand of **7302 MW** (recorded at 22:33 hrs). At that time, the demand in the Meramundali, Mendhasal, Pandiabili, New Duburi and Baripada areas was around **2500 MW (35% of Odisha's demand)**, with heavy reliance on two major transmission corridors such as 400 kV OPGC–Lapanga and 400 kV Talcher–Meramundali supplying power to these pockets including Bhubaneswar areas:

Pre-Incident condition at around 22:30 hrs on 12.08.2025:

- 400 kV Lapanga–OPGC D/C: 777 MW per circuit.
- 400 kV Talcher–Meramundali D/C: 1005 MW > N-1 limit of 874 MVA for Jul–Oct)
- Odisha CPP Drawls in these pockets~1500 MW.: Sterlite – 1150 MW | JSPL – 120 MW | TSL – 250 MW.

With a measure to reduce loading of above lines, HVDC Talcher–Kolar flow was optimized but provided limited relief due to high drawl in critical pockets.

With a follow up action, As per approved SOP for controlling loading of 400KV OPGC-Lapanga line, **opening of 400 kV Lapanga–Sterlite Ckt-I** was attempted. During operation, the B-phase circuit breaker of the Tie Bay at Lapanga got stuck, causing unbalanced currents and cascading tripping of 400 kV OPGC–Lapanga D/C and 400 kV Lapanga–Sterlite lines one by one.
With loss of these 4 infeed lines, **loading of 400 kV Talcher–Meramundali D/C went upto 1400 MW** (N-1 limit: 1050 MW). The Odisha system was left **one tripping away from a total power collapse of 2500 MW** including capital city Bhubaneswar.



The emergency was managed through backing down of 600 MW generation at Talcher NTPC. At 23:41 hrs, 400 kV OPGC–Lapanga D/C was revived after isolating the faulty Tie Bay, stabilizing the system.
An urgent online meeting was convened on **14.08.2025** with SLDC Odisha, OPGC, OPTCL, POWERGRID Odisha Projects, and ERPC to review the root cause and formulate an action plan to prevent recurrence. Few action points were discussed and decided as follows:

- A committee will be formed consisting of members from Lapanga, Sterlite, and OPGC to assess tripping incidents, identify root causes, recommend corrective actions, and conduct a comprehensive review of protection settings at these 400 kV substations.
- Opening of 400 kV Lapanga–Sterlite line removed from SOP to avoid breaker/mechanical risks.
- Synchro-check relay setting at OPGC/Lapanga and nearby substations to be revised from 10° to 20°–30° window for faster synchronization.

The Minutes of the Meeting and revised SOP are enclosed in **Annexure-B.2.2**

With the above, following are submitted for further deliberation:

1. Timeline for submission of comprehensive reports of protection settings at Lapanga, OPGC, Sterlite substations in line with the discussion and minutes.
2. Comprehensive short term /Long term plan of Intra-state augmentation Odisha system for Summer 2026 Onwards.

Members may discuss.

2.3 Grid Disturbance at 400/220 kV Indravati HEP (OHPC) on 13th July 2025 at 23:30 Hrs and on 14th July 2025 at 11:22 Hrs

A) Disturbance at 400/220 k V Indravati HEP (OHPC) on 13th July 2025 at 23:30 Hrs

At 23:30 Hrs on 13.07.2025, bus bar protection of 220 kV main bus-1 at Indravati HEP mal-operated and all element connected to main bus 1 got tripped subsequently 220kV Indravati bus became dead.
Gen. loss: 500 MW
Outage Duration: 04:28 Hrs

B) Disturbance at 400/220 k V Indravati HEP (OHPC) on 14th July 2025 at 11:22 Hrs.

At 10:25 Hrs on 14.07.2025, bus bar protection of 220 kV main bus-2 at Indravati HEP mal-operated and Indravati unit 1, ICT 1 & 2 and 220 kV Indravati–Therubali Ckt-1 & 3 got tripped. At 11:22 Hrs again bus bar protection of main 2 mal-operated and remaining element also got tripped subsequently 220kV Indravati bus became dead.
Gen. loss: 150 MW
Outage Duration: 31:01 Hrs

In 150th PCC Meeting held on 19.08.2025, OHPC representative explained that the disturbances occurred due to maloperation of busbar relay and upon investigation it was found that the problem lies in the relay module itself. He added that the busbar relay is quite old and static type and the relay has been switched off at present. Further they had

initiated the process for procurement of numerical busbar relay for 220 kV Indravati HEP. However, the timeline for implementation of busbar relay was not provided.

PCC suggested that as the busbar protection will not be in service, zone-4 time settings for all the lines shall be reduced to 250 msec till implementation of busbar protection. Further the implementation of busbar protection shall be expedited.

MS, ERPC suggested that busbar protection is crucial protection for any substation and shall be implemented in a timebound manner. He suggested referring to this agenda to forthcoming OCC meeting for further discussion. Further OHPC was requested to provide types of busbar protections existing in their substations at present. In case of static type relay, the same shall be replaced with numerical relays at the earliest.

OHPC may update.

2.4 Update on under-implementation Islanding schemes: ERPC

2.4.1 Update on IB Valley TPS Islanding Scheme.

IB valley TPS Islanding scheme has also been put on hold for long time. The status regarding the same has been sought on urgent basis by Ministry of Power (Govt of India).
229th OCC Decision:

- OCC advised ERLDC to conduct the dynamic studies of the OPGC network at the earliest in association with SLDC Odisha and OPGC.
- OCC advised OPTCL to prepare the DPR after the completion of dynamic studies.

ERLDC has done dynamic study of the proposed islanding scheme, and one online meeting was arranged on 19.08.25 to discuss about the study result, where SLDC Odisha, OPGC (IB Thermal) & OPTCL were present.

ERLDC, OPGC & SLDC Odisha may update.

2.4.2 Update on Patna Islanding scheme

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).

As per 54th TCC/ERPC meeting:

- Director (Op) BSPTCL mentioned that the cost considered in DPR was composite cost amounting to Rs. 5.5. Cr. However for tendering, the component wise cost was sought from the vendor. The revised cost received from the vendor is Rs 9.78 Cr.
- He informed that the scheme will be implemented by utilizing their own fund.
- TCC advised BSPTCL to ensure speedy implementation of Patna Islanding Scheme.

In 229th OCC Meeting:

- BSPTCL updated that the DPR for the Patna islanding scheme has been sent for approval of PSDF grant on 18.07.2025.
- OCC advised BSPTCL to conduct regular follow-ups with the PSDF committee regarding the status of approval of PSDF grant and also was requested to implement the same at the earliest

BSPTCL may update.

2.5 Status of upcoming Generation Projects: ERPC

Generating unit	Update as per 229th OCC meeting	Update
Patratu STPP	JUSNL updated that the stringing along with OPGW laying is going on and the line will be charged by 30.07.2025.	JUSNL may update.
Buxar TPP(SJVN)	SJVN updated that the trial operation will be carried out by 15.08.2025.	SJVN may update.

2.6 Provision for Reliable Power Evacuation from NKSTPP

Vide 227th OCC dated 26.05.25

- Presently, only the 400 KV D/C Chandwa line is available for power evacuation from NKSTPP, as the 400 KV NKSTPP–Gaya D/C line is still under construction.
- As per the system study conducted by ERLDC for power evacuation, in the scenario where all three units at NKSTPP are operational, stable operation is possible only up to 1700 MW in the event of a trip or shutdown of one circuit of the 400 kV D/C Chandwa line.
- The second evacuation corridor, i.e., the 400 kV NKSTPP–Gaya D/C line, is under construction and is being expedited by M/s NKTL.**Deliberation in the 54th TCC meeting:**

➢ NTPC updated that 5 foundations and 20 tower erections are yet to be completed and the work is expected to be completed by Dec, 2025.

➢ TCC opined that in case of delaying in bring the line into operation, such project could attract Commercial implication on NKTL.

➢ Since there was no representative from NKTL, the forum advised ERPC Secretariat to issue a letter to NKTL for regular updation of the status of the transmission line and requested all the concern utilities viz. Jharkhand & Bihar to facilitate for addressing issues regarding RoW & forest clearance.

As per **229th OCC meeting:**

NTPC updated that in Jharkhand portion foundation work of 205 out of 207 towers and stringing work in 15 KM out of 71 KM is finished and in the Bihar portion, the work is almost complete.

NKTL may update. Members may discuss.

2.7 Issues for follow up.

Issue	Reference	Last updated Status	Action Point
Update on Rajarhat GIS (POWERGRID) 400/220kV S/S: 2x500MVA	Vide 226th OCC dated 22.04.2024: The need to prioritize the installation of a 3rd 400/220KV,500MVA ICT at Rajarhat (PG) with the same urgency as Subhasgram (PG) to prevent a recurrence of	**As per 229th OCC:** i) PowerGrid updated that the ICT has reached Kolaghat on 24.07.2025 and the same will arrive at Rajarhat S/s within one month.	Powergrid may update.

	similar critical situations in the future If the proposed 3rd ICT is not operational by the summer of 2026, severe congestion is likely to affect the ICTs at Rajarhat (PG).		
Update on Reconductoring of ISTS lines under Eastern Region Expansion Scheme-44	• Vide 226th OCC dated 22.04.2024 • Approved in 52nd TCC NCT (National Committee on Transmission) meeting dated 23.10.2024 • 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	**As per 229th OCC**: PowerGrid updated that LoA will be placed by Aug, 2025. OCC advised PowerGrid to share the tentative timeline for the reconductoring of the Chuka transmission system	PowerGrid may update.
Update on Restoration of 132kV Rangit-Kurseong & 132kV Siliguri-Melli-	• Vide 226th OCC dated 22.04.2024 • 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	• **As per 229th OCC**: Powergrid updated that the said line will be charged by 15.08.2025..	Powergrid may update.

Rangpo lines	• Consequently, Kurseong and Melli (Kalimpong source) are fed through single source of Siliguri and Rangpo respectively • 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.		
Implementation of AGC in Intra-state generating units.	• 218th OCC dated 13.08.24 With the increasing penetration of renewable energy, managing frequency is expected to become more challenging in the future. Therefore, it is crucial to enhance frequency control and stability through increased participation from intra-state AGC.	As per **229th OCC**: ERLDC updated that NOC is pending from SLDC Bihar. However, hardware for implementing the AGC is already installed. OCC advised all intra state generators to implement AGC keeping in view its financial benefits	NTPC Barauni & SLDC, Bihar may update.

All concerned may update. Members may discuss.

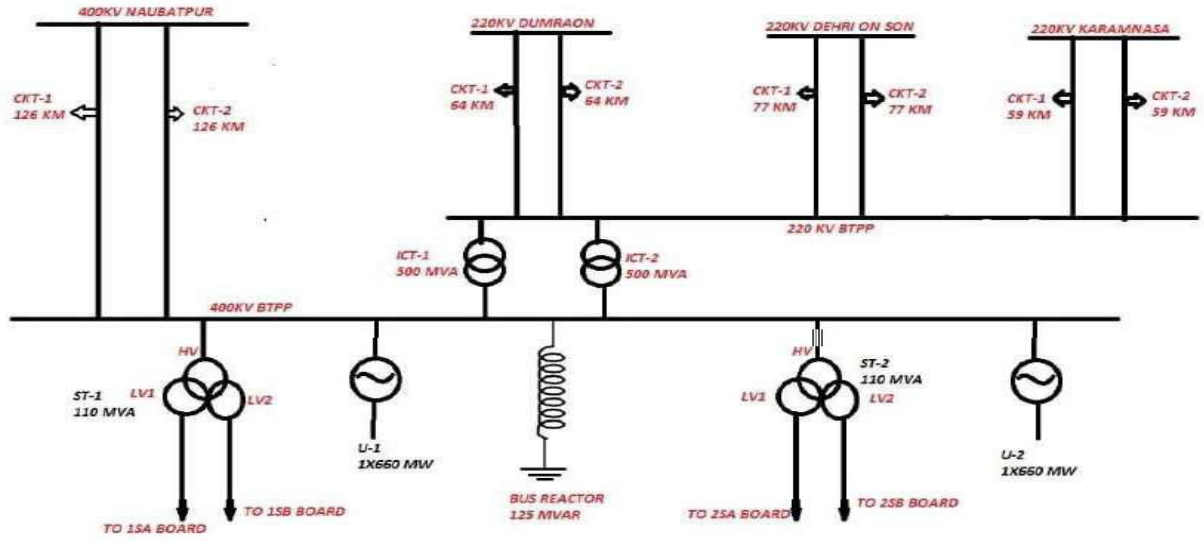
2.8 400kV-Buxar-Naubatpur line (Temporary arrangement) and Injection of 2x660 MW Buxar Thermal Power Project: ERLDC

