



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय  
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No.: No. NERPC/SE (O)/OCC/2025/1596 - 1638

August 05, 2025

To

As per list attached

**Sub: 228वीं ऑपरेशन समन्वय उप-समिति (ओसीसी) बैठक का कार्यवृत्त / Minutes of 228<sup>th</sup> Operation Coordination Sub-Committee (OCC) Meeting**

महोदय/महोदया,

कृपया 25 जुलाई 2025 को एनईआरपीसी कॉन्फ्रेंस हॉल, शिलांग में आयोजित 228वीं ओसीसी बैठक के कार्यवृत्त को अपनी सूचना एवं आवश्यक कार्रवाई हेतु संलग्न पाएं। कार्यवृत्त NERPC की वेबसाइट: [www.nerpc.gov.in](http://www.nerpc.gov.in) पर भी उपलब्ध है।

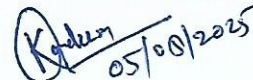
कृपया कोई भी टिप्पणी जल्द से जल्द NERPC सचिवालय को सूचित करें।

Sir/Madam,

Please find enclosed herewith the minutes of the 228<sup>th</sup> OCC Meeting held at NERPC Conference Hall, Shillong on 25<sup>th</sup> July 2025 for your kind information and necessary action. The minutes is also available on the website of NERPC: [www.nerpc.gov.in](http://www.nerpc.gov.in).

Any comments/observations may kindly be communicated to NERPC Secretariat at the earliest.

भवदीय / Yours faithfully,

for  05/08/2025  
निदेशक / Director

Encl: As above



### Distribution List:

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
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4. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
5. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
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7. Director (Generation), MePGCL, Lumjingshai, Short Round Road, Shillong – 793 001
8. Director (Distribution), MePDCL, Lumjingshai, Short Round Road, Shillong – 793 001
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14. Chief Engineer (Commercial) -cum- CEI, DoP, Govt. of Arunachal Pradesh, Itanagar- 791111
15. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
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29. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
30. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
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33. Head of SLDC, MSPCL, Imphal – 795001
34. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
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36. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
37. Head of SLDC, TSECL, Agartala – 799001
38. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
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41. AGM Regulatory & Commercial, NER II TL, 10<sup>th</sup> Floor, Berger Tower, Noida sector 16B-201301
42. Project Head, NERPSIP/PGCIL, Pub Suraj Nagar, Nutun Bazar, Kahelipara, Guwahati- 781019
43. ED, Comprehensive Scheme (Ar. Pradesh), PGCIL, Tayeng Building, Nitivihar, Itanagar-791111

for  05/09/2025  
निदेशक / Director



सत्यमेव जयते

**MINUTES  
OF  
228<sup>th</sup> OCC MEETING**

**Time : 10:30 Hrs.**

**Date: 25<sup>th</sup> July, 2025 (Friday)**

**Venue: NERPC Conference Hall, Shillong**

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## NORTH EASTERN REGIONAL POWER COMMITTEE

### **MINUTES OF 228<sup>TH</sup> OCC MEETING HELD ON 25.07.2025 (FRIDAY) AT 10:30 HRS**

The list of participants is attached as annexure I.

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

##### **1.1. Confirmation of Minutes of 227<sup>th</sup> Meeting of OCC Sub-Committee of NERPC**

The minutes of 227<sup>th</sup> meeting of OCC Sub-committee held on 20.06.2025 at NERPC Conference Hall, Shillong were circulated vide letter No. NERPC/SE (O)/OCC/2025/ 1143-1185 dated 02<sup>nd</sup> July, 2025.

***No comments were received from constituents***

***Sub-committee confirmed the minutes of 227<sup>th</sup> OCCM***

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

##### **AGENDA FROM NERPC**

##### **2.1. Outage planning**

###### **I. Generation Planning (ongoing and planned outages)**

- a.** In 217<sup>th</sup>OCCM, NEEPCO informed that they would provide daily inflow data for storage-type Hydro PS. NHPC also agreed to provide inflow data as per the NER operational data format. Based on that data provided from NEEPCO and NHPC present per day MU and projected number of days of operation.

| Plants             | Reservoir Level<br>in meters (as on<br>23/07/2025) | MU<br>Content | Present<br>DC (MU) | No of days as<br>per current<br>Generation |
|--------------------|----------------------------------------------------|---------------|--------------------|--------------------------------------------|
| Khandong<br>STG II | 719.10                                             | 24.67         | 0.55               | 45                                         |
| Kopili             | 605.80                                             | 71            | 4.00               | 18                                         |
| Doyang             | 307.40                                             | 1.3           | 0.55               | 2                                          |
| Loktak             | 767.49                                             | 59            | 2.47               | 24                                         |

The outage of other generating stations may be approved considering the present water levels in reservoirs. CEA has approved the generation outage plan for FY 2025-26. All the utilities may take note of it and in case of any modification from the Approved Planned Outages, the same may be finalized in consultation with GM Division.

#### **b. Outage Planning of Transmission elements**

As per the Outage planning procedure of NER the planned outages approved in the OCC forum has to be reconfirmed by the availing utilities on 10:00hrs. of D-4 to 12:00 hrs. of D-3) to NERLDC in order to either avail the approved shutdown or cancel it.

If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC between 10 hrs. of 6th of the month to 1200 hrs. of 7th of the month. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

Utilities have submitted the shutdown proposals for the month of August 2025 for discussion in OCC shutdown discussion meeting.



## **Deliberation**

NERPC informed that the proposed shutdowns have been discussed in the monthly outage discussion meeting held on 22.07.2025. The list of approved shutdowns is attached as **annexure 2.1**.

## **Agenda items referred from 29<sup>th</sup> TCC & RPC meeting**

### **2.2. Implementation of Digital Substation Control Protection & Substation Automation at LTPS, NRPP & KLHEP System of APGCL**

APGCL has submitted the DPR for Implementation of Digital Substation Control Protection & Substation Automation at LTPS, NRPP & KLHEP System of APGCL. This scheme will yield a reduction in operating costs and an increase in reliability, flexibility of the power system and further integration of protection & control events to accelerate response to problems. The DPR was placed before 29<sup>th</sup> TCC & RPC for approval, wherein the forum referred to sub-committee for further deliberation.

## **Deliberation**

APGCL representative informed that the estimated cost of the project is 23.8 Cr.

After deliberation, the forum observed that the scheme is eligible for funding under the extant of PSDF guidelines. The forum in principle agreed for the same for implementation under PSDF funding. The forum advised APGCL to send the DPR to PSDF secretariat after getting approval from ensuing RPC meeting.

### **2.3. Installation of DTPC for Protection Scheme and Replacement of Control & Relay Panels for R&M of EHV Sub-Stations in Nagaland.**

DoP Nagaland informed that the power infrastructure in Nagaland has been undergoing a significant transformation and development to meet the growing energy demand, ensure grid reliability and modernizing outdated systems over the last few years. As part of this transformation, several new Extra High Voltage (EHV) substations are being constructed or planned out across the

state to cater the increasing electricity demand and integration of power from renewable and central sector projects.

While infrastructure expansion is underway, the protection and control systems at many substations still remain outdated. Most of the existing EHV substations in the state were commissioned decades back and still use outdated protection, Control and Relay (CR) Panels and rely on Power Line Carrier Communication (PLCC) systems for communication which has in turn become inadequate to meet the requirements of a modern, fast-responding and resilient transmission system. At present, the existing PLCC is used only for basic Speech + Data functions thereby hindering execution of fast and coordinated protection schemes across its network. Furthermore, the absence of remote monitoring and diagnostic capabilities with the existing infrastructure also limits visibility at the State Load Dispatch Centre (SLDC). The North Eastern Regional Power Committee (NERPC) & North Eastern Regional Load Dispatch Centre (NERLDC) have also placed high priority on strengthening protection and telemetry schemes for ensuring full integration of all EHV substations into the regional protection and communication network.

In recent years, the Optical Ground Wire (OPGW) network and communication Systems has been implemented under NEFO and NERPSIP schemes covering several transmission lines and Sub-Stations in Nagaland. The remaining Transmission lines and sub-stations have also been covered under the scheme “Implementation of OPGW and Reliable Communication Scheme in Nagaland” sanctioned by PSDF. Leveraging the OPGW infrastructure, the adoption of **Digital Tele-Protection Couplers (DTPCs)** will greatly enhance protection performance and system reliability by enabling end-to-end tele protection over a secure and fast communication channel. Also, taking into consideration the rugged geography of Nagaland where accessibility to remote sub-stations remains a challenge and monsoon disrupts power lines frequently and with the increasing number of substations, DTPC-based protection scheme compatible both to OPGW and PLCC(as back up) shall ensure robust grid performance and protection.

The existing Control and Relay Panels in most of the existing EHV sub-stations in Nagaland have been in service for a very long time and become technically obsolete and is not compatible to integrate with SAS/SCADA Systems for future requirement. As most of the EHV sub-stations will soon be covered with OPGW connectivity and communication network, the upgradation to Automated Control and Relay Panels have become essential. The modernization of control room through automated Control and Relay panels will enable real-time monitoring, rapid fault detection and isolation and remote operational capabilities thereby ensuring better system stability and strengthening network reliability.

The project has been recommended during the 59<sup>th</sup> & 64<sup>th</sup> PCC Sub-Committee meeting of NERPC on account of System Stability.

The proposal “Installation of DTPC for Protection Scheme and Replacement of Control & Relay Panels for R&M of EHV Sub-Stations in Nagaland” consists of following scope of works:

- a) Installation of DTPCs at 132kV and 66kV sub-stations for end-to-end tele protection compatible both to OPGW and PLCC (as back up) across Nagaland.
- b) Replacement of existing 132kV, 66kV and 33kV Control & Relay Panels by new Control & Relay Panels with Automation System.

The project has been conceptualized and proposed with the following **goals & objectives:**

- i. Implementation of Autoreclose and carrier aided protection in the lines.
- ii. Facilitate accurate and fast isolation of faults through DTPCs thereby reducing risk of blackouts, widespread outages and safeguarding EHV transmission infrastructure.
- iii. The superior selectivity and sensitivity offered by DTPCs will ensure rapid and precise exchange of protection signals between remote ends, significantly reducing fault clearing times and minimizing system downtime thereby improving overall system reliability.
- iv. Modernize and strengthen the sub-station and transmission line performance in Nagaland by replacing outdated panels and protection

devices in compliance with the existing national grid codes and standardized protection practices.