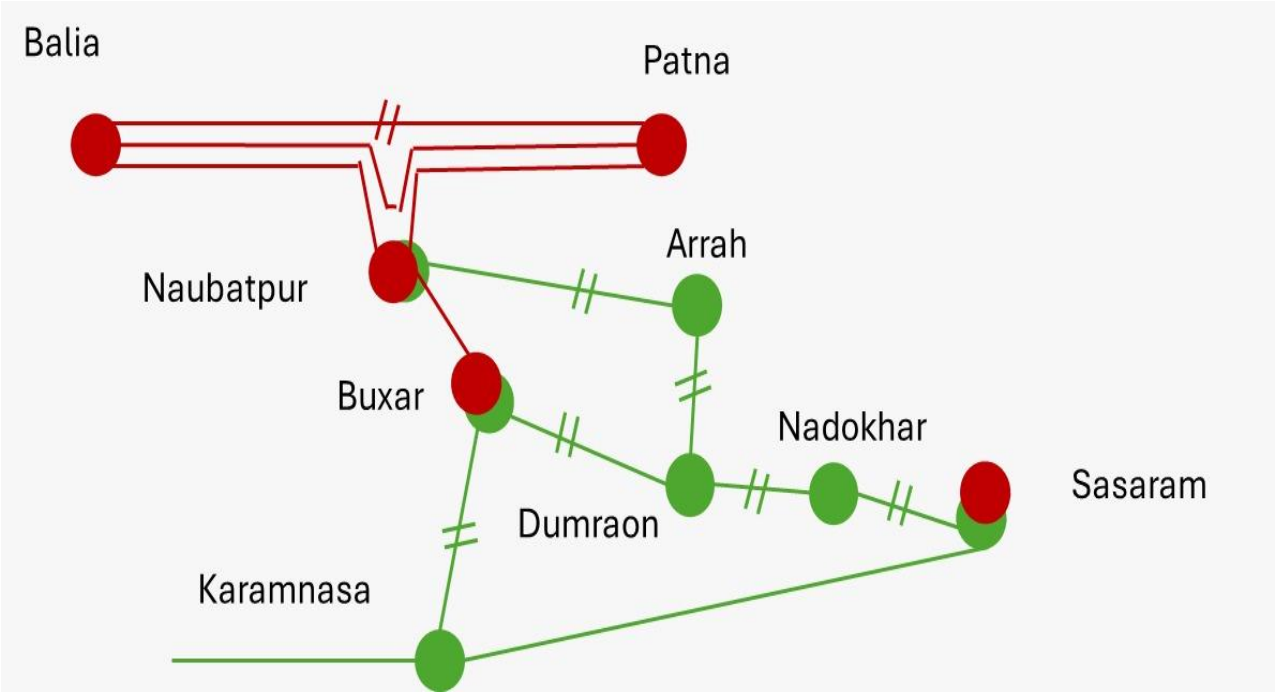
In the 206th OCC held on 31.08.2023, Approval was granted to facilitate start up power to SJVNL by temporarily disconnecting existing 400kV Patna (PG)-Naubatpur ckt I from associated 400 KV Bay at Naubatpur GSS and connecting newly constructed 400 kV Buxar TPS-Naubatpur ckt II transmission line till availability of Intra-state 220 KV system or commissioning of 400 kV bays (To be constructed by BSPTCL) at 400 kV Naubatpur GIS, whichever is earlier.

During the interim bypass arrangement, the matter was also discussed with NRLDC, NRPC & NLDC as it was LILO of an inter-regional link and concurrence for the same was given for drawl of startup power only.

The original scheme involved following Intra-state elements:

- ❖ Buxar TPS-Naubatpur 400 kV D/C (Twin Moose)
- ❖ Buxar TPS-Dumraon (New) 220 kV D/C (Twin Moose)
- ❖ Buxar TPS-Karmnasa (New) 220 kV D/c (Twin Moose)
- ❖ Buxar TPS-Dehri 220 kV D/c (single Zebra)
- ❖ 2X500 MVA, 400/220Kvict





In the 54th TCC/ERPC held on 23–24 June 2025 at Chennai, Bihar confirmed readiness of intra-state system for injection of 1×660 MW Buxar TPS through existing interim arrangement of 400 kV Naubatpur–Buxar line with Bihar's 220 kV system.
Currently, Buxar STPP is ready for synchronizing one unit for various pre-commissioning testing. As per the latest information, Unit #1 is scheduled to be synchronized with the grid on 22nd August 2025 and bays at Naubatpur for 400kV-Buxar-Naubatpur will be available by end of August 2025.
Being an inter-regional link, impact on power flow between ER-NR corridor needs to be deliberated with NRLDC, NRPC & NLDC before injection of infirm power.

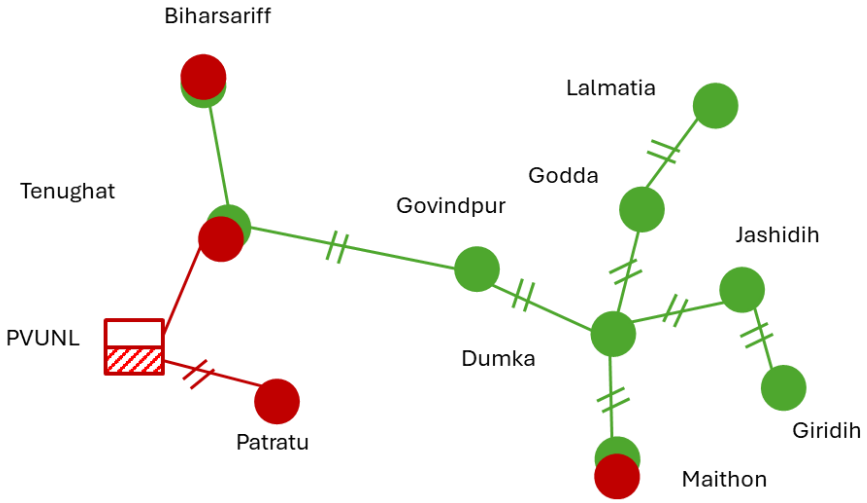
Timeline for restoration of the 400 kV Patna–Naubatpur–Balia to its original configuration may be updated.

Members may discuss and Bihar/SJVN may update.

2.9 Continuation of 400kV Tenughat-PVUNL link for reliability in Jharkhand network: ERLDC

220kV Patratu-Tenughat was reconfigured and upgraded to 400kV as 400kV PVUNL-Patratu for extending start-up power to PVUNL as an interim measure, since none of its dedicated transmission lines (DTLs) were ready at that time. Subsequently, infirm injection from PVUNL was permitted through this link, limited to 80 MW, solely for testing purposes. With the commissioning of the 400 kV PVUNL–Patratu double-circuit line on dated 03.08.2025 the major power flow shifted to this dedicated corridor.
To deliberate and decide on the future course of the 400 kV Tenughat–PVUNL interim line, an online meeting was held on 06.08.2025 with participation from SLDC Jharkhand,

JUSNL, TUVNL, PVUNL, and ERLDC. The key discussion was to deliberate on whether the 400 kV PVUNL–Tenughat circuit should continue in service or be disconnected, following the commissioning of the 400 kV Patratu–PVUNL D/C and synchronization of one PVUNL unit.



After discussion, JUSNL and SLDC Jharkhand decided that the 400 kV Patratu–Tenughat link shall be kept in continuous service to enhance the reliability of the Jharkhand power system. It was opined by the SLDC Jharkhand that this line significantly helping the state system by relieving constraints on the 220 kV Maithon–Dumka D/C and enabling the Dumka–Govindpur loop to remain in service under varying Tenughat unit availability, including scenarios of one or both units being out of service. It also emerged that loading of the link may exceed 200MW when both units of Tenughat are out of service during high demand period of Jharkhand. However, the link power transfer is limited to 200 MW due to single moose conductor terminations of line at both ends, and the associated ICT at Tenughat (with a 40-year-old CT) has a safe loading limit of 180 MW. Hence, following action points were agreed to control the loading within safe limit:

- Enable backup overcurrent protection for the Tenughat ICT at 180 MW loading with 5-minute delay.
- When ICT loading exceeds 160 MW with a rising trend, Tenughat to promptly inform SLDC Jharkhand to initiate load rearrangement and create cushion on Maithon–Dumka loading.
- Enable non-directional overcurrent protection at both ends of the 400 kV Patratu–Tenughat line for 200 MW flow, coordinated with Zone-3 timing so that any flow exceeding 200 MW trips the line within 800ms.
- Expedite commissioning of an additional 250 MVA ICT at Tenughat.

Protection settings already implemented by PVUNL on 06.08.2025. Minutes of the meeting and a detailed SOP are attached as ***Annexure B.2,8***

Member may note.

2.10 Shutdown proposal of generating units for the month of August 2025: ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2025-26									
System	***Station***	***Unit***	***Capacity (MW)***	***CEA Approved***		***No. of Days***	***Revised proposed***		***Reason***
				From	***To***		***From***	***To***	
DVC	*MEJIA TPS*	*7*	*500*	*29-Aug-25*	*25-Sept-25*	*28*			*AOH-Blr, Turb, Gen*
WBPDCL	*SANTALDIH TPS*	*6*	*250*	*05-Sept-25*	*15-Sept-25*	*11*			*Boiler Lic Renewal*
GMRKEL	*GMR*	*3*	*350*	16-Sep-25	11-Oct-25	*26*			*AOH-R&M*
NTPC	*KHSTPP*	*7*	*500*	1-Sep-25	15-Oct-25	*45*	Already under shutdown for a period of 35 days from 15th July 2025.		*AOH: Boiler + Turbine +Gen*

Members may discuss/update.

2.11 Shutdown Program of Generating Units at BARH: NTPC

As per the approved LGBR for FY 2025-26, overhauling of Barh Unit-1 (660 MW) is scheduled from **2nd November 2025 to 16th December 2025**.
However, owing to the urgent nature of work required in **Unit-2 (660 MW)**, it is proposed to undertake overhauling of Unit-2 in place of Unit-1 during the same period.

Members may discuss.

2.12 Discrepancy found in the SEM data provided by ERLDC for Bihar boundary: BSPTCL

Upon verification of Energy account of Bihar after completion of financial year 2024-25, SLDC observed following discrepancy in the SEM data provided by ERLDC:

1. It has been observed that Meter data of 132kv Sultanganj-Deogarh T/L is recorded in reverse polarity in the SEM meter data provided by ERLDC since June'2024. However, BSPTCL owned ABT meter (Sl. No. Q0201506) has recorded data in correct polarity. Actually, Bihar is exporting power to Deogarh (JK) from GSS Sultanganj, but it is recorded in the import of Bihar. Accordingly, SEM meter data of 132kv Sultanganj-Deogarh T/L shall be revised from June'24. A meeting shall be scheduled on urgent basis for revision of energy account and retrospective revision of DSM account of Bihar.
2. It is pertinent to note that significant mismatch of energy is observed at various locations while comparing ERLDC SEM meter data and BSPTCL ABT Meter data. Month wise detailed list is enclosed in **Annexure-B.2.11.**

JUSNL, ERLDC, CTU and ERPC may take necessary action to rectify the energy mismatch and polarity issue.

BSPTCL May explain. Members may discuss.

2.13 Extension of AMC of SCADA System and OSI Support in Eastern Region, maintained by M/s Chemtrols Industries Pvt. Ltd: BSPTCL

This is regarding the Annual Maintenance Contract for services of round the clock comprehensive maintenance of software and hardware of overall EMS/SCADA system of BSPTCL. Present SCADA/EMS system in BSPTCL (Eastern Region) is commissioned in March 2016 by M/s Chemtrols and M/s OSI under ULDC Upgradation Scheme through POWERGRID and was under AMC contract till 02nd July 2023. The AMC was further extended till 02nd July 2025 on the same rates and terms and condition in all ER Constituents on mutually agreed basis with great effort of ERPC. As Annual Maintenance Contract (AMC) for the SCADA system at SLDC, Bihar. maintained by M/s Chemtrols Industries Pvt. Ltd., has expired. Similar situations may also arise in other Eastern Region constituents' states and DVC. The matter is of critical importance as the SCADA system forms the backbone of real-time grid monitoring and control. Given the situation, and the requirement of continued support from OSI for ensuring reliable and secure operations, it is proposed to discuss the matter in 230th OCC meeting with all Eastern Region constituents, ERLDC, M/s OSI and M/s Chemtrols to address the issues of extension of AMC for SCADA so that the modalities, cost, terms and conditions, support in case of end of life of hardware and software may be fixed and uniform rates and terms and conditions may be discovered.

BSPTCL May explain. Members may discuss.

2.14 Renewal of AMC Services -for AMR system in Eastern Region for the period April-26 to March-29: PGCIL

In the ongoing AMR project for the Eastern Region, the LOAs have been awarded on a phase manner by considering the number of Meters available at the time of LOA placement. Each LOA had scope of installation, warranty and AMC services. At present in AMR, there have been a total of five phases awarded with different sets of Meters. Each phases AMC scope is getting ended on different timelines. Details given below:-

Project	Meter Count	AMC Contract Start	AMC Contract End
AMR Phase1&2	656	01-Apr-21	31-Mar-26
AMR Phase3	326	01-Sep-22	31-Mar-26
AMR Phase5	300	19-Feb-26	19-Oct-26
AMR Phase4	200	1-May-23	30-Apr-27

AMR SEM data is critical for performing the weekly accounting for the constituents hence the renewal of the AMC contract is required. The scope of AMC Services will be the same as per the ongoing requirements and in addition to that, the newly developed requirements like 05 min Load Survey Data, 01 min instant data etc. will also be part of the AMC Services scope under this contract.

Detailed scope of work to be done in the AMC support period are as below.

- Meters data availability will be ensured from locations within the stipulated time for weekly accounting.
- Availability of 15 min load survey data and Midnight data will be ensured within the stipulated time of each week to ERLDC.
- Availability of 05 min load survey data will also be ensured within the stipulated time of each week to ERLDC for those Meters which have 05 min load survey provision. Conversion from 05 min to 15 min will be done in the AMR system as per requirement.
- Skilled manpower with Electrical, Electronics, IT background will be deployed to ensure the data availability. They will be monitoring the AMR system and taking proper steps to ensure availability of Meter data within time.
- All the data pooling activities will be monitored, and data checks will be done through automated data sanity checking methodology.
- Force pooling of data will be done for the missing data part, and the force pooled data will be dumped into the database through a separate batch procedure for immediate data reflection in the reports/dashboard.
- Physical visits will be made to the locations/sub-stations, as it's required to ensure no loss of Meter Data.