- v. Upgradation of the Control Relay Panels with automation system at 132kV, 66kV and 33kV sub-stations shall enable real-time monitoring and remote operation thereby ensuring better system control and fault response times.

In view of the above considerations, the objective to strengthen the protection and control infrastructure of EHV sub-stations and transmission lines in Nagaland through “Installation of DTPC for Protection Scheme and Replacement of Control & Relay Panels for R&M of EHV Sub-Stations in Nagaland” with an estimated cost of **Rs. 8084.96 lakh** is submitted for implementation under PSDF funding. The matter was placed before 29<sup>th</sup> TCC & RPC for approval, wherein the forum referred to sub-committee for further deliberation.

### **Deliberation**

After deliberation, the forum observed that the scheme is eligible for funding under the extant of PSDF guidelines. The forum in principle agreed for the same for implementation under PSDF funding. The forum advised Nagaland to send the DPR to PSDF secretariat after getting approval from ensuing RPC meeting.

#### **2.4. Construction of 132/33kV, 2x25MVA sub-station at Mon with 132kV D/C transmission line from Longleng to Mon via Aboi along with associated 33kV line and 33kV & 132kV end equipment**

DoP Nagaland informed that power Supply to entire Mon district is catered through the lone, aged, long (165km) Single Circuit 66kV transmission line emanating from 132/66kV Substation at Mokokchung via Tuli – Naganimora - Tizit. Since, the lone, aged existing 66kV transmission line passes through a dense forest coupled with hilly & difficult terrain, with such a long span of 165 km, the frequency of un-scheduled disruption of line is very high and due to the remoteness of the location of the transmission line it takes days for the department to locate and rectify the fault/ restore the transmission line. **And**



**since there is no alternate source of power supply, there have been many instances, wherein the whole district was blacked out for days together resulting in public outcry and system instability.**

Therefore, an alternate robust source of power supply to Mon district is the need of the hour. In this regard, a 132kV substation at Longleng district Hq. is being constructed under NERPSIP Tranche-1 by POWERGRID which is nearing completion. Taking this opportunity, the department proposes to construct a 132kV D/C transmission line with OPGW with a route length of **44km from Longleng to Mon via Aboi** with a 132/33kV, 2x25MVA sub-station at Mon district head quarter with associated 33kV line for downstream connectivity.

The proposed 132 kV D/C transmission line from Longleng to Mon covers a total route length of about 44 km. The transmission line would also be interconnected with the proposed 132 kV S/C transmission line between Mokokchung–Tuli–Naganimora–Tizit–Mon; the 132 kV Zhadima–Niuland–Champhang–Longnak–Mokokchung line which has been planned under the Transmission Plan 2030/32 by the CEA and the existing 132 kV Longleng–Tuensang–Kiphire–Meluri–Kohima–Zhadima line. Thus, a complete 132 kV ring circuit transmission line would be formed by connecting the 400/220 kV Zhadima and 220/132 kV Mokokchung substations, both of which are connected to the grid, thereby enhancing system flexibility, stability, and ultimately overall system reliability.

Taking note of the importance of ‘Act East Policy of India’ and requirement for socio-economic development in the far-eastern Indian states, which borders with Myanmar, the Mon District Planning & Development Board vide its letter No.DPMM/DPDB-1/2023-24, Dt. 19.05.2023 has recommended to the Government of Nagaland about the need to come up with alternate 132kV power source to Mon District.

Construction of 33kV D/C transmission line on lattice structure from the proposed 132/33kV Mon sub-station to the existing 66/33kV Mon sub-station with one no. of 33kV bay at 66/33kV Mon sub-station for downstream link (10km) for evacuation of power from this new sub-station has been incorporated in the scheme which will strengthen the distribution system in

various towns and villages by installing new and also augmenting the existing transformers to meet the load demand and Stability of Power supply.

The proposal “Construction of 132/33kV, 2x25MVA sub-station at Mon with 132kV D/C transmission line from Longleng to Mon via Aboi along with associated 33kV line and 33kV & 132kV end equipment,” consists of following scope of works:

- a) Construction of 132/33kV, 2x25 MVA sub-station at Mon with one 132kV sending end bay at Longleng.
- b) Construction of 132kV D/C Transmission line from Longleng to Mon via Aboi (44km).
- c) Construction of 33kV D/C Transmission line on lattice structure from the proposed 132/33kV Mon sub-station to the existing 66/33kV Mon sub-station with one no. of 33kV bay at 66/33kV Mon sub-station for downstream link (10km).

The project has been conceptualized and proposed with the following **goals & objectives**:

- i. The proposed sub-station on implementation shall provide an alternate grid power source to Mon district, which is an urgent need.
- ii. Development of the proposed sub-station and associated transmission lines shall mitigate shortages, provide reliability and cater to the load demand & growth, both intra and inter State.
- iii. The sub-station along with its transmission lines on completion shall establish a new transmission corridor in the NER region.
- iv. The proposed 132/33kV Sub-Station shall connect the existing 66/11kV & 66/33kV Mon sub-stations which will enhance reliability of power to Mon town and its surrounding areas. In case of any disturbance on the 66kV Transmission line from Mokokchung-Tuli-Naginimora-Tizit-Mon, the 132/33kV Sub-Station shall be able to support the entire load of Mon Town in the event of any eventuality.
- v. Provision has been kept for load growth with extensive capacity additions through Government of India’s program like DDUGJY, RDSS and State program.
- vi. Nagaland is Phasing out 66kV system from the network.

In view of the above, Nagaland proposed “construct 132/33kV, 2x25MVA sub-station at Mon with 132kV D/C transmission line from Longleng to Mon via Aboi along with associated 33kV line and 33kV & 132kV end equipment,” with an estimated cost of **Rs. 16655.97 lakh**, the project proposal is submitted for implementation under PSDF funding. The matter was placed before 29<sup>th</sup> TCC & RPC for approval, wherein the forum referred to sub-committee for further deliberation.

### **Deliberation**

NERPC informed that the 132/33kV Mon substation along with 132kV SC line from Longleng to Mon has been included in the CEA report on Intra-state Resource adequacy plan 2034-35. The forum approved the scheme as provided and approved in the CEA report. On Nagaland’s request for including second circuit Longleng-Mon line in the scheme, the forum advised DoP Nagaland to send the request to CEA for inclusion of the same after conducting a study in coordination with NERLDC.

NERPC further informed that, as per the PSDF guidelines, new transmission schemes are not eligible under PSDF funding.

### **2.5. PROPOSAL FOR PROCUREMENT OF MODERN DIAGNOSTIC TOOLS FOR SUBSTATIONS UNDER MSPCL AND ESTABLISHMENT OF A PERIODIC CALIBRATION SYSTEM - MSPCL**

MSPCL informed that Manipur State Power Company Limited (MSPCL) operates and maintains the transmission infrastructure in Manipur, including several 33/11 kV, 132/33 kV and 400/132 kV substations. Currently, the diagnostic capabilities at many substations are limited due to the lack of essential modern diagnostic tools and equipment. This shortfall affects the efficiency of preventive and predictive maintenance, delayed fault detection, and increases the risk of equipment failures and unplanned outages. Additionally, the absence of a structured calibration regime reduces the accuracy and reliability of test results, which may lead to erroneous diagnoses and delayed fault rectification.

To enhance asset reliability, reduce equipment downtime, and implement condition-based maintenance practices, MSPCL proposes to procure critical diagnostic tools for its substations and establishment of a periodic calibration system to maintain the precision and effectiveness of these tools.

The following diagnostic tools have been identified as priority equipment for substations under MSPCL:

| Sl.No. | Diagnostic Tool                           | Purpose                                         |
|--------|-------------------------------------------|-------------------------------------------------|
| 1      | Dissolved Gas Analysis (DGA) Kit          | Transformer fault and oil degradation detection |
| 2      | Transformer Oil Test Kit                  | Assess Insulation health and detect faults      |
| 3      | Circuit Breaker Analyzer                  | Measure timing, contact travel and resistance   |
| 4      | Primary & Secondary Injection Test Kit    | Testing of CTs/PTs and protection relays        |
| 5      | Contact Resistance Meter                  | Assess CB and Isolator contact condition        |
| 6      | Tan Delta & Capacitance Test Kit          | Assess insulation deterioration                 |
| 7      | Insulation Resistance Tester (5 kV/10 kV) | Test winding insulation resistance              |
| 8      | Earth Resistance Tester                   | Verify grounding system effectiveness           |
| 9      | Partial Discharge Measurement Kit         | Early detection and insulation defects          |
| 10     | CT/PT Analyzer                            | Analyze CT/PT performance characteristics       |
| 11     | Thermal Imaging Camera                    | Hotspot detection in live switchyard equipment  |
| 12     | Partial Discharge Detection Kit           | Partial Discharge detection                     |

|    |                          |                                            |
|----|--------------------------|--------------------------------------------|
| 13 | SFP Gas Quality Analyzer | Purity and moisture check for SF6 breakers |
|----|--------------------------|--------------------------------------------|

In this regard, MSPCL proposes that NERPC recommend the initiative for funding under PSDF (Power System Development Fund) or coordinating with CEA/Ministry of Power for financial support.

Considering the above facts, the Committee may kindly support following request of MSPCL:

- Approval in principle for procurement and calibration framework.
- Recommendation for central or regional funding support.
- Encouragement of regional collaboration for mobile calibration facilities or shared testing infrastructure.
- Facilitation of NERPC-level capacity-building workshops on modern diagnostic practices and tool calibration.

The matter was placed before 29<sup>th</sup> TCC & RPC for approval, wherein the forum referred to sub-committee for further deliberation.

### **Deliberation**

The forum opined that the scheme seems not eligible for funding under the extant PSDF guidelines. MSPCL may explore other option of funding..

MS NERPC informed that CPRI (Central Power Research Institute) has expressed willingness to provide testing services to power utilities of NER States and urged the NER power utilities to avail the services of CPRI. He further mentioned that CPRI would be invited to the upcoming OCC meeting to present their proposal.

### **2.6. Bus Strengthening of 132kV and 33kV system at 132/33/11kV Kohima Sub-station**

DoP Nagaland informed that the 132/33/11 kV Kohima Sub-station plays a vital role in Nagaland's power transmission network, acting as a key node for delivering power to the state capital and surrounding districts, including



Tseminyu, Wokha , Phek, Meluri and Kiphire. The 132/33/11kV Kohima Sub-station is connected to the grid through the 132kV Karong-Kohima, 132kV Dimapur PG-Kohima, 132kV Zhadima-Kohima and 132kV Meluri-Kohima Lines. The sub-station is also linked to the Doyang HEP through the 132kV Doyang-Sanis-Wokha-Chiephobozou-Zhadima-Kohima line and Likimro HEP through the 132kV Likimro-Kiphire-Meluri-Kohima line. The sub-station is linked to two(2) inter-state elements through the 132kV Karong-Kohima and 132kV Dimapur PG-Kohima lines. The sub-station not only plays an important role in system stability and reliability of Nagaland but also for Northern Part of Manipur State. Presently, the sub-station caters power to the entire State Capital with an existing load of approximately 45.6 MW. Kohima, the capital city of Nagaland state, has been selected in the list of Smart City Initiative by Government of India. As such, numerous socio-economic infrastructural developments are underway. Therefore, the Sub-station is expected to experience a substantial increase in loading due to increased load demand and capacity addition of upcoming generation sources. Besides the existing Likimro HEP (24MW), upcoming generation sources includes the proposed Tizu Valley HEP (24 MW), Zungki HEP (24 MW), Lower Tizu HEP (42 MW), Ponglefo HEP(1 MW), Lower Likimro HEP (8.1 MW) thereby cumulatively contributing an additional 123.1 MW to the grid. Consequently, the projected future loading on the 132/33/11kV Kohima sub-station is estimated to be around 190 MW.

The Sub-station presently operates on a Single Bus Bar arrangement and hence, the sub-station is highly vulnerable to disruptions. Any system breakdown or fault on the Bus leads to complete outage causing entire blackout of the state Capital severely disrupting essential public services, administrative operations, government functions and also affects the reliability and stability of power to its adjoining districts. There have been many incidents in the past where a fault on the Bus has led to blackout of the entire capital and its adjoining areas. This particular issue has been taken on a serious note by North Eastern Regional Power Committee (NERPC) & North Eastern Regional Load Despatch Centre –Grid India (NERLDC) and subsequently discussed multiple times at NER-Power Co-ordination

Committee (NER-PCC) & Operation and Co-ordination Committee (NER-OCC) meetings. During 54th, 55th, 56th, 57th and 58th PCC Meetings NERPC has strongly recommended for Bus Strengthening of 132kV and 33kV at Kohima sub-station. However, due to funding issues and space constraint, the proposed strengthening / upgradation could not be implemented. Strengthening of existing 132kV and 33kV Bus Bar from Single to Double busbar system is therefore vital to enhance system reliability.

The sub-station is also constrained in terms of available land for expansion and the aging switchgear components necessitates the need for a major upgradation to accommodate the future demand, improve fault tolerance and support modernization of the grid. Due to the hilly terrain of the sub-station, the 132kV bays at the sub-station are constructed at three different elevation levels in a cascading arrangement. On 28th June 2019, the Executive Director, NERLDC on his visit to 132/33/11 kV Kohima Sub-station also remarked on the limited space and congestion within the sub-station, noting that any future expansion and modification or strengthening would be challenging under the existing AIS setup. In 2024, the Department engaged M/s Hitachi Energy India Limited for conducting system Study of 132/33/11kV Kohima Sub-station. During their site visit, the firm observed the existing cascading layout of the 132kV bays and the space constraint of the sub-station and suggested for conversion of the existing 132kV AIS substation to Hybrid-GIS substation. Conversion of existing AIS Bays to Hybrid GIS not only offers the benefit of space optimization for construction of Double Bus Bar arrangement but also has the advantage of compactness, reduced maintenance cost and high reliability, making it a viable solution due to constrained space installations. The 33kV Hybrid-GIS arrangement at Kohima Sub-station will also increase reliability of the 33 kV voltage network and ensure better protection coordination with the 11 kV and LT levels.

Considering the existing load, future load demand and integration of upcoming Hydro Power stations projects, the bus loading is expected to touch about 190MW. This will require replacement of ACSR Single Panther Bus with ACSR Twin Moose Bus, as the present bus is not sufficient to handle the

projected load growth.

Further, The 132/33/11kV Kohima sub-station was commissioned during the 1980s and has been a vital infrastructure for power distribution in the State capital and adjoining areas since then. Given it's age, the existing control panels have been in service for a very long time and with the advancement in control panel automation system through Substation Automation System (SAS), modernization of control room with modern SAS will enable real-time monitoring, fault isolation and remote operation by integration with SCADA system thereby ensuring better system control and fault response times.

The proposal "Bus Strengthening of 132kV and 33kV system at 132/33/11 kV Kohima Sub-station" consists of following scope of works:

- c) Conversion of 132 kV & 33kV AIS Bays to Outdoor Hybrid Gas-Insulated Sub-station (GIS).
- d) Strengthening of the Existing 132 kV & 33kV Busbar from Single to Double Busbar Configuration.
- e) Replacement of 132 kV & 33kV Busbar Conductor from ACSR Panther to ACSR Twin Moose conductor for 132kV system and ACSR Moose conductor for 33kV system.
- f) Replacement of existing 132kV and 33kV Control Panels with 132kV and 33kV Control Panel with Automation System.
- g) Substation Automation System (SAS).

The project has been conceptualized and proposed with the following **goals & objectives**:

- vi. The proposed strengthening of 132kV & 33kV bus shall enhance reliability of power to the State capital and it's adjoining areas.
- vii. The Double Bus Bar scheme shall provide system redundancy and enable parallel operation and maintenance at both 132kV and 33kV levels thereby ensuring uninterrupted power supply and also minimize outage during contingency and scheduled maintenance.

- viii. Hybrid GIS will reduce operation and maintenance cost as compared to AIS.
- ix. Improved system design, support higher short-circuit levels and ease of future addition of new elements.
- x. Up-gradation of busbar conductors will enhance load carrying capacity for projected load growth and integration of upcoming generation sources.
- xi. Integration of SAS and SCADA systems through modernization of the Control Room of the 132/33/11kV Kohima Sub-station shall enable real-time monitoring, fault isolation and remote operation thereby ensuring better system control and fault response times.

In view of the above considerations, with the objective to enhance capacity, reliability, and resilience of power supply across Kohima by modernizing and upgrading the 132/33/11 kV Kohima Sub-station through the implementation of Hybrid GIS, double busbar configuration, and automation systems the proposal for “Bus Strengthening of 132kV and 33kV system at 132/33 kV Kohima Sub-station” with an estimated cost of **Rs. 5956.60 lakh** is submitted for consideration of funding under PSDF

The matter was discussed in 29<sup>th</sup> TCC and RPC meeting wherein it was referred to sub-committee for detailed deliberation.

### **Deliberation**

The forum opined that the Bus strengthening of DoP Nagaland proposal requires study and constituted a system study group comprising of members from NERPC, NERLDC, state STU, and state SLDC for examining the strengthening requirement. MS NERPC advised the study group to present its study report in next OCC meeting.

NERLDC requested DoP Nagaland to provide necessary data for creating the base case and future load requirement in the Kohima area.

### **AGENDA FROM NERLDC**

## 2.7. Operational Performance and Grid discipline during June 2025:

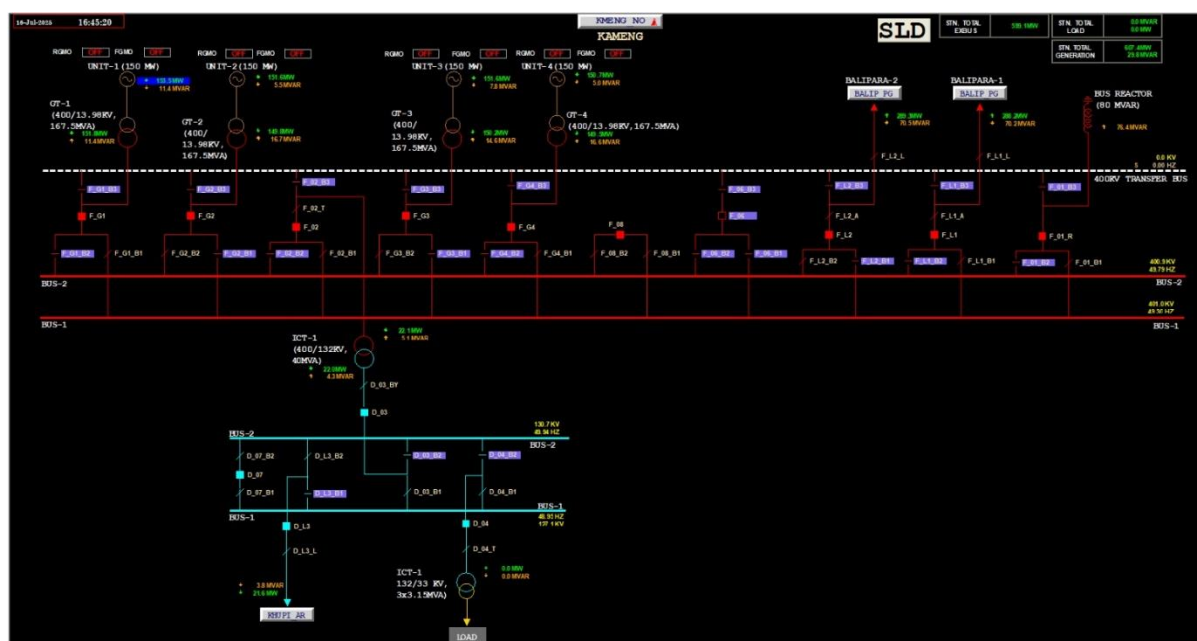
NERLDC presented the Operational Performance and Grid Discipline Report for the month of June 2025 (annexure 2.7).

## 2.8. Delay in Commissioning of 400 kV Transfer Bus at Kameng HEP

NERLDC apprised the committee that the 400 kV substation at Kameng has been in operation since March 2019. As per the approved scheme, the 400 kV bus configuration follows a Double Main Cum Transfer Bus arrangement.

However, it is observed that since its inception, the 400 kV Transfer Bus at Kameng HEP has not been commissioned, even after more than six years of the commissioning of the 400/132 kV substation.

The absence of the Transfer Bus is adversely impacting grid reliability, particularly during maintenance activities, and poses operational challenges.



In view of the above, NEEPCO is requested to provide the reasons for the prolonged delay in commissioning the 400 kV Transfer Bus and to furnish a firm and time-bound schedule for its commissioning at the earliest.

## Deliberation

NEEPCO informed that the transfer Bus has not been operational since the CoD of the station due to disagreement with the OEM (BHEL) on the design



related matter. He added that BHEL has recently agreed on the design as proposed by NEEPCO and the work will start shortly. Further he informed that the work will tentatively be completed by March'26.