- Skilled manpower will be visited at locations (in Eastern Regional 05 states, i.e West Bengal, Sikkim, Odisha, Bihar and Jharkhand) to rectify the system issues and ensure data availability of Meters. Manpower deployment will be done accordingly.
- SLA driven services will be provided under this AMC scope. Custom build SLA monitoring tool will be developed and provided for timeframe calculations. (Details mentioned in Annex-A).
- Reports will be shared on a daily, weekly and monthly basis. (Details mentioned in Annex-B).
- In any existing system, if any SEM (By same make which is originally installed) got changed, the same will be integrated in the existing AMR system. Integration will be done maximum 10 Days from the date of official intimation from ERLDC/POWERGRID.
- If any of the existing SEM is/are replaced by a new OEM make SEM, then necessary changes will be made in the existing AMR system to integrate the new OEM make SEM. A sperate POC will be carried out initially and the upgradation will be planned and executed accordingly. Min 30 days of time will be required for doing the testing & subsequent validation/confirmation from ERLDC/PGCIL, from the date of receive of new SEM OBISCODE & other relevant data/information from the Meter OEM. After successful POC and verification, the upcoming replaced SEM (new OEM) connection in the AMR system will be made in 10 days from the date of official intimation from ERLDC/POWERGRID.
- Defective Hardware will be replaced which are installed at Sub Station Level, as and when required.
- At Kiosk type stations, special monitoring and rectification will be carried out by skillful resources, as it normally takes more time for restoration (compare to conventional Control room type Sub-Stations).
- The AMR application which runs at ERLDC, the performance will be monitored, and rectification will be done as needed. It will be ensured that Meter data is available for download through web application within the stipulated time in a week.
- Dedicated DBA (Database Administrator) will be available to monitor all the database batch files and will ensure smooth data handling for all types of Meters/Scenarios (05 min, 15 min, Midnight, Event etc.).
- Database backup will be taken on a regular basis.
- Data Center hardware will be monitored, and preventive actions will be taken as required.
- Software will be going through periodic patch update.
- BCP drills will be performed to ensure the failover mechanism between Server/Database/Application level, to ensure business continuity.
- Security Audits will be performed periodically.
- Security policies will be upgraded in the system as per update in the policies/guidelines.

Considering the above, it is proposed that the AMC services may be extended for another 3 years i.e till 31-Mar-2029.

For this AMC extension scope, the 1st year AMC unit rate (per Meter, per Year) has been considered as same as per the existing/ongoing contract of AMC in Eastern Region (which was approved in 44th CCM meeting), subsequently for 2nd year 04% escalation has been considered and for 3rd year 06% escalation has been considered (the price escalation is on standard 4-6% IT service escalation range). Considering the same, year wise breakup as below:

Year-1 (same unit rate)					
Project	**Meter Count**	**AMC Start**	**AMC End**	**Unit AMC Rate (per year, per Meter)**	**Total AMC Rate**
AMR Phase 1 & 2 + AMR Phase-3	982	1-Apr-26	30-Apr-27	15117	16081969
AMR Phase5	300	1-Nov-26	30-Apr-27	15117	2267550
				Total	**18349519**
Year-2 (04% escalation on unit rate)					
Project	**Meter Count**	**AMC Start**	**AMC End**	**Unit AMC Rate (per year, per Meter)**	**Total AMC Rate**
AMR Phase1&2 + AMR Phase3+AMR Phase4+AMR Phase5	1482	1-May-27	31-Mar-28	15722	**21357902**
Year-3 (06% escalation on unit rate)					
Project	**Meter Count**	**AMC Start**	**AMC End**	**Unit AMC Rate (per year, per Meter)**	**Total AMC Rate**
AMR Phase1&2 + AMR Phase3+AMR Phase4+AMR Phase5	1482	1-Apr-28	31-Mar-29	16665	**24697502**
Total AMC cost for Three Years					**64404922**

Total cost of ownership of AMC extension till 31-Mar-29 will be 6,44,04,922 INR (without taxes).

M/S. TCS is the current service provider who is providing hassle free services and thus ensuring timely data availability. Also, there have been multiple developments and additional work is ongoing which is associated with current AMR solution and support. Hence, the AMC extension may be awarded to M/S TCS on nomination basis. Subsequently, POWERGRID on finalization of AMC value shall provide the service on Consultancy basis.

PGCIL may update. Members may discuss.

2.15 Process incorporation against raising invoice for SEM handing over to individual states & Pool SEM-Reg: PGCIL

As per standard methodology circulated by CTUIL & MOU with POWERGRID dtd. 09.02.2022, POWERGRID has been entrusted to carry out procurement & installation of SEM's for ISTS points.

Accordingly, guidelines/methodology in MOU for booking of supply/installation cost & recovery from various constituents has been done for other points (non-POWERGRID points). However, for raising invoice to individual states (Even for replacement) each entity must provide information as given in **Annexure-C.**

However, under the subject provision, cost incurred for procurement of SEM's at POWERGRID points are not covered. To mitigate the gap for cost recovery for POWERGRID points followings are detailed/proposed: -

a. LOA cost for procurement of SEM- **"X".**
b. Cost Recovered for SEM's replaced/fixed at SS/Generation Points (Other than POWERGRID):- **"Y".**
c. Balance cost related to SEM's fitted in POWERGRID SS- **"X-Y".**

Now, it is proposed to finalize the recovery of unrealized component (X-Y) along with consultancy charges, through LTA ratio of respective month when the recovery proposal placed.

To streamline the issue, Monthly report for Stock position and consumption (Constituent wise) will be given by POWERGRID to ERPC.

Placed for further discussion and finalization.

PGCIL may update. Members may discuss.

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

3.1. ER Grid performance during July 2025

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month July -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)
628 MU	704 MU*, 23.07.2025 *All-time highest	33452 MW*, 23.07.2025 at 22:56 Hrs. *All-time highest	20219 MW, 06.07.2025 at 17:21 Hrs.	2002	1878

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

3.2. Non-Submission of FRC data in stipulated time-frame: 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.

229th 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.

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/1sIvAOmQIEQVIMn0LnB78eKMa2sz2QYICZ-sPEpeV_jk/edit?usp=sharing

The latest data receipt status is given below: (as on 11.08.2025):

STATIONS		04.01.2025 19:23 hrs	12-03-2025 14:51 HRS	12-03-2025 15:37 HRS	11-05-2025 16:51 HRS	12-06-2025 13:34 HRS	16-06-2025 11:51 HRS	22-07-2025 19:46 HRS	29-07-2025 14:55 HRS
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								
Dikchu									
IBEUL (JSW UTKAL)/INDBHARAT	IPP								
GMR	CPP								
MPL	CPP								
ADHUNIK	CPP								
JITPL	CPP								
TEESTA III	CPP								
Bihar	STATE								
Jharkhand	STATE								
DVC	STATE								
OPTCL	STATE								
WB	STATE								

Updated as on	11.08.2025
	Received
	Not Received
	Plant Out
	Data freeze at plant

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

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

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.

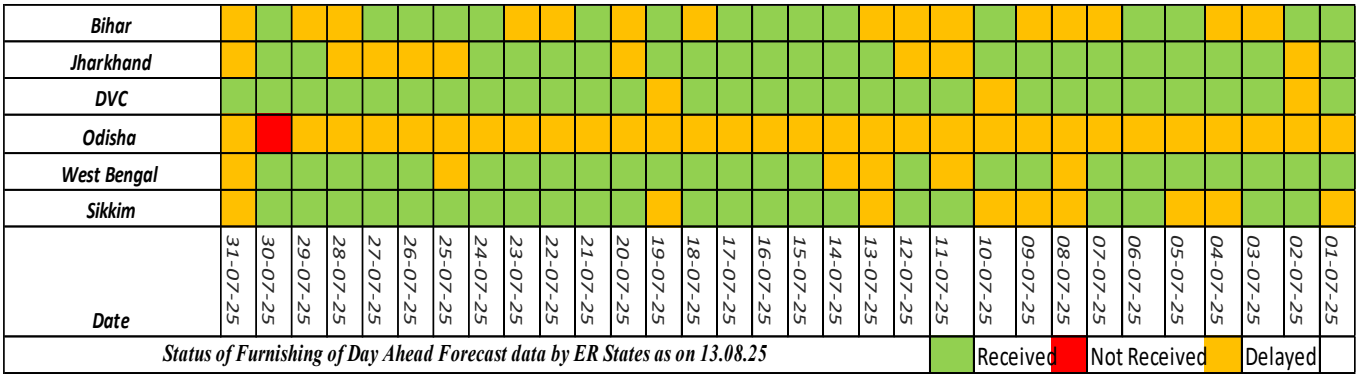
Current data submission status is given in the table below: Hence it is again requested to all the concerned for timely submission of demand estimation data to ERLDC. This collaboration is essential for effective planning and preparedness to meet the region's electricity demands efficiently and reliably.

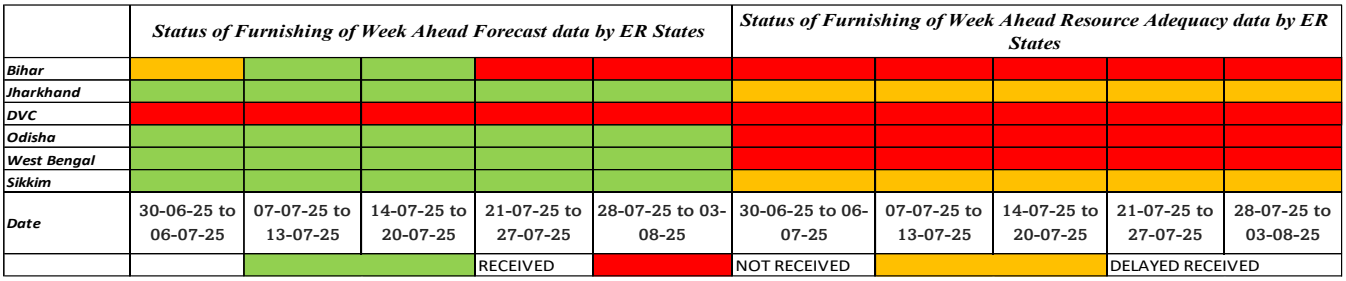
229th OCC Decision

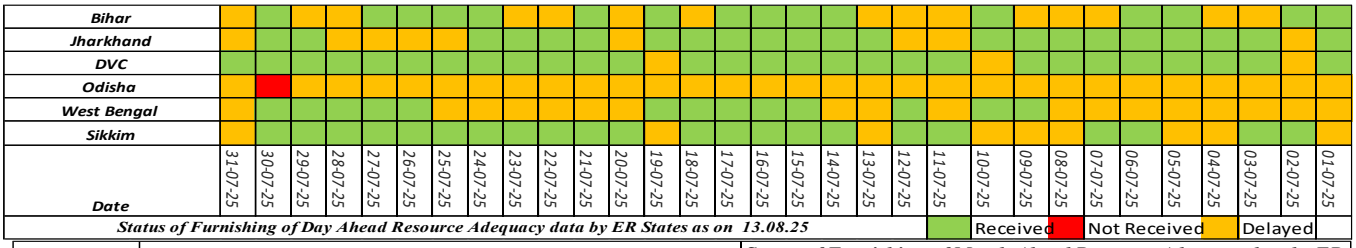
- OCC advised all SLDCs for strictly adhering to the schedule of demand estimation as mandated in IEGC 2023, timely sharing with ERLDC in specified format as well as uploading of forecasting error on their respective websites.
- SLDCs who are submitting day ahead forecast was advised to also share the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

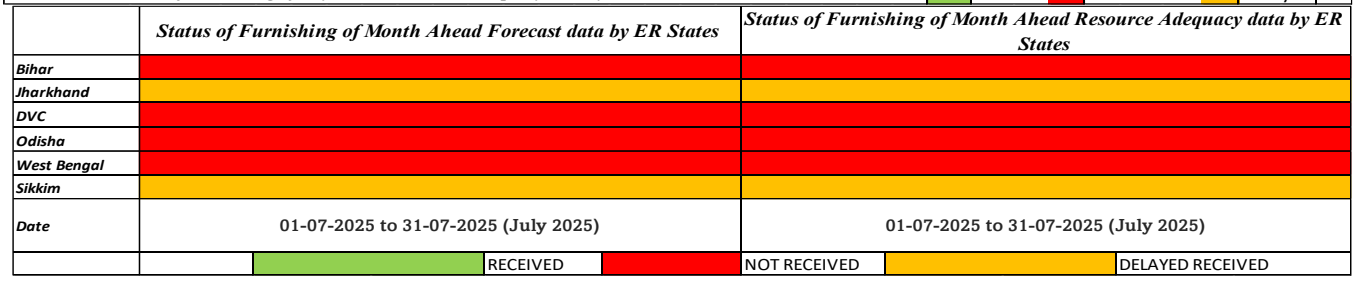
- All SLDCs were urged to regularly furnish resource adequacy data besides demand forecast.

Latest Forecast and Resource Adequacy Data receipt status at ERLDC is shown below:









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

3.4. Mock Black Start: ERLDC

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

(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

All utilities are requested to share tentative blackstart dates for the FY 2025-26.

Sl. No.	Name of Hydro Station	Tentative date for blackstart exercise for FY 2025-26
1	U. Kolab	
2	Balimela	
3	Rengali	
4	Burla	
5	U. Indravati	
6	Maithon	
7	TLDP-III	
8	TLDP-IV	
9	Subarnarekha	
10	Teesta-V	
11	Chuzachen	
13	Jorethang	
14	Tashiding	
15	Dikchu	
16	Rongnichu	

Schedule from Gencos yet to be received.

229th OCC decision:

- OCC advised all black start capable hydro generating units of ER to update their schedule of mock black start to ERLDC at the earliest. This is in compliance to IEGC 2023 (CERC).

- OCC further opined that in case of non-receipt of further update by respective hydro generating units the proposed tentative schedule of mock black start may be considered as final. Thereafter all black start capable hydro units shall have to conduct mock black start at least once in a year as mandated in IEGC 2023.

All 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 update the tentative schedule.

4. PART-D: OPERATIONAL PLANNING

4.1. Anticipated power supply position for August-2025

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of July-2025 is prepared by ERPC Secretariat (**Annexure D.1**) 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 06-06-2025)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	KHSTPP	BIHAR	NTPC	7	500	Annual overhauling	15-Jul-2025
2	BARH	BIHAR	NTPC	5	660	Annual Overhauling	02-Jul-2025
3	DARLIPALI	ODISHA	NTPC	2	800	Annual Overhauling	01-Jul-2025
4	SAGARDIGHI	WEST BENGAL	WBPDCL	1	300	Boiler license renewal.	11-Aug-2025
5	BANDEL TPS	WEST BENGAL	WBPDCL	2	60	Initially unit was out due to Boiler Tube Leakage at economiser zone. Later it was taken under Overhauling maintenance from 00:00 hrs of 28.07.2025	23-Jul-2025
6	CHANDRAPURA TPS	DVC	DVC	7	250	Initially unit was out due to Loss of fuels, later	03-Jun-2025

						generator electrical fault found. Later it was taken under Capital Overhauling from 18.06.2025.	
7	TENUGHAT	JHARKHAND	TVNL	2	210	Annual Maintenance	20-Apr-2025
8	SOUTHERN	WEST BENGAL	CESC	1	67.5	Initially unit was under USD. Later it was taken under Annual Overhauling from 00:00 hrs of 24.07.2025	15-Jun-2025
9	Sterlite	ODISHA	SEL	3	600	Due to APH problem	
10	MEJIA TPS	DVC	DVC	1	210	Boiler Tube Leakage	11-Aug-2025
11	KOLAGHAT	WEST BENGAL	WBPDCL	6	210	Turbine seal liner high temperature	04-Aug-2025
12	DPL	WEST BENGAL	DPL	7	300	Coal feeding problem in CHP	31-Jul-2025
14	Sterlite	ODISHA	SEL	4	600	Due to APH problem	14-Jul-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) <u>Major Generating stations Out on Reserve Shutdown due to low system demand:</u>

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

c) **Hydro Unit Outage Report:**

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	TEESTA STG III Hep	SIKKIM	TUL	1	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	BALIMELA HPS	ODISHA	OHPC	5	60	Repair and maintenance work	16-Jan-2025
11	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
12	CHIPLIMA HPS / HIRAKUD II	ODISHA	OHPC	1	24	Capital Overhauling	15-Dec-2023
13	BALIMELA HPS	ODISHA	OHPC	1	60	Annual Maintenance	30-Jul-2025

d) Long outage report of transmission Element (MORE THAN 01 WEEK) (As on 14.08.2025):

Transmission Element / ICT	Outage From	Reasons for Outage
220/132 KV 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	08-06-2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
220KV-WARIA-BIDHANNAGAR-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 Earthwire between tension tower no. 218-237 in same line.
132KV-NALANDA-BARHI(DVC)-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 Earthwire between tension tower no. 218-237 in same line.
400KV-RANGPO-TEESTA-V-1	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-RANGPO-TEESTA-V-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
132KV-RANGPO-SAMARDONG-1	22-05-2024	Rangpo:Y_N fault with fault distance 0.157 KM ,14.562kA Samardong: NA
132KV-CHANDIL-MANIQUI-1	05-06-2024	Power assistance withdrawn
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-Sahrsa 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	16-11-2024	Diversion/Heightening of line due to inadequate clearance from under construction railway Line by PVUNL
132KV-PATRATU-PATRATU-2	16-11-2024	Diversion/Heightening of line due to inadequate clearance from under construction railway Line by PVUNL
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-JHARSUGUDA-ROURKELA-2	01-03-2025	Reconductoring work
400KV-MEDINIPUR-KHARAGPUR-1	17-03-2025	Tripped on DP. Tower Collapsed
400KV-MEDINIPUR-KHARAGPUR-2	17-03-2025	Tripped on DP. Tower Collapsed
400KV/220KV 315 MVA ICT 1 AT LATEHAR(JUSNL)	30-03-2025	REF protection operated
400KV/220KV 315 MVA ICT 1 AT LATEHAR	22-04-2025	R phase LA of 400/220/33 KV ICT - I got bursted
400KV/220KV 315 MVA ICT 2 AT LATEHAR	16-04-2025	Transformer REF protection operated
400KV/220KV 315 MVA ICT 2 AT KODERMA	02-06-2025	Transformer Differential Protection operated
132KV-RANGPO-SAMARDONG-1	03-06-2025	Samardong : overcurrent tripping

400KV-JHARSUGUDA-ROURKELA-2	15-06-2025	Reconductoring work
132KV-KATAIYA(LAHAN)-KUSHAHA-2 (LAHAN)-3	17-06-2025	Fault distance-11.8 KM , Ia-206.2A Ib-134.2A Ic-892.5A In-891.5A
220KV-DALKHOLA-PURNEA-1	23-06-2025	For system requirement(To control loading of 220kV Purnea-Purnea D/C)
220KV-DALKHOLA-PURNEA-2	23-06-2025	For system requirement(To control loading of 220kV Purnea-Purnea D/C)
220KV-PUSAULI(PG)-DURGAUTI-1	25-06-2025	Circuit 1 line potential transformer has blasted
132KV-RAXAUL(NEW)-PARWANIPUR-2	03-07-2025	To carry out Gantry erection works at near by Parsauni 132/66/33 kV Substation of Nepal
132KV-RAXAUL(NEW)-PARWANIPUR-1	03-07-2025	To carry out Gantry erection works at near by Parsauni 132/66/33 kV Substation of Nepal
220KV-RAJARHAT-NEW TOWN(AA-II)-1	10-07-2025	Emergency shutdown for BCU replacement work at Rajarhat. Charging attempted but tripped on SOTF. B_ph cable faulty
132KV-CHANDAUTI (PMTL)-Barachatti-1	13-07-2025	Tripped from Chandauti only. As reported line tripped due to BCU change remote from local
400/220KV 500 MVA ICT-2 AT BUXAR TPP	22-07-2025	To attend CMS related work
220KV-PATNA-KHAGAUL-1	02-08-2025	Tower No. 63 has bent significantly on one side
400KV/220KV 315 MVA ICT 1 AT INDRAVATI HEP	26-07-2025	Top control persisting high voltage at Indravati PH 400 kV Bus(418 KV, 419KV, 420KV)
400KV/220KV 315 MVA ICT 2 AT KEONJHOR(PG)	05-08-2025	Buchholz relay operated
400KV MAIN BUS - 2 AT DIKCHU	05-08-2025	Bus bar protection operated
400KV-DIKCHU-RANGPO-2	05-08-2025	Damaged insulator replacement work. While charging the line bus bar protection operated at Dikchu
220KV-RENGALI(PH)-TSTPP-1	05-08-2025	For line diversion work
220KV-TTPS-TSTPP-1	05-08-2025	For line diversion work

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERPC/ERLDC 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 ERPC/ERLDC 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 July-2025.

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

NEW ELEMENTS COMMISSIONED DURING July, 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 क्र
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	POWER GRID ER WR	400KV-ALIPURDUAR (PG)-	**145.5**	Indian Portion (Quad	03-07-2025 11:48		

	Transmission Limited	PUNASANGCHUN-2(Direct Link)		Moose-64 kms) +Bhutan Portion (Twin Moose-81.50 kms)		
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 Odisha project	Reconductoring of 400 kV Sundargarh–Rourkela Circuit-2 using Twin HTLS conductor	144.3	Twin HTLS	31-07-2025 23:54	
2	PGCIL ERTS-II	132 kV Rangit-Melli (Bypassing Rangpo SS through Isolator/GIS Bus Duct arrangement) Line.	70.6	Single Panther	21-07-2025 12:35	
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**
NIL						
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**
1	PGCIL Odisha project	400kV, 76.4 MVAr Jeypore-Gajuwaka-1 FSC at Jeypore	Jeypore	400	23-07-2025 20:09	FTC after refurbishment
2	PGCIL Odisha project	400kV, 76.4 MVAr Jeypore-Gajuwaka-2 FSC at Jeypore	Jeypore	400	22-07-2025 22:51	FTC after refurbishment
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	PGCIL Odisha project	400KV TIE BAY OF (JHARSUGUDA-II AND RANCHI-I) AT ROURKELA	ROURKELA	400	30-07-2025 23:54	To facilitate FTC of 400 kV Rourkela-Jharsuguda-2 after reconductoring
2	PGCIL Odisha project	400KV MAIN BAY OF JHARSUGUDA-II AT ROURKELA	ROURKELA	400	30-07-2025 23:54	To facilitate FTC of 400 kV Rourkela-Jharsuguda-2 after reconductoring

Members may note.

4.4. UFR operation during the month of June 2025

Frequency profile for the month as follows:

MONTH	MAX (DATE/TIME)	MIN (DATE/TIME)	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
July, 2025	50.40 Hz on 27-07-2025 at 14:02 Hrs	49.50 Hz on 26-07-2025 at 14:53 Hrs	6.65	72.90	20.45

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

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
तापीय परियोजना नवीनीकरण एवं आधुनिकीकरण प्रभाग
Thermal Project Renovation & Modernization Division

विषय: Items for inclusion in the Agenda of Special TCC/RPC meeting- reg.

It is to mention that MoEF&CC has notified amended Environment (protection) Rules on 11.07.2025 thereby applicability of SO2 emission standards in thermal power plants has been revised based on their location/category. As per the above amendment, Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E), dated the 30th August, 1990.

The generating utilities would be required to review the FGD installation in consultation with Discoms at the ongoing projects at category C TPPs. To assess the financial implication arising out of the amended applicability of SO2 standards as mentioned above, agenda items as finalized by Principal Chief Engineer (PCE)-II after chairing a meeting with Gencos on 18.07.2025 and with vendors on 08.08.2025 in CEA are enclosed herewith with a request to convene a special TCC/RPC meeting at the earliest and deliberate on agenda items mentioned in Annexure-I with Gencos & Vendors and any out outcome in this regard may be intimated to this division.

This issues with the approval of Chairperson, CEA.

Encl: As above,

20.08.25
(सुरेन्द्र कुमार)
उप निदेशक

Member Secretary, NRPC/ERPC/WRPC/SRPC/NERPC

No.: CEA-TH-14-11/5/2025-TRM Division/Part(2) | 1095-1103 **Date: 19.08.2025**

Copy to:

1. Chairperson, CEA
2. Member (GO&D), CEA
3. Member (Thermal) , CEA
4. PCE-II, CEA

Annexure-I

Special TCC/RPC meeting Agenda

CEA published two reports in the year 2020 & 2021 on FGD installation across the country where advantages & disadvantages of FGD installation were analyzed and clearly stated that FGD installation across the country is unnecessary as ambient SO2 level across the country is well below the national standards (80 µg/m³). Further, installation of FGD has adverse impact on ambient air quality due to generation of secondary pollution and greenhouse gases (CO2). Considering findings of CEA studies, IIT Delhi study was commissioned by MOP under CEA-IIT Delhi MOU. Subsequently, NEERI-Nagpur study and NIAS-Bangalore study were also commissioned by NITI Aayog and Principal Scientific Advisor (PSA) to the Govt. of India respectively. The key common point in these studies is that, fitment of FGDs in all TPPs in India is not necessary to comply with the NAAQ standards whose compliance is essential to safeguard public health. While all TPPs must comply with the December 2015 stack emission standards, SO2 stack emission standards can be relaxed to ensure that they are in conformance with the NAAQ standards (ambient SO2) which are notified by CPCB keeping in mind the human health and other aspects. This way, TPPs may be able to comply with these standards without fitting FGDs. Since the existing NAAQ standards (for ambient SO2) must be complied with, this change will not affect human health in India.

Subsequently, on the recommendation of PSA (based on above scientific studies), MoEF&CC has notified amendment on 11.07.2025 where applicability of SO2 emission standards in thermal power plants has been revised based on their location/category. As per the above amendment**,** Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E), dated the 30th August, 1990.

Keeping in view the amended applicability of SO2 standards as mentioned above, the following agenda items are proposed for discussion immediately in a special TCC/RPC meeting at the respective RPCs:

Agenda no. 1: Generating utilities would review the progress of FGD installation under category C where LOA has already been placed and furnish the latest physical & financial progress of FGD installation as per attached format (Annexure-I). Further, they would discuss the matter with vendors and assess financial impact of cancelling LOA for FGD installation.

Agenda no.2: The beneficiary DISCOMS may opt one of the followings after cost benefit analysis:

a) Complete FGD installation where LOA placed under category C and operate them and pay for the cost attributable to FGD (CAPEX +O&M+ OPEX), or
b) Complete FGD installation where LOA placed and stop operation and pay CAPEX only, or
c) Stop FGD installation/construction immediately and pay the fixed cost (CAPEX) incurred so far and other applicable cost (to be finalized with Vendors).
d) Complete FGD installation and operate FGD with water only to reduce SPM emission.