### **2.9. Urgent Restoration of Phase-B Isolator of 400 kV Balipara–Kameng–1 Line at 400kV Kameng Bus**

NERLDC highlighted that the Phase-B isolator of the 400 kV Balipara–Kameng-1 line has remained in an unhealthy condition since 29-06-2025. This poses a significant operational risk, any fault or issue on the Bus-A side elements could potentially lead to a complete outage of the 400 kV Balipara–Kameng–1 line, thereby seriously affecting the reliability of the North Eastern Region (NER) grid.

As approved scheme at 400 kV bus at Kameng HEP is a Double Main Cum Transfer Bus scheme. This configuration allows for maintenance activities on isolators to be carried out by energizing the line through the Transfer Bus arrangement. However, due to the non-commissioning/unavailability of the 400 kV Transfer Bus at Kameng HEP, this flexibility is currently not available, further compromising grid reliability and delaying essential maintenance.

Given the high inflow, elevated reservoir water levels, and the ongoing peak monsoon season, ensuring the healthiness of all system elements remains a top priority. Hence, NEEPCO is requested to provide the tentative date for the restoration of the Phase-B isolator of the 400 kV Balipara–Kameng–1 line at the earliest to ensure continued system reliability.

#### **Deliberation**

NEEPCO informed that the phase B isolator of the Balipara-Kameng I line has got burnt and its replacement requires shutdown of both the 400kV buses as working with outage of only one poses safety risk to workmen. The NERLDC stated that the current scheme at the 400 kV bus of Kameng HEP is a Double Main Bus scheme. This configuration enables maintenance activities on isolators to be performed without any power interruptions. The forum

acknowledged this and requested NEEPCO to reassess the restoration work and plan the shutdown accordingly.

#### **2.10. Early Restoration of 132kV Lekhi-Chimpu line.**

NERLDC informed that the 132 kV Lekhi–Chimpu transmission line has been under outage since 06:11 Hrs on 30-05-2025. As per information received from the Department of Power, Arunachal Pradesh (DoP AP), the outage is due to Tower No. 5 being on the verge of collapse, attributed to heavy rainfall in the area.

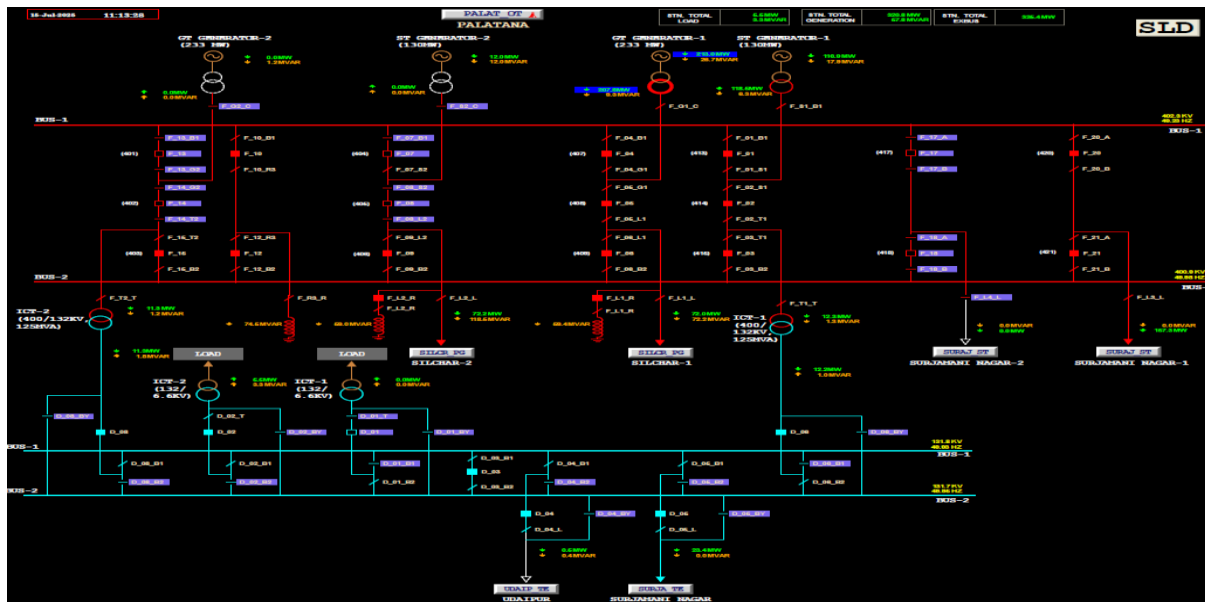
DoP Arunachal Pradesh is requested to provide the status update and detailed plan for the restoration of the 132 kV Lekhi–Chimpu line at the earliest.

#### **Deliberation**

DoP Ar. Pradesh informed that restoration works are underway which may take three (3) months. Forum urged DoP Ar. Pradesh to restore the line at the earliest using ERS and requested NERTS to extend necessary support in this matter.

#### **2.11. Opening of dia at 400kV Palatana substation**

NERLDC informed that the 400 kV bus scheme at the Palatana substation is a one-and-a-half breaker scheme, which allows for the isolation of elements during maintenance without compromising system integrity. However, it has been observed that during shutdowns of the Gas Turbine Generator (GTG) or Steam Turbine Generator (STG), the entire dia is kept open by switching both the main and tie breakers to the open position. This results in the remaining parallel elements being connected through a single bus only, thereby compromising system reliability under N-1 contingency conditions.



Further, It is important to note that, as per the approved scheme, isolation of the Palatana module can be achieved through the operation of a dedicated isolator at the 400 kV Palatana plant. Therefore, the current practice of opening both main and tie breakers during such outages appears unnecessary and counter to the intended design.

In view of the above, OTPC, Palatana is requested to provide justification for keeping both the main and tie breakers out of service during the outage of the Palatana module, as this practice significantly impacts the reliability and security of the North Eastern Region (NER) Grid.

### **Deliberation**

OTPC informed that Dia and main CBs are kept open due to safety reason. NERLDC highlighted that this could affect the reliability of the Bus switching scheme. Forum opined that opening of isolator and switching on the earth switch should ensure sufficient safeguard for maintenance work and opening the main and Ties CBs are not required. Forum requested OTPC to connect the tie and Main Bay so that advantage of one and a half switching scheme is ensured for reliable and secure grid operation.. OTPC representative stated that the matter will be first discussed internally and accordingly a response will be provided to the forum within week.

## **2.12. Operation of 400 kV Switchyard on Single Bus mode since commissioning at Panyor Lower HEP (PLHEP)**

NERLDC informed that the existing 400 kV Bus scheme of Panyor Lower HEP is double main scheme, however 400 kV Bus-1 is not available since commissioning. This does not comply with clause no. 44.2(a) CEA Technical Standards for Construction of Electrical Plants and Electric Lines), 2022.

During the 25th TCC/RPC meeting, NEEPCO had informed that the commissioning of the second bus at Ranganadi HEP was scheduled to be completed by September 2024.

Further, as per deliberations of 216<sup>th</sup> OCC meeting dated 25.03.2025, NEEPCO conveyed that isolator spares had been received and that the re-tendering process for the SF6 breaker was underway. It was also stated that the work was tentatively expected to be completed by May 2025.

Subsequently, the matter was again deliberated in the 224<sup>th</sup> OCC meeting, where NEEPCO informed that the commissioning is now expected to be completed by November 2025. However, it is noted that 400 kV Bus-2 has still not been commissioned at Panyor Lower HEP.

A status update may be provided by NEEPCO for early commissioning 400kV Bus -2 at Panyor Lower HEP.

### **Deliberation**

NEEPCO informed that the work is expected to be completed by Nov'25.

## **2.13. Status of Commissioning of Lower Subhansiri HEP (8x250 MW)**

NERLDC informed that as per the deliberations of the 28th TCC meeting held on February 20th and 21st, 2025, the NHPC representative had informed the Forum that three units of the Lower Subhansiri Hydro Electric Project (8x250 MW) were expected to be commissioned by May 2025, with the remaining units scheduled for commissioning by May 2026.

However, it is to be noted that, as of now, no unit has been commissioned. However technical data for the Lower Subansiri HEP has been received from NHPC.

A status update may be provided regarding the commissioning schedule of the units of Lower Subansiri HEP (8x250 MW).

### **Deliberation**

NHPC informed that NDSA (National Dam Safety Authority) approval is expected shortly and one unit will tentatively be commissioned in Oct'25.

### **2.14. Request for Strengthening of 220 kV BTPS–Agia DC Line by AEGCL**

NERLDC informed that the current Total Transfer Capability (TTC) of the North Eastern Region (NER) is being restricted due to high loading on the following transmission lines under the N-1 contingency condition of the 400 kV Bongaigaon–Azara line:

- 220 kV Balipara–Sonabil DC
- 220 kV BTPS–Agia DC

In the future scenario, with the anticipated commissioning of 400 kV substations at Rangia, Sonapur, and Khumtai, as well as 220 kV substations at Agamoni, Sankardev Nagar, and Bihpuria, system studies suggest that the 220 kV Balipara–Sonabil DC and the 220 kV BTPS–Agia DC will continue to remain major constraints in enhancing the import TTC of the NER.

While the strengthening of the 220 kV Balipara–Sonabil D/c line has already been approved in the C-METS forum, the strengthening of the 220 kV BTPS–Agia D/c line, under the scope of AEGCL, still needs to be taken up.

In light of the above and considering both present and future system constraints, AEGCL is kindly requested to expedite the reconductoring of the 220 kV BTPS–Agia DC line to ensure reliable and secure operation of the power system.

### **Deliberation**

AEGCL informed that study has been done and waiting for fund approval and work to start next year.

### **2.15. Regarding non-submission of Demand forecast and Resource Adequacy (RA) data as per IEGC 2023**

NERLDC informed that IEGC 2023 mandated that each SLDC and such other entities (like bulk consumers) which are directly connected to ISTS will carry out the demand estimation for both active and reactive power (as per clause 31.2(a), 31.2(b), 31.2(f)) along with the generation capacity availability (as per clause 31.4(b)) for meeting the projected demand and submit the same to respective RLDC for regional level forecast by method of aggregation, each RLDC would further furnish the regional level as well as state level forecast data to NLDC for computation for all India level demand and generation estimation (as per clause 31.2(g)).

The timeline for submitting these data to RLDC/NLDC would be as given in Table-I (as per IEGC clause 31.2(h)).

Table-I: Timeline for Demand Estimation

|                                                |                                     |
|------------------------------------------------|-------------------------------------|
| Daily demand estimation                        | 10:00 hours of previous day         |
| Weekly demand estimation<br>(Monday to Sunday) | First working day of previous week  |
| Monthly demand estimation                      | Fifth day of previous month         |
| Yearly demand estimation                       | 30th September of the previous year |

***In view of the above, it has been observed that Demand estimation and RA data is not being submitted regularly by:***

- 1. Arunachal Pradesh SLDC in all the time horizons (i.e. Day-ahead, Week Ahead & Month Ahead) to NERLDC.***
- 2. Tripura SLDC in Week-Ahead & Month ahead to NERLDC***



*To facilitate effective operational planning, forecast and RA data is essential. Hence, SLDC AP and SLDC Tripura is requested to submit the required forecast data as per the IEGC timeline mentioned above regularly.*

### **Deliberation**

The forum exhorted DoP Ar. Pradesh and Tripura SLDCs to submit the required data as per the IEGC timeline.

## **2.16. Conduct of annual self-audits and submission of reports in compliance with Reg. 56 of IEGC, 2023**

NERLDC informed that The Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 came into force with effect from 1st October 2023.

In accordance with the Regulation 56 (Monitoring of Compliance) of IEGC, 2023, the relevant provisions pertaining to self-audits are quoted below:

Quote

*(1) In order to ensure compliance, two methodologies shall be followed:*

- (a) Self-Audit*
- (b) Compliance Audit*

*(2) Self –Audit:*

*(a) All users, CTU, STUs, NLDC, RLDCs, RPCs and SLDCs, power exchanges, QCAs, SNAs shall conduct annual self-audits to review compliance of these regulations and submit the reports by 31st July of every year.*

*(b) The self-audit report shall inter alia contain the following information with respect to non-compliance:*

- (i) Sufficient information to understand how and why the non-compliance occurred;*
- (ii) Extent of damage caused by such non-compliance;*
- (iii) Steps and timeline planned to rectify the same;*
- (iv) Steps taken to mitigate any future recurrence;*

- (c) The self-audit reports by users, QCAs, SNAs shall be submitted to the concerned RLDC or SLDC, as the case may be.*
- (d) The self-audit reports by power exchanges shall also be submitted to the NLDC.*
- (e) The self-audit reports of NLDC, RLDCs, CTU, and RPCs shall be submitted to the Commission. The self-audit report of SLDC and STUs shall be submitted to the concerned SERC.*
- (f) The deficiencies shall be rectified in a time bound manner within a reasonable time.*
- (g) The monitoring agency for users shall be the concerned RLDC or SLDC on the basis of their respective control area. The monitoring agency shall track the progress of compliances of users, and exceptional reporting for non-compliance shall be submitted to the appropriate Commission.*
- (h) The monitoring agency for RLDC, NLDC, CTU and RPC shall be the Commission, and for STUs and SLDCs, shall be the concerned SERC.*
- (i) The Regional Power Committee (RPC) in the region shall also continuously monitor the instances of non-compliance of the provisions of these regulations and endeavor to sort out all operational issues and deliberate on the ways in which such cases of non-compliance shall be prevented in future. The Member Secretary of respective RPCs may also report any unresolved issues to the Commission*
- (j) The Commission may initiate appropriate proceedings upon receipt of report under sub-clauses (f) and (h) of this clause.*
- (k) In case of non-compliance of any provisions of these regulations by NLDC, RLDCs, SLDCs, RPCs and any other person, the matter may be reported by any person to the Commission through filing of a petition.*
- (3) Independent Third-Party Compliance Audit: The Commission may order independent third-party compliance audit for any user, power exchange, QCA, SNA, CTU, NLDC, RLDC and RPC as deemed necessary based on the facts brought to the knowledge of the Commission.*

Unquote

### Action Points by Users

- Conduct self-audit covering all applicable provisions of IEGC, 2023.
- Prepare report including details of any non-compliance and corrective measures.
- Submit the final self-audit report to NERLDC or SLDC depending on their respective control area by 31st July 2025.

For Users, the monitoring agency shall be the concerned RLDC or SLDC, depending on their respective control area. Monitoring agencies are responsible for tracking the progress of compliance with the IEGC, 2023 provisions by the Users under their jurisdiction. In cases where non-compliance is observed, the monitoring agency shall prepare and submit an exceptional report detailing such instances to the appropriate Commission, ensuring timely regulatory oversight and corrective action.

### **Deliberation**

MS NERPC exhorted all the users of the grid to conduct the self-audit and submit the report to RLDC and SLDC depending on their respective control area.

### **2.17. Request for Expedited Registration on NOAR Portal by NER Intra-State Generating Utilities:**

The Ministry of Power, Government of India, has launched the National Open Access Registry (NOAR) to streamline short-term open access transactions in the electricity sector. As such, all such transactions, whether inter-state or intra-state must be routed through the NOAR portal.

Data received from Grid India indicates that a large number of intra-state generating stations in the NER region are still unregistered on the portal. It is crucial to note that unregistered generating plants are ineligible to participate in short-term open access transactions via NOAR.

This concern was highlighted during the 6th Meeting of the High-Level Committee on implementation of the Late Payment Surcharge (LPS) Rules, 2022. The Committee strongly recommended that all generating companies (GENCOs) should promptly register their intra-state generation units on the

NOAR portal to ensure regulatory compliance and enable seamless scheduling.

NERLDC had previously communicated this requirement through letters dated 03.10.2024 and 03.12.2024 to all NER states. The issue was further emphasized in the 55th Commercial Committee Meeting as well as in the 227th OOC Meeting.

Despite these communications, several intra-state generating utilities from Meghalaya, Tripura, Mizoram and Arunachal Pradesh are yet to fully complete the registration process. At present, only the intra-state generating plants of Assam, Nagaland and only Monarchak CCPP from Tripura (NEEPCO) have successfully registered, while others are reportedly in the process.

In line with NLDC's directive (Annexure-2.17a), NERLDC strongly urge all concerned utilities to prioritize and expedite the NOAR registration process at the earliest. This will ensure readiness for upcoming power transactions and avoid any operational or regulatory non-compliance.

Annexure-2.17b contains the current status of registration efforts across the region.

### **Deliberation**

NERLDC informed that Assam, Mizoram and Nagaland have registered on the portal and Meghalaya, Tripura and Ar. Pradesh are still pending.

Meghalaya representative informed that their higher authorities have seek exemption from transacting on the NOAR portal and have also sent a letter addressing ED NERLDC in this regard. MS NERPC opined that Meghalaya, along with other states can register on the NOAR portal and it is not compulsory to make short term open access transaction for intra State generators. It is a facility provided for Intra State generators for selling power(if required)..

### **2.18. De-rating of Kopili Stg II from 25 MW to 23 MW**

NERLDC informed that as per the CEA letter dated 14.09.2021, received from NEEPCO, the Installed Capacity (IC) of Kopili Stage-II has been de-rated from 25 MW to 23 MW. But IC of Kopili Stage-II is still 25MW in WBES and NEEPCO is furnishing DC of 25MW till date.

In view of this, a mail was sent to NERPC on 24.06.2025 requesting necessary instructions, as the station is still being considered at 25 MW for all operational and commercial purposes.

Annexure -2.18 contains CEA letter.

### **Deliberation**

NEEPCO informed that with the commissioning of both units of Khandong stg I (2x23), Kopili stg II will be derated to 23 MW. He added that the commercial wing of NEEPCO is taking up the matter with CEA to allow for original rating of 25MW for the Kopili stg II till both units of Khandong stg II is on Bar.

MS NERPC stated that the matter can be further discussed in the upcoming CCM for further deliberation.

### **2.19. CEA letter regarding issuance of guidelines to be followed for processing of PTCC proposals for 33 kV feeders of ISTS connected Renewable Energy (RE) power projects**

As per Clause 80 of the Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2023, *the owner of every electric supply line of 11 kV and above must obtain PTCC clearance to ensure the safety of personnel and nearby telecommunication infrastructure, in accordance with Section 160 of the Electricity Act.*

Most RE power plants utilize multiple 33 kV feeder lines to transmit power from Inverter Duty Transformers (IDTs) or Wind Turbine Generators (WTGs) to the Pooling Substation (PSS), and subsequently to the electricity grid.

However, Several RE developers have recently highlighted delays in obtaining PTCC approvals primarily due to:

- Requirement of multiple feeder-wise PTCC applications for each 33 kV line.

- Involvement of multiple utilities and coordination challenges.
- Cumbersome processing for projects with large numbers of feeders.

To address these concerns, CEA guideline (attached as annexure 2.19) has been prepared to streamline the PTCC approval process for 33 kV feeders of ISTS-connected RE projects, while ensuring the harmonious coexistence and safety of nearby telecom assets and maintaining ease of doing business for power utilities.

This is for information and necessary compliance.

### **Deliberation**

***Sub-committee noted the same***

## **2.20. CEA Guidelines for Automatic Weather Stations (AWS) for Solar and Wind Power Plants.**

Solar and wind generation is highly dependent on weather conditions, and inaccurate forecasts often lead to significant financial penalties under the Deviation DSM Mechanism.

Accurate measurement of meteorological parameters can improve forecasting, optimize RE generation, enhance grid reliability, and ensure regulatory compliance.

In this regard, CEA has issued guidelines for the installation of Automatic Weather Stations (AWS) in Solar and Wind Power Plants. All Renewable Energy Implementing Agencies are requested to suitably include the requirement of Automatic/weather Stations in bid documents. The CEA letter along with the guidelines is attached as Annexure 2.20 for reference.

### **Deliberation**

The forum noted that the guideline is applied to the RE plants of 50MW and above capacity.

MS NERPC requested the concerned state SLDCs to take up the matter with RE developers in their state for ensuring compliance.



### **2.21. Re-configuring RTUs of NEEPCO owned stations for reporting to NERLDC Guwahati**

NERLDC informed that NERLDC Guwahati was inaugurated on 11th March 2024, following which NERLDC is operating under the Main-1 and Main-2 concept, with its establishments located in Shillong and Guwahati. At present, some NEEPCO stations report exclusively to NERLDC Shillong. In view of achieving 100% redundancy of Main-1 and Main-2 NERLDC, there is a critical need to reconfigure the RTUs to enable simultaneous reporting to NERLDC Guwahati.