In this regard opinion of DISCOMS may be obtained which is crucial for further course of action.

CEA's analysis on financial benefits due to MoEF&CC Notification dated 11.07.2025 is enclosed for reference (Annexure-II)

Annexure-II

A review meeting was held in CEA on 18.07.2025 under the chairmanship of PCE-II, CEA with GENCOs having coal-based generating units under Category C. Deliberation were held on financial implications of MoEF&CC Notification dated 11.07.2025.

Total 462 units with 166885.5 MW capacity are under Category-C. 36 units of 19600 MW capacity have installed FGD and 167 units of 73910 MW capacity placed LOA for installation of FGD. Remaining 203 units of 66967.5 MW under various stages of bidding process are advised to stop immediately further process for FGD installation.

Further, 18 units of capacity 10280 MW out of total 21 uncategorized units of capacity 12400 MW commission after year,2021 are in category C. AS per CEA's analysis, out of 18 units in category C, 3 units have installed FGD and 8 units have placed LOA. Remaining 7 units under various stages of bidding process are advised to stop further process for installation of FGD.

Additionally, 43 units of capacity 32300 MW under construction yet to be categorized. As per CEA's analysis 39 units of capacity 29520 MW are under category C, may immediately review FGD matter with Vendors and delete from LOA.

The generating companies/ organizations would review the progress of FGD installation at generating units under category C where LOA has already been placed and furnish the latest physical & financial progress of FGD installation. The generating companies would also assess financial benefits accruing from the amended applicability of SO2 standards for the coal-based thermal power plants considering options available for FGD i.e. installing FGD or not installing FGD. Further, they would discuss the matter with vendors and assess financial impact of cancelling LOA for FGD installation.

The generating companies may take decision on immediately abandoning the works / contracts where there is no physical progress yet on the ground or where no major work started say 10-20 percentage progress attained. In the rest of the cases, where projects are nearing completion or attained progress of 60-70 percentage, they can assess what is more economical scenario – i.e. with FGD or without FGD.

The generating companies were also advised to discuss various aspects with the beneficiary DISCOMs and their willingness to have FGD installed and pay for the cost attributable to FGD (CAPEX + OPEX) or stop the project and pay the fixed cost (CAPEX) incurred so far, etc.

GENCOs have raised the concern over the pass-through cost of abandoning of FGD in a mid-way of various stages of constructions and sought intervention of CEA for pass through cost and if required may suggest for formation of a committee consisting 1 member each from regulatory, energy department, DOSCOMs and GENCOs of respective states for deciding the pass-through cost.

It may be noted that Operation of FGD would increase tariff of electricity which consist of fixed tariff (capital cost + O&M cost) and variable tariff (limestone cost + increased power consumption cost etc.). As per CEA's analysis, it would be beneficial for DISCOMs to discontinue operation of FGD where already installed. It would also be beneficial for DISCOMs to terminate LOA amicably irrespective of construction progress. DISCOMs would be responsible for payment of fixed part of tariff only for expenditure already incurred by GENCOs for installation as well as for cancelling LOA. In this way they could save operational & maintenance cost.

Capital cost Savings:

Based on the latest notification, there is no saving under category A. Further, EAC will examine the units which apply for exemption under category B, and exemption shall be granted on case-

to-case basis. The guidelines/parameters for exemption are yet to be finalized by EAC. Therefore, saving under Category 'B' has not been estimated as of now. **The savings in Category C are given as under**:

1. **Running units (except CFBC/Retired):** Total 424 units of 170757.5 MW capacity (462 units of 166885.5 MW already categorized - 56 CFBC and retired units of 6408 MW capacity + 18 newly commissioned units of 10280 MW capacity) are running under category C. The total Cap-Ex savings in Category C of running units could have been **Rs. 169491 crores** after the applicability of revised SO2 norms.

2. **Running units (except CFBC/Retired/FGD installed/LOA placed):** Total 210 units of 69957.5 MW capacity (462 units of 166885.5 MW already categorized - 56 CFBC and retired units of 6408 MW capacity -36 units of 19600 MW capacity installed FGD – 167 units of 73910 MW capacity placed LOA + 7 newly commissioned units of 2990 MW have neither installed FGD nor placed LOA) Therefore, the total **immediate savings** on capital cost for category C units including new units commissioned after final categorization & under construction units (tentatively categorized by CEA) are estimated to be **Rs. 83949 Crores.**

3. **Under construction units:** There are a total of 39 under construction TPP units of 29520 MW capacity which are tentatively categorized to be under Category C by CEA. There is an estimated savings of **Rs. 35,424 Crores** in capital cost of FGD in these units.

4. **Under Planning units:** GoI has further planned significant thermal capacity addition in coming years, keeping in view the energy security of the country. A part of this capacity shall fall under category C, which shall attribute to more savings prevailing market scenario.

Op-Ex Savings:

1. **Running units (except CFBC/Retired):** The total savings in Op-Ex due to non-applicability of SO2 emission standards on Category C (424 units of 170757.5 MW) capacity is approximately Rs. **8376.7 Cr./Year** (avg. PLF 70%).. Further, considering 20 years as average remaining plant life of category C units, the total savings in op-ex is **1,55567 Crores rupees (avg. PLF 65%)**.

2. **Running units (except CFBC/Retired/FGD installed/LOA placed):** total savings in Op-Ex due to non-applicability of SO2 emission standards on Category C of 210 units of 69957.5 MW capacity is **3431.8 Crores/Year**. Further, considering 20 years as average remaining plant life of category C units, the total savings in op-ex is Rs. **63734 Crores** (avg. PLF 65%).

3. **Under construction units:** In addition to above, if the under-construction 39 units of 29520 MW capacity are also taken into account, an additional op-ex of **Rs**.**1448 Cr./Year** can also be saved. Total saving under op-ex will be **53787.8 Crores rupees** (avg. PLF 65%).

4. **Under Planning units:** GoI has further planned significant thermal capacity addition in coming years, keeping in view the energy security of the country. A part of this capacity shall fall under category C, which shall attribute to more savings prevailing market scenario.

Maintenance cost savings:

1. **Running units (except CFBC/Retired):** Total Maintenance cost of 424 units of 170757.5 MW capacity is Rs. **115095.32 Crores c**onsidering 2% maintenance cost and increase of 5.25% every year (total 20 years).

2. **Running units (except CFBC/Retired/FGD installed/LOA placed):** Total Maintenance cost of 210 units of 69957.5 MW capacity is Rs. **57006.78 Crores** considering 2% maintenance cost and increase of 5.25% every year (total 20 years).

3. **Under construction units:** Maintenance cost of 39 under construction TPP units of 29520 MW capacity is Rs. **90989.78 Crores** considering 2% maintenance cost and increase of 5.25% every year (total 40 years).

4. **Under Planning units:** GoI has further planned significant thermal capacity addition in coming years, keeping in view the energy security of the country. A part of this capacity shall fall under category C, which shall attribute to more savings prevailing market scenario.

The estimated saving would be Rs.209355 Crores for not paying variable part of tariff and Rs. 206085 crores for not paying maintenance cost of FGD. Total saving for scraping all FGD project would be Rs. 415440 Crores. Further estimated capital cost saving would be Rs. 119373 Crores for not installing FGD in remaining units. Thus, total estimated saving of DISCOMs would be 534813 Crores.

Note:

S. No.	Status	Units	Capacity (MW)	Savings (in Crores)	Assumption
1	Total Units in C Category	462	166885.5		
2	CFBC & Retired Units	56	6408		
3	FGD Installed	36	19600	13720	70 L/MW
4	LoA placed with certain progress in work	136	58000	49300	85 L/MW
5	LoA placed with NO progress in work	31	15910	15910	1 Cr./MW
6	Remaining Units	203	66967.5	80361	1.2 Cr./MW
7	Savings in Newly Commissioned Category C Units*				
	FGD installed	3	2260	1582	70L/MW
	LOA placed	8	5030	5030	1 Cr/MW
	Remaining Units	7	2990	3588	1.2 Cr./MW
8	Savings in Upcoming Category C Units**	39	29520	35424	1.2 Cr./MW

Variable tariff = 8 paisa/kWh
O&M cost = 2% of capital investment in 1st year and thereafter increase of 5.25% in every year as per CERC.

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Minutes of Meeting held on 14.08.2025 on Near Miss Event in Odisha System – 12th August 2025 at 22:36 Hrs.

On 12th August 2025, at around 22:36 hrs, multiple tripping incidents occurred in which multiple 400KV transmission lines tripped. This created a stressed system condition and a near-miss situation, where any further contingency could have led to a total system collapse in the Meramundali, Mendhasal, New Duburi, Pandiabilli and Baripada areas with a potential load loss of about 2500 MW.

An online meeting was held on 14th August 2025 with participation from OPTCL, SLDC Odisha, OPGC, Sterlite, JSEUL, ERLDC, and ERPC on the context of the event.

Deliberation of the discussion as follows:

- ERLDC presented the sequence of events that led to the near-miss scenario, highlighting multiple protection issues and maloperations at 400 kV Lapanga, Sterlite, and OPGC **(Details in Annexure-1).**
- The Director (Operations), OPTCL, raised concerns regarding the operation and settings of Non-Directional Earth Fault protection. He recommended implementing a mechanism to ensure LBB (Local Breaker Backup) operates even during manual or hand tripping, so that in the event of a breaker getting stuck, LBB protection would ensure healthiness promptly.
- He proposed forming a committee with representatives from Lapanga, Sterlite, and OPGC substations to conduct a comprehensive review of all tripping's, identify protection issues, recommend corrective measures, and submit a brief report with findings and actions taken.
- During synchronization of the 400 kV OPGC–Lapanga line at OPGC, the process was delayed because the synchro-check relay was set very conservatively at a 10° threshold. Such a narrow angular window impeded timely synchronization. To prevent similar delays in the future, it is recommended that the permissible angular difference for the synchro-check relay be increased to at least 20°, with a maximum limit of 30°. This adjustment should be implemented at OPGC, Lapanga, and other nearby substations to facilitate faster and smoother synchronization.
- As per the operational SOP referenced from the CEA meeting on 07th July 2025, opening of the 400 kV Lapanga–Sterlite line was an action to contain loading on the 400 kV OPGC–Lapanga D/C. Considering that breaker operations and associated mechanical issues pose significant risks, this line-opening step has now been removed from the SOP. The revised SOP is attached in **Annexure-2.**
- SLDC Odisha proposed that in the SOP, generation reduction of JSWEUL should begin when the loading on the 400 kV OPGC–Lapanga circuit exceeds 700 MW instead of the current 750 MW threshold. It was clarified that the 400 kV OPGC–Lapanga D/C line is constructed with AAAC Twin Moose conductors, having a thermal capacity of 1406 MVA (approximately 1335 MW). However, considering operational constraints, the safe limit for this line is taken as 1000 MW for SPS design. Therefore, the threshold in the operational SOP will remain unchanged at 750 MW (Annexure-2).
- The ERPC representative stated that the protection issues will be addressed in the upcoming PCC meeting and confirmed that, for the SOP, the OPGC–Lapanga threshold will remain at 750 MW, with 400 kV line opening to be avoided.

- SLDC Odisha also proposed stopping one unit of IBEUL until its associated Dedicated Transmission Line (DTL) is commissioned. It was opined that this matter should be taken up separately with the appropriate authority.

Meeting ended with vote of Thanks.

List of Participants:

Sr. No	Name	Designation	Organization
1	P.K Pattnaik	Director -Operation	OPTCL
2	B B Mehta	SLDC Head	SLDC Odisha
3	Sanjay Kr. Mishra	Sr. GM	SLDC Odisha
4	Ranjan Ku Biswal	DGM (AM)	POWERGRID
5	Benudhar Pradhan	DGM El. E&MR Div Burla	OPTCL
6	Prasanta Kumar Prusty	SDO, E&MR, Sub-division, Burla	OPTCL
7	Siba Narayan Hota	HOD Electrical	Vedanta 220KV
8	Suleman Baig	Switchyard Team	Vedanta 220KV
9	Vishal Singh Jhala	Switchyard Team	Vedanta 220KV
10	Amiya Kumar Pradhan	Protection	Vedanta Limited, Jharsuguda
11	P P Jena	EE	ERPC
12	K Satyam	AEE	ERPC
13	D.K Khuntia	ASSISTANT DIRECTOR	ERPC
14	Debabrata Biswas	GM (SO)	ERLDC, GRID-INDIA
15	Bilash Achari	DGM (SO)	ERLDC, GRID-INDIA
16	Chandan Mallick	CM (SO)	ERLDC, GRID-INDIA
17	Alok P. Singh	CM (SO)	ERLDC, GRID-INDIA
18	Abhishek Meena	AM(SO)	ERLDC, GRID-INDIA
19	Laldhari Kumar	Manager (SO)	ERLDC, GRID-INDIA

Revised Standard Operating Procedure (SOP) for Controlling the Loading on 400 kV Lapanga–OPGC D/C, Rev 1 dtd. 14.08.25

➢ Ensuring healthiness during N-1 Condition: SPS Implemented

After integration of 2nd unit of JSWEUL with Both units running under this scenario to ensure the safe and secure operation of the 400 kV Lapanga–OPGC double circuit (D/c) transmission line, One Special Protection Scheme (SPS) discussed and agreed at CEA level has already been implemented for generation reduction or unit tripping at JSWEUL, based on the loading conditions of either circuit of the 400 kV Lapanga–OPGC D/c.