On request, NEEPCO has configured all the stations for parallel except two stations which are mentioned as below:

- I. RC Nagar: The RTU need to be configured in the IEC-60870-104 protocol to facilitate reporting to NERLDC Guwahati.
- II. Pare HEP: The RTU need to be configured in the IEC-60870-104 protocol to facilitate reporting to NERLDC Guwahati.

NEEPCO is requested to provide an update on the current status of these actions.

#### **Deliberation**

NEEPCO updated as follow-

1. RC Nagar – order placed to the OEM, Target September 2025
2. Pare – it was done but some issues emerged, same have been flagged to OEM, to be resolved shortly. Target September 2025

### **2.22. Configuration of PGCIL stations for NERLDC Shillong and NERLDC Guwahati:**

NERLDC informed that with help of PGCIL-NERTS and PGCIL-ULDC nine (09) stations out of sixteen (16) stations are reporting parallely to NERLDC Shillong and NERLDC Guwahati.

NERLDC requested POWERGRID-NERTS to kindly extend further support to configure rest seven (07) stations to enable them to report to NERLDC Shillong and NERLDC Guwahati. The status is tabulated below:

| Sl. No. | Sub-station | Configuration required                                                                                           | Completion status | Bottleneck/issues faced                                                                                                                   |
|---------|-------------|------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Aizawl      | Network reconfiguration of GIS One of SAS Gateway and router.                                                    | Pending           | Firewall installed at site is not accessible                                                                                              |
| 2       | Misa        | Creation of a new IEC-104 in the GE SAS Gateway.<br>Or<br>Alternatively old IEC-101 can be attempted to restore. | Pending           | OEM support is required for Creation of new IEC-104 in the GE SAS Gateway<br>Or<br>Alternatively old IEC-101 can be attempted to restore. |
| 3       | Mokokchung  | Creation of a new IEC-104 in the SAS Gateway.                                                                    | Pending           | OEM support is required for Creation of new IEC-104 in the GE SAS Gateway                                                                 |
| 4       | Salakati    | Network reconfiguration of D400                                                                                  | Pending           | OEM support is required for network reconfiguration of                                                                                    |

|   |         |                                                                                       |                     |                                                                           |
|---|---------|---------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------|
|   |         | gateway-2 for RLDC                                                                    |                     | one of the Gateways.                                                      |
| 5 | Silchar | Creation of a new IEC-104 in the GE SAS Gateway.                                      | Pending             | OEM support is required for Creation of new IEC-104 in the GE SAS Gateway |
| 6 | Roing   | Network reconfiguration of One of SAS Gateway and router (post OPGW link completion). | Partially Completed | Only one Gateway is reporting at a time.                                  |
| 7 | Tezu    | Network reconfiguration of One of SAS Gateway and router (post OPGW link completion). | Partially Completed | Only one Gateway is reporting at a time.                                  |

Further, the requests emails were sent to POWERGRID on 24th June 2025 and 16th July 2025. POWERGRID is requested to provide an update on the current status of these actions.

### **Deliberation**

Powergrid informed that the OEM engineers will visit sites in July end and by first week of October'25, works will be completed at all the concerned substations.

## **2.23. Publication of NER operating procedure 2025**

NERLDC has published the North Eastern Region (NER) Operating Procedure 2025 in compliance with Regulation 28(4) of the Indian Electricity Grid Code (IEGC) 2023. This is for information only.

***Sub-committee noted the same***

## **Additional agenda**

### ***Agenda referred from 29<sup>th</sup> TCC/RPC meeting***

## **2.24. Proposal for approval of 132/33kV Substations at Chizami and Phek in Nagaland: DoP Nagaland**

DoP proposed 132/33kV Substations at Chizami and Phek in Nagaland with following connectivities:

1. Construction of 132/33 kV 2 x 25 MVA Sub-Station at Chizami, with 132 kV double circuit transmission line from Pfutsero to Meluri along with associated 33 kV lines and 33 kV & 132 kV end equipment.
2. Construction of 132/33 kV 2 x 25 MVA Sub-Station at PHEK, with 132 kV double circuit transmission line from Pfutsero to Phek along with associated 33 kV lines and 33 kV & 132 kV end equipment.

In 29<sup>th</sup> TCC/RPC meeting, forum noted that the matter requires detailed discussion and referred the matter to sub-committee of NERPC for further deliberations.

## **Deliberation**

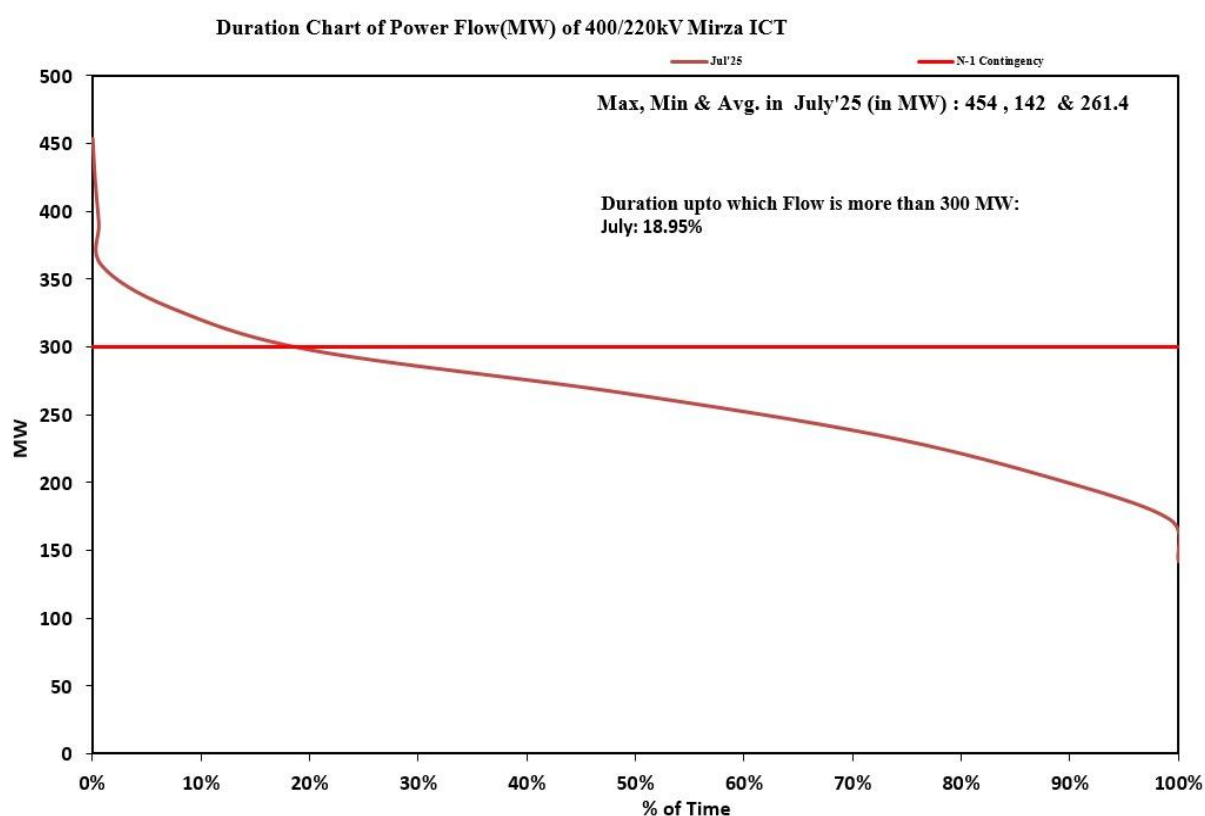
MS NERPC requested NERLDC to carry out the necessary study on the requirement of these substations and asked DoP Nagaland to provide all the required data to NERLDC to facilitate the study.

Further, NERPC informed that, as per the PSDF guidelines, new transmission schemes are not eligible for PSDF funding.

## ***Agenda from NERLDC***

### **2.25. Proposal for SPS to Mitigate Azara ICT Overload During Contingency Case**

NERLDC informed that as of 23rd July 2025, Assam's power demand reached 2,798 MW, while the grid drawl was recorded at approximately 2,535 MW, based on data from the SCADA system. It is important to note that Assam's Total Transfer Capability (TTC) stands at around 2,050 MW. Exceeding this limit poses a significant risk under N-1 contingency conditions.



The maximum combined loading recorded on the 400/220 kV, 2x315 MVA ICTs at Azara was 454 MW.

Studies suggest that in the event of an outage of the 220 kV BTPS–Agia DC, the 400/220 kV, 2x315 MVA ICTs at Azara would fail to comply with N-1 reliability criteria. If one ICT at Azara were to trip under such a scenario, it could potentially result in a grid disturbance, in capital region of the Assam power system.

In light of the above, it is to consider to implement an SPS to alleviate the loading on the ICTs at Azara under N-1 contingency conditions. This measure would enhance system security and reduce the risk of cascading failures.

**Deliberation**

Forum agreed to the requirement of SPS to address the issue of non-compliance of N-1 contingency of ICTs (400/220kV) at Azara and instructed NERLDC to conduct an online meeting with NERPC, AEGCL and APDCL to devise the SPS.



## **PART-C: METERING ITEMS**

### **3.1. Time Drift Issues:**

Time drift in SEMs may result in computational errors in Regional energy accounts & Weekly Loss. All constituents in whose premises the meters are installed are required to take corrective action for the same.

Time drift of more than 2 mins observed in the following meters:

| <b>S No.</b> | <b>ENTITY</b> | <b>FEEDER NAME</b>                   | <b>METER NO.</b> | <b>TIME DRIFT</b>            | <b>REMARKS</b> |
|--------------|---------------|--------------------------------------|------------------|------------------------------|----------------|
| 1            | MANIPUR       | 132 kV<br>Ningthoukhong-<br>Imphal-3 | NE-<br>0151-A    | Around 2<br>mins 10<br>secs  |                |
| 2            | MANIPUR       | 132 kV<br>Ningthoukhong-<br>Imphal-1 | NP-9946-<br>A    | Around<br>02 mins<br>35 secs |                |

### **Deliberation**

Manipur stated that the matter will be looked into and resolved by next OCCM.