SPS Logic

S.no		Triggering Criteria (Current Based) *	Signal to JSWEUL
1	Flow in 400 kV Lapanga-OPGC S/c (either line)	1440 A (950 MW) < Flow < 1520 A (1000 MW)	**Alarm to Ind Bharat (JSWEUL) to reduce load manually**
2		1520 A (1000 MW) < Flow < 1550 A (1020 MW)	**Trip Signal to JSWEUL. One Unit will trip after 05 minutes if still Flow not less than 1000 MW will trip another unit in next 05 Minutes**
3		>1550 A (1020 MW)	**Trip Signal to JSWEUL. One Unit will trip after 05 seconds if still Flow not less than 1020 MW will trip another unit in next 05 seconds**

1. Generation reduction/Tripping of Unit at JSWEUL shall take place as per SPS logic.
2. In case of failure of the SPS to operate as intended, **JSWEUL shall manually reduce generation or trip running units** in accordance with the SPS logic to maintain system stability and prevent overloading of the transmission lines.

➢ Ensuring healthiness during N Condition:

In case both circuits of the 400kV OPGC–Lapanga double circuit (D/C) line are in service and the loading in each circuit exceeds 750 MW with an increasing trend, the following manual control measures shall be taken based on instructions from RLDC/SLDC to bring the loading within permissible limits:

1. Power Order of HVDC Talcher–Kolar and Gazuwaka to be optimized to the extent possible, while respecting the N-1 security limit of the 400KV Talcher–Meramundali D/C line. This action shall be coordinated with NLDC and subject to prevailing Southern Region (SR) constraints in real time.

2. After exercising HVDC optimization, if loading on the 400kV OPGC–Lapanga D/C line still exceeds 750 MW per circuit for a consideration time with both JSWEUL units are operational, RLDC will instruct a progressive reduction of generation from JSWEUL units to bring the loading below 750 MW per circuit.
3. Backing down of JSWEUL generation shall be done upto technical minimum generation limit of 200 MW per unit (as communicated by M/s JSWEUL). Therefore, the combined generation from JSWEUL Unit-1 and Unit-2 shall be restricted to 400 MW.
4. Even after all the above actions and backing down of JSWEUL units, if 400kV OPGC–Lapanga line loading is beyond 750 MW per circuit, SLDC Odisha to restrict the Drawl and generation of nearby loads to contain the loading of 400kV OPGC–Lapanga D/C.

Minutes of Meeting Regarding On-load Operation of 400kV PVUNL-Tenughat

One online meeting was organized by ERLDC on 06.08.2025 to discuss regarding on-load operation of this 400kV PVUNL-Tenughat circuit. Executives from SLDC Jharkhand, JUSNL, TUVNL, PVUNL and ERLDC were present at this meeting. A schematic diagram of the whole system under discussion is shown in ***(Annexure-1).***

The details of the discussions are deliberated in the points below:

1. ERLDC presented a comparative analysis of power flow conditions under the peak demand scenario of Jharkhand. It was highlighted that the connection of the 400 kV Patratu–Tenughat link is significantly helping the Jharkhand system by relieving network constraints on the 220 kV Maithon–Dumka D/C. This link facilitates integrated system operation by allowing the Dumka–Govindpur D/C loop to be kept in service under various conditions of Tenughat unit availability, including scenarios of one unit outage or both units out. **(Study results attached in Annexure-3)**
2. Additionally, the link ensures reliable evacuation of power from the Tenughat plant and prevents the islanding of Govindpur load under situations where the Dumka–Govindpur loop is opened to manage loading on the Maithon–Dumka circuit.
3. A real-time case from 05.08.2025 was also presented, validating the study results. During that instance, both Tenughat units were out, and the 400 kV Patratu–Tenughat line provided 150 MW support to Tenughat through the 250 MVA ICT, effectively relieving loading on the Maithon–Dumka line. (***Annexure -2)***
4. It was observed that the 400 kV Patratu–Tenughat link helps to keep circuit loading within System Protection Scheme (SPS) thresholds, reducing the risk of overloading on the Maithon–Dumka double circuit line.
5. Jharkhand SLDC and JUSNL also acknowledged the importance of maintaining this link and emphasized its critical role in ensuring the reliability of the Jharkhand power system.
6. ERLDC further highlighted that under extreme operating scenarios—such as peak Jharkhand demand, full injection from PUVNL, and both Tenughat units being out—the loading on the 400/220 kV (250 MVA) ICT at Tenughat as well as the 400 kV Tenughat–Patratu line may exceed 200 MW. ***(Refer to study results in Annexure-3.)***

Tenughat -TVUNL raised concerns about the existing old ICT, submitted that the associated CT is over 40 years old which will be loaded up to 210 MW during certain operating conditions. Considering potential operational stress, Tenughat suggested adopting a temporary safe operating limit of 180 MW for the ICT. This threshold may be reviewed and revised in the future based on further operational experience.

Tenughat also submitted that 400 kV Patratu–Tenughat line, which, although constructed with twin HTLS conductor, has end terminations with single moose conductor, effectively limiting its secure transfer capability to 200 MW.

PUVNL also pointed out that, in the event of an outage of the 400 kV Patratu–PUVNL D/C under full injection, the entire output of one generating unit would be forced through the ICTs. This could potentially damage critical equipment and jeopardize the stability of the 220 kV Jharkhand system.

Minutes of Meeting Regarding On-load Operation of 400kV PVUNL-Tenughat

Action Points Agreed for System Reliability and Equipment Protection:

A. Tenughat ICT Protection:

- Enable backup overcurrent protection for the Tenughat ICT corresponding to 180 MW loading, with a 5-minute delay. This would allow the operator sufficient time to rearrange loads and limit the Maithon–Dumka circuit loading, thereby preventing an ICT trip.

B. Operational SOP – Load Trend Monitoring:

- Whenever ICT loading exceeds 160 MW with a rising trend, Tenughat shall promptly inform SLDC Jharkhand to initiate load rearrangement and create a cushion on Maithon–Dumka loading.
- This is critical to ensure that, in case the Tenughat ICT trips, the Maithon–Dumka line loading remains within thermal limits and does not trigger SPS operation.

C. Protection Settings for 400 kV Patratu–Tenughat Line:

- Enable non-directional overcurrent protection at both ends of the line, with settings corresponding to 200 MW flow.
- Coordinate this protection with Zone-3 timing such that any flow exceeding 200 MW will result in tripping the line with a maximum delay of 800 milliseconds.
- This ensures system security under full generation from PUVNL and dual circuit outage of the 400 kV PUVNL–Patratu line.

It was decided by JUSNL and SLDC Jharkhand that the 400 kV Patratu–Tenughat link shall be kept in continuous service to enhance the reliability of the Jharkhand power system. All necessary protection and operational settings, as proposed to facilitate the secure operation of this link, will be implemented and formally confirmed through written communication.

Furthermore, JUSNL and Tenughat assured that, to further strengthen system reliability, efforts will be expedited to commission an additional 250 MVA ICT at Tenughat.

PUVNL also committed for implementing the agreed protection settings by the end of same day 06-08-2025.

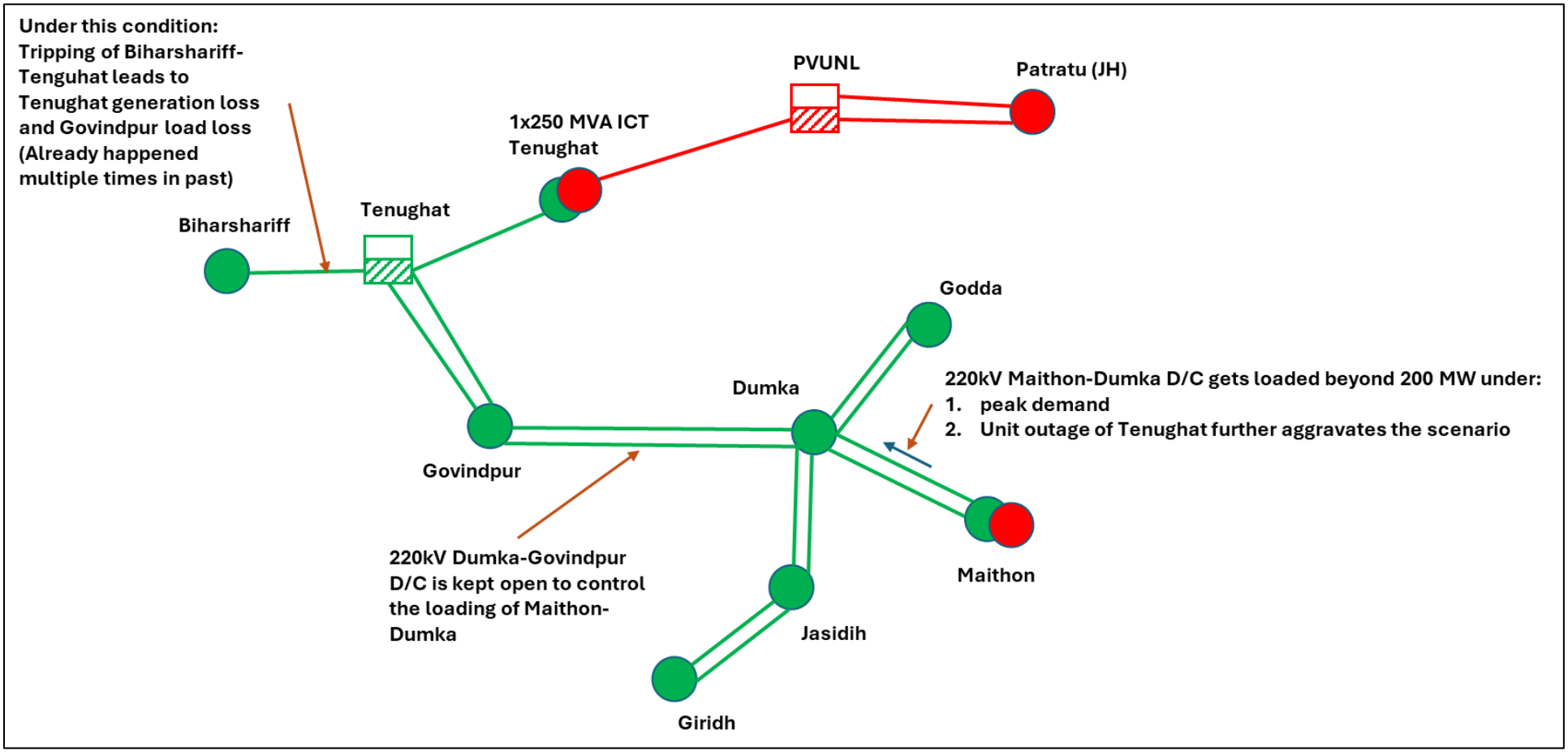
The meeting concluded with a vote of thanks to all participants.

Minutes of Meeting Regarding On-load Operation of 400kV PVUNL-Tenughat

List of Participants

1. Shri M.K.Karmali , ED -Operations -JUSNL
2. Shri Shailesh Kumar, ED- SLDC Jharkhand
3. Shri Shailesh Chowdhary, DGM-SLDC Jharkhand
4. Shri Praveen Ram, DGM -JUSNL
5. Shri Ashish Kumar Sharma ESE – TVUNL
6. Shri Suresh Kumar-AGM Maintenance- PUVNL
7. Shri Rohit – Sr Manager EEMG-PUVNL
8. Shri Niladri Biswas – DGM Operations -PUVNL
9. Shri D. Biswas – GM SO-ERLDC
10. Shri Manas Das – DGM SO-ERLDC
11. Shri Bilash Achari -DGM SO-ERLDC
12. Shri Alok Pratap Singh-CM SO -ERLDC
13. Shri Laldhari -Manager SO-ERLDC
14. Shri Srimalya Ghosal Asst Manager SO- ERLDC

Annexure-1


Under this condition:
Tripping of Biharshariff-Tenguhat leads to Tenughat generation loss and Govindpur load loss (Already happened multiple times in past)
PVUNL
Patratu (JH)
1x250 MVA ICT Tenughat
Tenughat
Biharshariff
Godda
Dumka
220kV Maithon-Dumka D/C gets loaded beyond 200 MW under:
1. peak demand
2. Unit outage of Tenughat further aggravates the scenario
Govindpur
220kV Dumka-Govindpur D/C is kept open to control the loading of Maithon-Dumka
Maithon
Jasidih
Giridh