### **3.2. Issue in SEM data of 132 kV Dharmanagar end of Dullavcherra Feeder:**

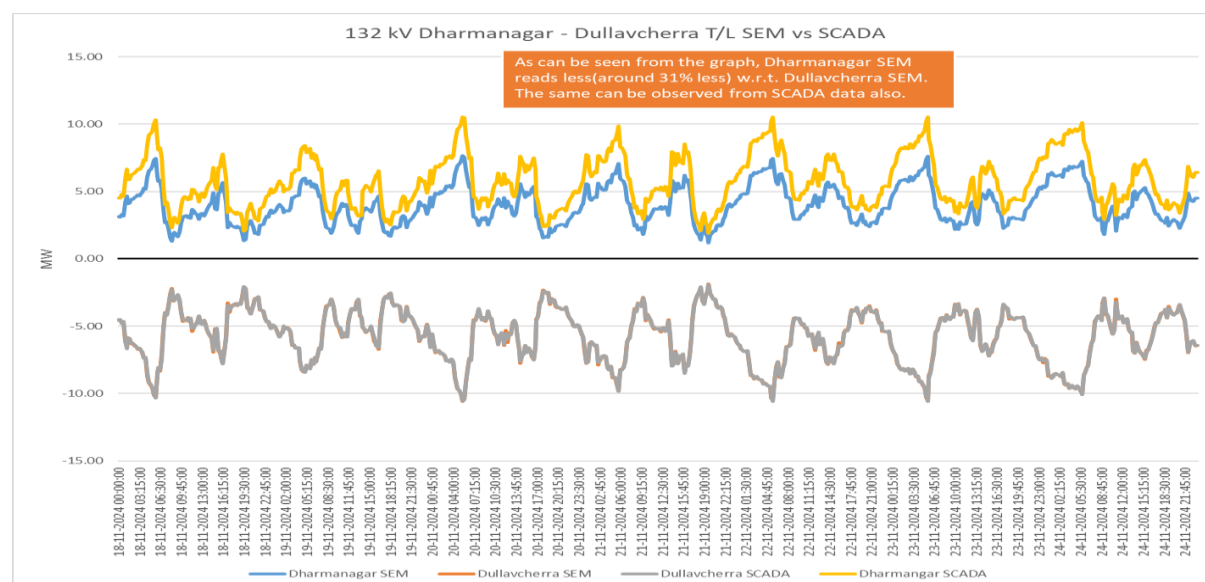
It has been observed that the data received from Dharmanagar end is erroneous and the same neither matches with SCADA data nor with data from Dullavcherra end. Several follow ups have been initiated regarding the matter with utility; however, matter is yet to be resolved.

It is also to be noted that since 222<sup>nd</sup> OCCM, data from Dharmanagar S/S has not been received by NERLDC from said substation. Issue with Vinplus Software had been mentioned by Tripura in the previous OCCM.

In the 225<sup>th</sup> OCCM, Tripura apprised the forum that DCD data have been received at Ambassa and Dharmanagar substations. However, due to technical issue with Vinplus software, SLDC Tripura is unable to transfer the data to laptop. The forum advised Tripura to carry the laptop along with DCD data to Kumarghat substation where PGCIL will help Tripura to resolve the issue.

In the 227<sup>th</sup> OCCM, Tripura stated that the laptops currently present at Dharmanagar S/S is not able to run and retrieve data from DCD. Hence Tripura is in the process of procurement of 5 nos. of Laptops, which should be completed by 2<sup>nd</sup> week of July 2025. Installation of L&T based software will be done thereafter. Forum proposed that the matter be taken up in the next TCC/RPC meeting.

However, the same is yet to be resolved. Tripura is hereby requested to provide updates on the issue and also provide contact details of personnel stationed at Dharmanagar S/S for future communication.



## **Deliberation**

Tripura stated that the Laptops are still under procurement and the same shall be procured by next OCCM.

MS NERPC stated that the issue of non-receipt of SEM data from 132 kV Dharmanagar end of Dullavcherra Feeder has been repeatedly highlighted and discussed in several OCC meetings. It is highly unfortunate that despite multiple deliberations, the issue remains unresolved. Such persistent non-compliance adversely affects the regional energy accounting and grid operation. He requested, NERLDC to take immediate action by writing a formal letter to the Managing Director, Tripura Power Transmission Limited, seeking urgent resolution of the matter.

### **3.3. Issue in receipt of data from 132 kV Tipaimukh S/S**

Weekly SEM data from 132 kV Tipaimukh (Manipur) S/S is essential for accounting of Manipur Drawal. However, SEM data for said substation is not being received. On query, downloading data from DCD to laptop has been failing.

In 223<sup>rd</sup> OCCM, Forum requested Powergrid to assist Manipur to rectify the issue. Manipur to send Laptop along with DCD available at Tipaimukh to Aizawl PG S/S for the same.

In the 224<sup>th</sup> OCCM, Manipur informed that the equipment is ready to be dispatched but due to Law-and-Order condition in the state, movement is restricted. They are unable to send laptop along with DCD to Aizawl S/S. Manipur agreed to do the same as soon as possible.

In the 225<sup>th</sup> OCCM, Manipur apprised the forum that the DCD data and the laptop are in Manipur and are inaccessible due to the current law and order situation in Manipur. Manipur further apprised the forum that the laptop has developed technical problems and is not functional currently. Member Secretary, NERPC advised Manipur to repair the laptop and resolve the issue at the earliest.

In the 226<sup>th</sup> OCCM, Manipur updated that the Laptop issue will be resolved by next week.

In the 227<sup>th</sup> OCCM, Manipur stated that Laptop procurement is in process and data will be sent to NERLDC by the end of 1st week of July 2025. However, data from said Substation is yet to be received at NERLDC end.

## **Deliberation**

Manipur stated that the Laptops is still under procurement and the entire issue shall be resolved by next OCCM.

### **3.4. Issue in Receipt of Data from Udaipur S/S:**

Weekly SEM data from 132 kV Udaipur (Tripura) Substation is not being received since replacement of old LnT Meter with Secure Make Meter on 23-12-2024(for 132 kV Udaipur end of Palatana T/L). In 222<sup>nd</sup> OCCM, the forum advised Tripura to resolve the issue by next OCC meeting. Data from the replaced meter is yet to be received by NERLDC.

In the 225<sup>th</sup> OCCM, Tripura apprised the forum that DCD data has been received at Udaipur substation. However, due to technical issue with Vinplus software, SLDC Tripura is unable to transfer the data to laptop. The forum advised Tripura to carry the laptop along with DCD data to Kumarghat substation where PGCIL will help Tripura to resolve the issue.

In the 226<sup>th</sup> OCCM, Tripura updated that the issue will be resolved by next OCC meeting.

In the 227<sup>th</sup> OCCM, Tripura stated that the laptops currently present at Udaipur S/S is not able to run and retrieve data from DCD. Hence Tripura is in the process of procurement of 5 nos. of Laptops, which should be completed by 2nd week of July 2025. Installation of SECURE based software will be done thereafter.

## **Deliberation**

Tripura stated that the Laptops are still under procurement and the same shall be procured by next OCCM. MS NERPC requested NERLDC to write a letter to the Managing Director, Tripura Power Transmission Limited, seeking urgent resolution of the matter.

### **3.5. Receipt of SEM data from 132 kV Budhjungnagar, 132 kV Ambassa, 132 kV Dharmanagar, 132 kV PK Bari & 132 kV SM Nagar (TSECL) Substations:**

As per 175th OCCM dated 18th Feb 2021 agenda D.12, Indigrid and Powergrid NERTS were given responsibility to collect and send SEM data on weekly basis for Tripura owned substations viz 132kV Ambassa S/s, 132kV Budhjungnagar S/s, 132 kV PK Bari S/s and 132 kV SM Nagar S/s for the interim period, due to shortage of DCDs. The relevant extracts are furnished below

Quote:

"The forum noted that due to the existing shortage of DCDs, the same cannot be provided to Tripura for some time for new locations. This creates difficulty in getting SEM data from Budhjangnagar, Ambasa, PK Bari and SM Nagar. The Matter was discussed and it was decided that during the interim period Powergrid NERTS will provide readings from PK Bari and SM Nagar of Tripura and Sterlite will provide readings from Budhjangnagar and Ambassa of Tripura."

Unquote

As per IEGC 2023 Clause 49(12)(e) entity shall be responsible to send weekly meter data to RLDC. The relevant extracts are furnished below

Quote:

*"Entities in whose premises the IEMs are installed shall be responsible for (i) monitoring the healthiness of the CT and PT inputs to the meters, (ii) taking weekly meter readings for the seven day period ending on the preceding Sunday 2400 hrs and transmitting them to the RLDC by Tuesday noon, in case such readings have not been transmitted through automatic remote meter reading (AMR) facility (iii) monitoring and ensuring that the time drift of IEM is within the limits as specified in CEA Metering Regulations 2006 and (iv) promptly intimating the changes in CT and PT ratio to RLDC."*

Unquote

In 221<sup>st</sup> OCCM, Tripura confirmed the receipt of 3 nos. of DCDs and that the same have been dispatched to Dharmanagar, Ambassa and SM Nagar(State) S/Ss. Tripura further intimated that the remaining works shall be completed by 21/12/2024 and the meters shall be reporting successfully from 23/12/24.

In the 226<sup>th</sup> OCCM, Tripura updated that the issue will be resolved by next OCC meeting.

In the 227<sup>th</sup> OCCM, Tripura stated that the laptops currently present at these S/Ss are not able to run and retrieve data from DCD. Hence Tripura is in the process of procurement of 5 nos. of Laptops, which should be completed by 2nd week of July 2025. Installation of LnT based software will be done thereafter. Forum proposed that the matter be taken up in the next TCC/RPC meeting.

However, data is yet to be received from concerned utilities on weekly basis.

### **Deliberation**

Tripura stated that the Laptops are still under procurement and the same shall be procured by next OCCM. MS NERPC requested NERLDC to write a letter to the Managing Director, Tripura Power Transmission Limited, seeking urgent resolution of the matter.

## **PART-D: ITEMS FOR UPDATE/FOLLOW-UP**

### **4.1 Restoration of 132 kV Sonabil-Gohpur and 132 kV Sonabil-Pavoi line to its original configuration**

Background:

In the 186th OCC meeting held on 6<sup>th</sup> March 2020 at Guwahati, it was decided to temporarily bypass the Sonabil substation and operate the 132 kV Pavoi–Sonabil and 132 kV Sonabil–Gohpur lines as a single 132 kV Pavoi–Gohpur circuit. This arrangement was intended as a temporary measure until the 132 kV Biswanath Chariali–Itanagar line was LILO at Gohpur.