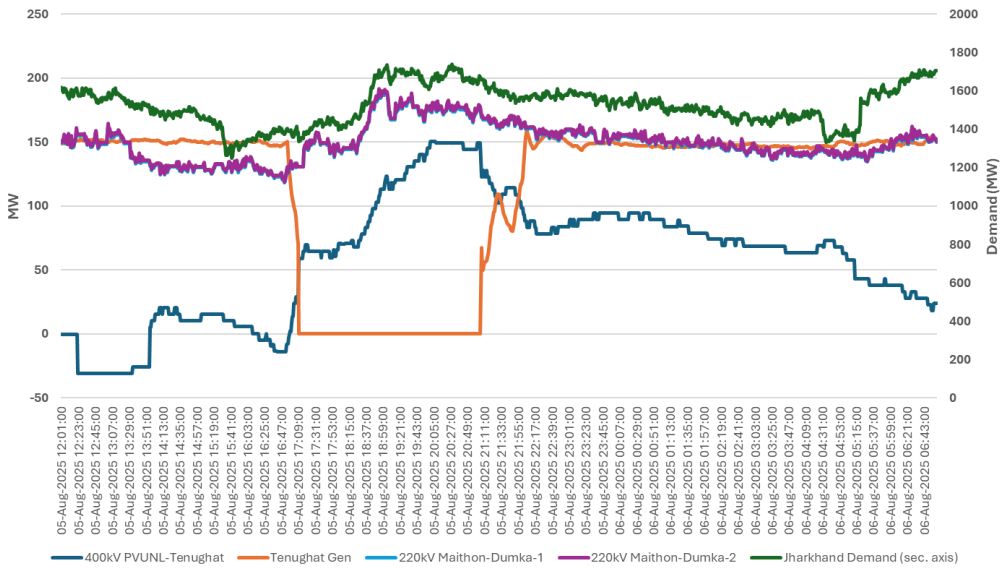
Annexure-2

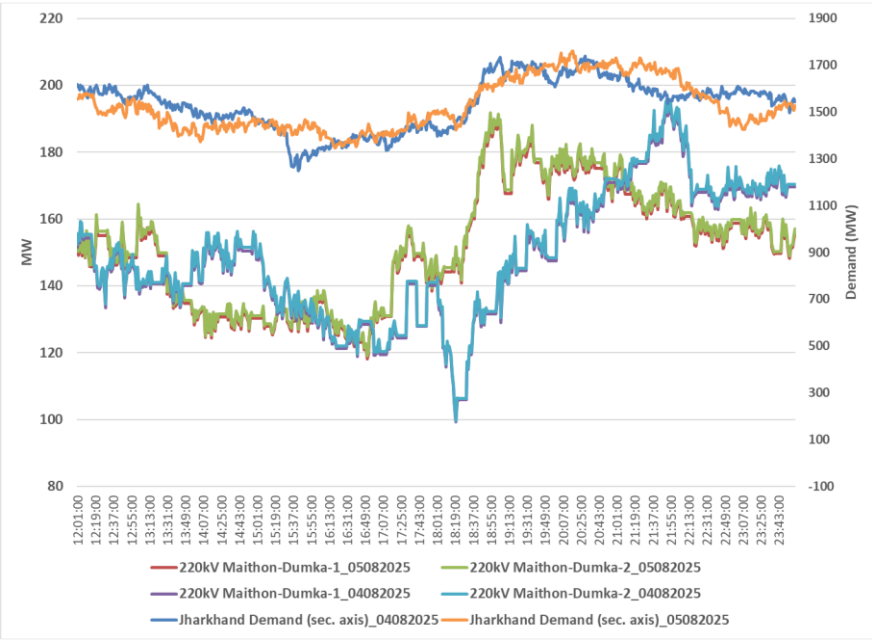
Relief in 220kV Maithon-Dumka Loading

Sensitivity of Tenughat generation on 220kV Maithon -Dumka each CKT:

39% without 400kV PVUNL -Tenughat link.

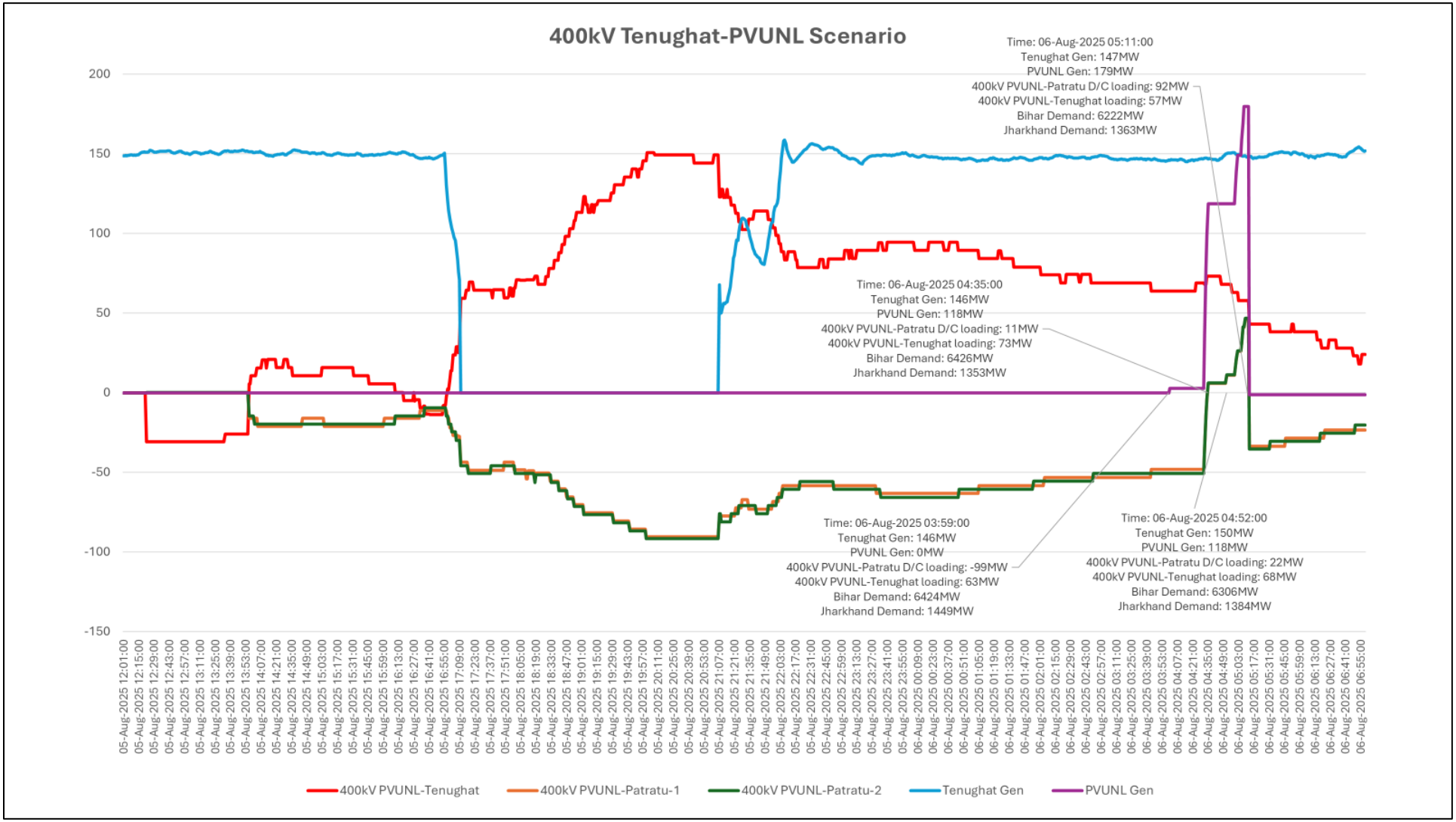
11.8% with 400kV PVUNL -Tenughat link.





On 05-08-2025, between 17:00 to 21:00 Hrs, one Tenughat unit was under outage.

Annexure-2

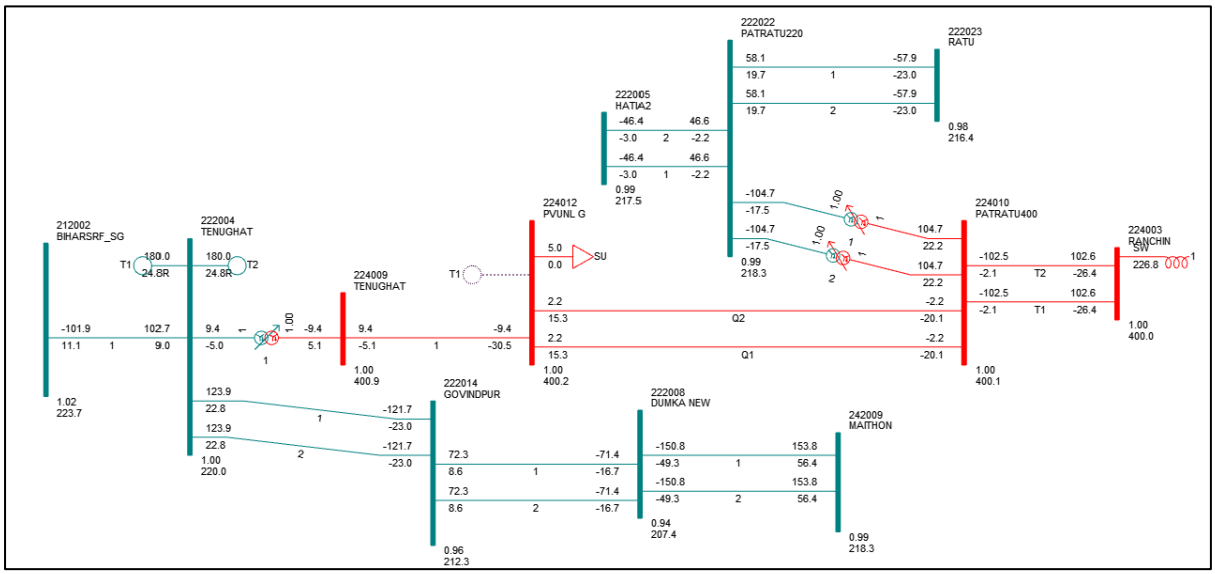

400kV Tenughat-PVUNL Scenario
Time: 06-Aug-2025 05:11:00
Tenughat Gen: 147MW
PVUNL Gen: 179MW
400kV PVUNL-Patratu D/C loading: 92MW
400kV PVUNL-Tenughat loading: 57MW
Bihar Demand: 6222MW
Jharkhand Demand: 1363MW
Time: 06-Aug-2025 04:35:00
Tenughat Gen: 146MW
PVUNL Gen: 118MW
400kV PVUNL-Patratu D/C loading: 11MW
400kV PVUNL-Tenughat loading: 73MW
Bihar Demand: 6426MW
Jharkhand Demand: 1353MW
Time: 06-Aug-2025 03:59:00
Tenughat Gen: 146MW
PVUNL Gen: 0MW
400kV PVUNL-Patratu D/C loading: -99MW
400kV PVUNL-Tenughat loading: 63MW
Bihar Demand: 6424MW
Jharkhand Demand: 1449MW
Time: 06-Aug-2025 04:52:00
Tenughat Gen: 150MW
PVUNL Gen: 118MW
400kV PVUNL-Patratu D/C loading: 22MW
400kV PVUNL-Tenughat loading: 68MW
Bihar Demand: 6306MW
Jharkhand Demand: 1384MW
200
150
100
50
0
-50
-100
-150
400kV PVUNL-Tenughat
400kV PVUNL-Patratu-1
400kV PVUNL-Patratu-2
Tenughat Gen
PVUNL Gen

Annexure-3

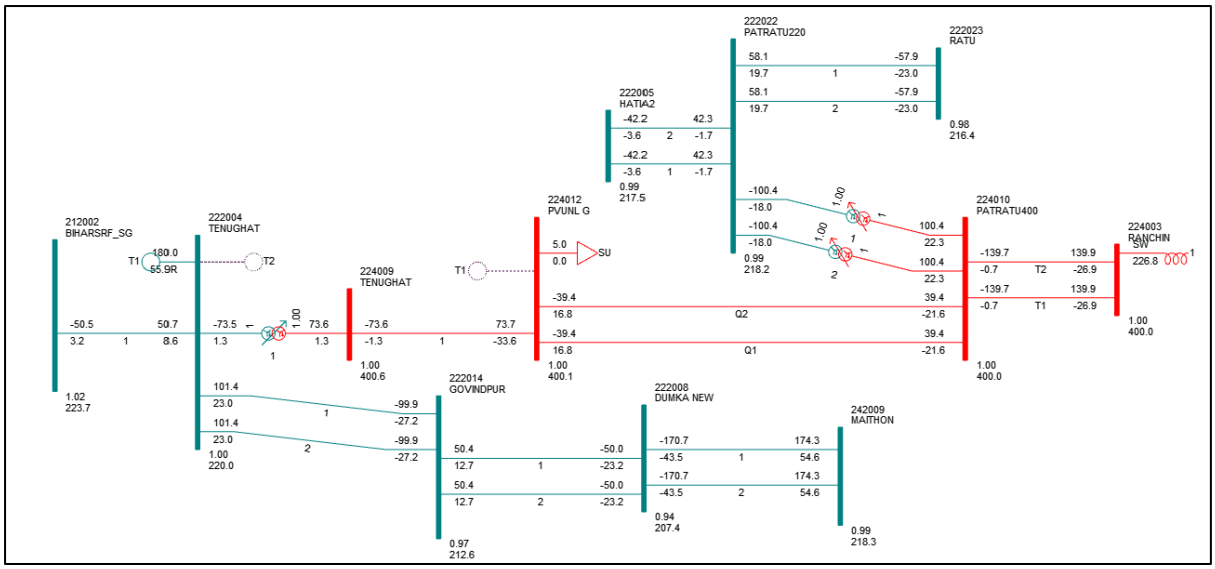
Interconnection Study of PVUNL

Before commissioning of PVUNL unit

A start-up drawl of 5 MW was considered at PVUNL.



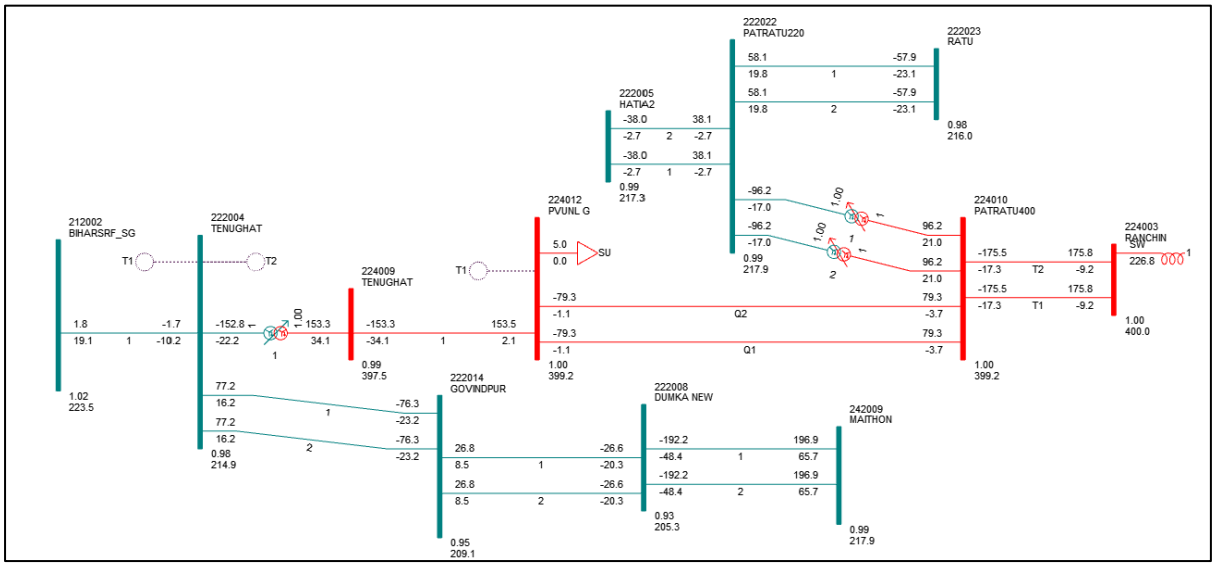
With both units of Tenughat in service, 9 MW is going from Tenughat to PVUNL via 250 MVA ICT at Tenguhat.



With one unit of Tenughat in service, 74 MW is coming from PVUNL to Tenughat via 250 MVA ICT at Tenguhat.

Annexure-3

Interconnection Study of PVUNL



With no units of Tenughat in service, 154 MW is coming from PVUNL to Tenughat via 250 MVA ICT at Tenguhat.

Post commissioning of PVUNL unit

PVUNL 400kV S/S consists of three 400kV transmission lines for evacuation of power of 800 MW unit. This report comprises of the effect of commissioning of the generator on the Grid.

Basecase conditions

Sl. No.	Name	Value
1	Jharkhand Demand	2054 MW
2	ER Demand	26124 MW
3	WR to ER injection	4427 MW
4	PVUNL Generation	750 MW
5	Tenughat Generation	2x180 MW

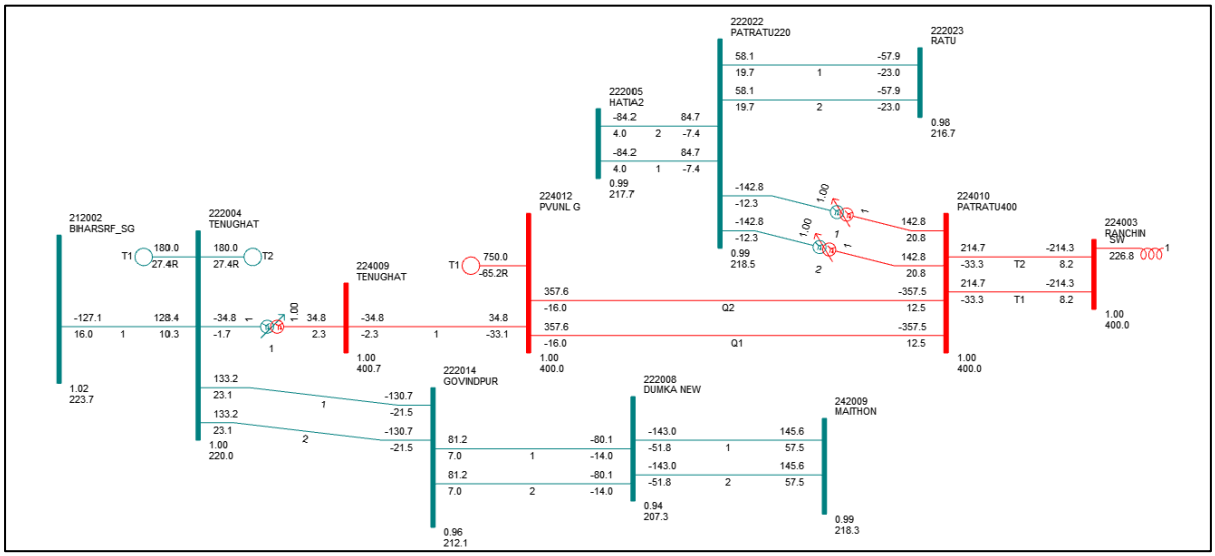
Under above conditions the distribution of PVUNL Generation is as follows:

Direction	Fraction of Generation
Towards 400kV Patratu (JH) S/S	0.9536
Towards 400kV Tenughat S/S	0.0464

With full generation of PVUNL and both units of Tenughat in service, 35 MW is coming from PVUNL to Tenughat via 250 MVA ICT at Tenguhat.

Annexure-3

Interconnection Study of PVUNL

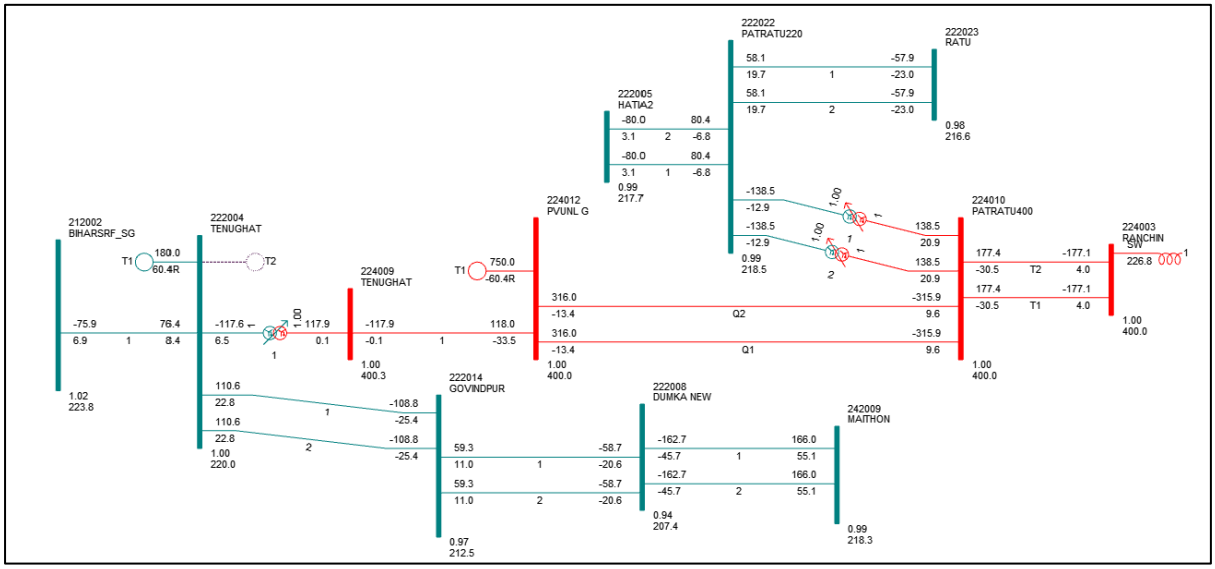


Sensitivities under these conditions:

The sensitivities on 400/220kV Tenughat single ICT are as follows –

Sl. No.	Name	Sensitivity
1	Jharkhand Demand	4%
2	WR to ER injection	1.2%
3	PVUNL Generation	5.8%
4	Tenughat Generation	- 46.2%

One Tenughat unit under outage



With full generation of PVUNL and only one unit of Tenughat in service, 118 MW is coming from PVUNL to Tenughat via 250 MVA ICT at Tenguhat.

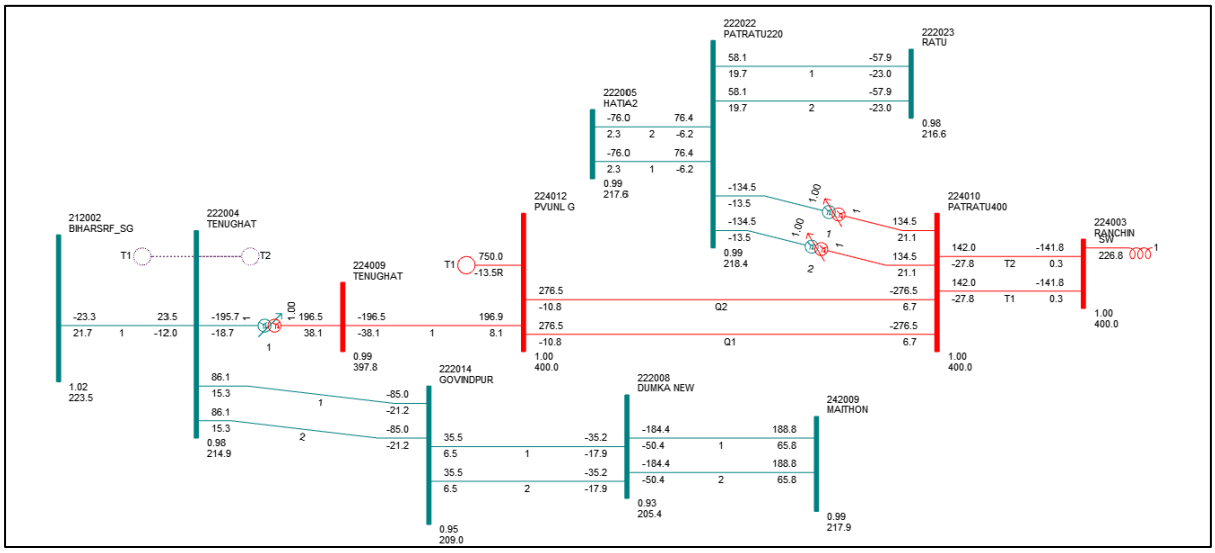
Annexure-3

Interconnection Study of PVUNL

The sensitivity on 400/220kV Tenughat single ICT are as follows –

Sl. No.	Name	Sensitivity
1	Jharkhand Demand	4%
2	WR to ER injection	1.2%
3	PVUNL Generation	5.8%
4	Tenughat Generation	- 46.2%

Both Tenughat units under outage



With high demand of Jharkhand and high injection from WR towards ER, single 400/220kV ICT at Tenughat may get loaded beyond 200 MW.

The sensitivities on 400/220kV Tenughat single ICT are as follows –

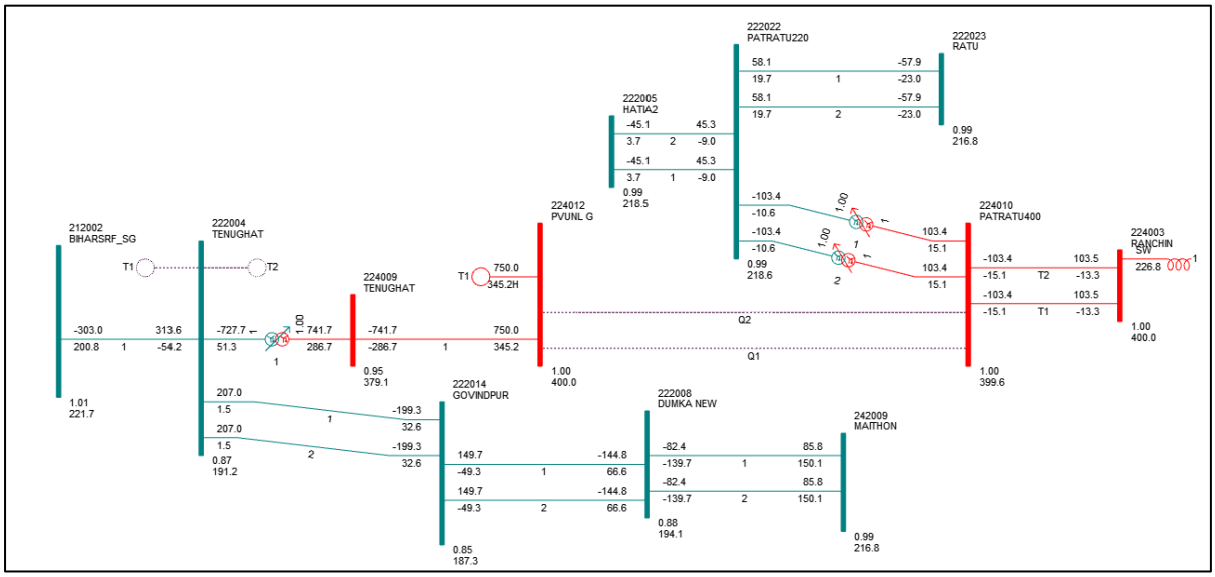
Sl. No.	Name	Sensitivity
1	Jharkhand Demand	4%
2	WR to ER injection	1.2%
3	PVUNL Generation	5.8%
4	N-1 of 220kV Maithon-Dumka	17.1%
5	N-1 of 400kV PVUNL-Patratu	0.8%

400kV PVUNL-Patratu D/C under outage

In case of fault in one 400kV PVUNL-Patratu CKT and simultaneous fault in the parallel CKT with first CKT under tripped conditions, the full power of PVUNL shall be avacuated through single 400kV PVUNL-Tenughat CKT and eventually overload the single 400/220kV Tenughat ICT.

Annexure-3

Interconnection Study of PVUNL



Hence, a SPS may be thought of to safeguard the network elements in such scenario.