As of July 2023, the LILO of the 132 kV Biswanath Chariali–Itanagar line at Gohpur has been successfully completed. Furthermore, the 132 kV Pare–North Lakhimpur double circuit line has also been commissioned in August 2023, significantly strengthening the network in the region. Given these developments, it is now proposed to restore the original configuration of the lines as follows after deliberation:

- 132 kV Sonbil–Gohpur
- 132 kV Sonabil–Pavoi

Considering the significant evolution of the network in this area, it was recommended that a committee be constituted to evaluate the proposal for restoring the original configuration. The committee should assess the technical and operational advantages and disadvantages of the restoration, taking into account both current system conditions and future network expansion plans.

#### **Deliberation**

MS NERPC stated that the committee will be constituted shortly.

### **4.2 Periodic Testing of Power System Elements and Submission of Simulation Model Data as per IEGC 2023**

Background:



As per IEGC 2023 Clause 40 (1), periodic testing of all the power system elements shall be carried out by the equipment owners for ascertaining the correctness of mathematical models used for simulation studies as well as ensuring desired performance during an event in the system.

These tests must be conducted once every five (5) years or after major retrofits by the equipment owners. The owners shall also submit a testing plan for the next year to the concerned RPC by 31<sup>st</sup> October to ensure proper coordination during testing. This matter also stand discussed in various earlier OCC meetings.

In this context, all utilities was requested to update and submit their periodic testing plans at the earliest via the link provided in the previous email to both NERPC and NERLDC.

### **Deliberation**

MS NERPC exhorted all the utilities to provide the testing plan for FY 2026-2027 as per the IEGC timeline.

### **4.3 Implementation/Review of Islanding schemes of NER:**

As per Clause 10 of the Central Electricity Authority (Grid Standards), Regulations, 2010: “Islanding Schemes- (1) The Regional Power Committees shall prepare Islanding schemes for separation of systems with a view to save healthy system from total collapse in case of grid disturbance. (2) The Entities shall ensure proper implementation of the Islanding Schemes”. In this regard the Islanding schemes which are being planned/have been implemented in NER are mentioned below, along with the updates from 227<sup>th</sup> OCCM.

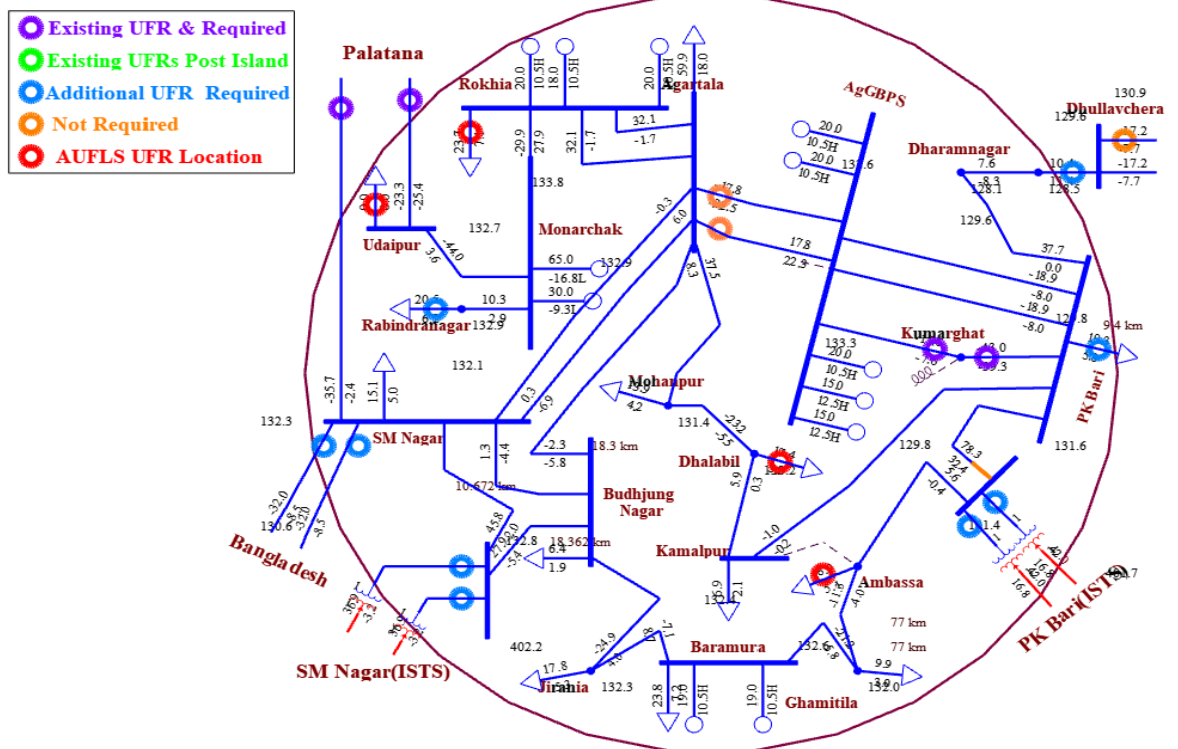
#### **A. Guwahati Islanding Scheme**

Being discussed in TESG meetings. Queries raised by TESG being replied

#### **B. Tripura/Agartala Islanding Scheme**

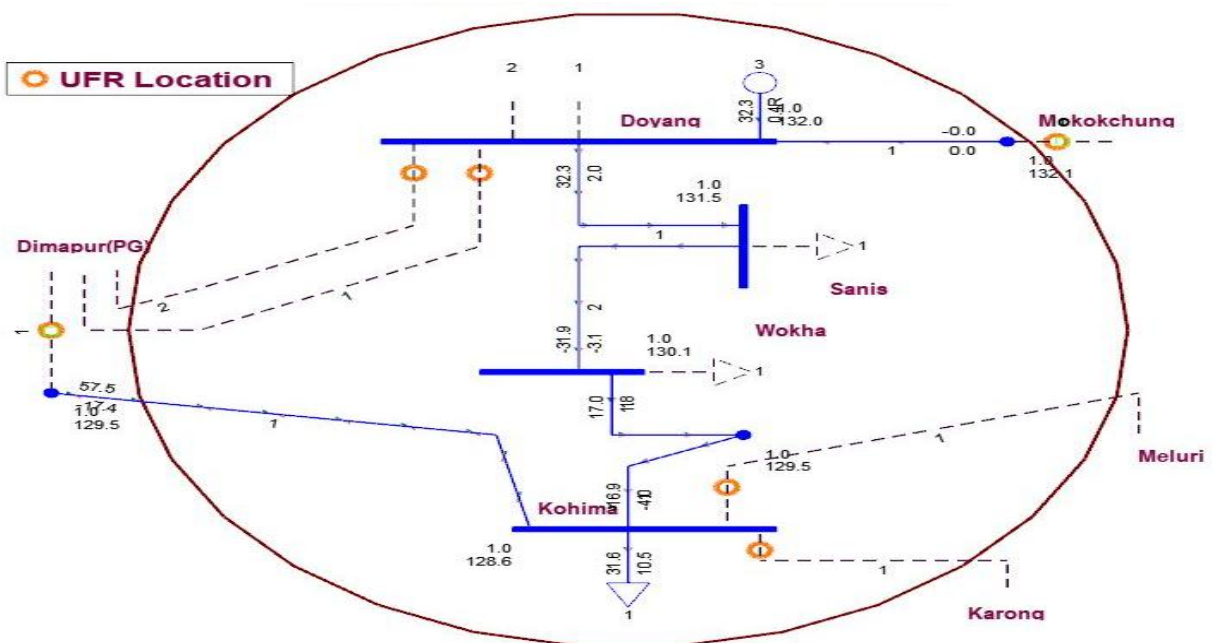
OTPC- done its part, Powergrid -will complete shortly, NTL: absent Tripura: to buy UFRs. NERLDC suggested to check whether numerical relays are present or not

### Tripura Islanding Scheme



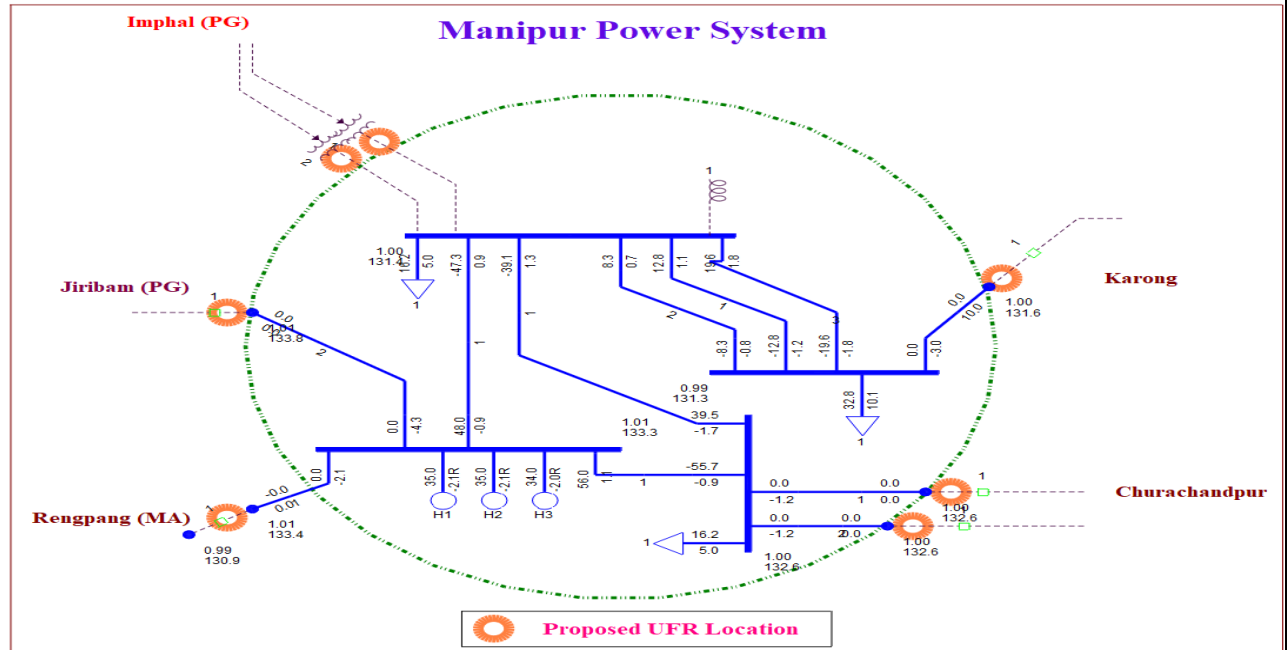
### C. Kohima Islanding scheme

Stability issues observed. Further study to be done.



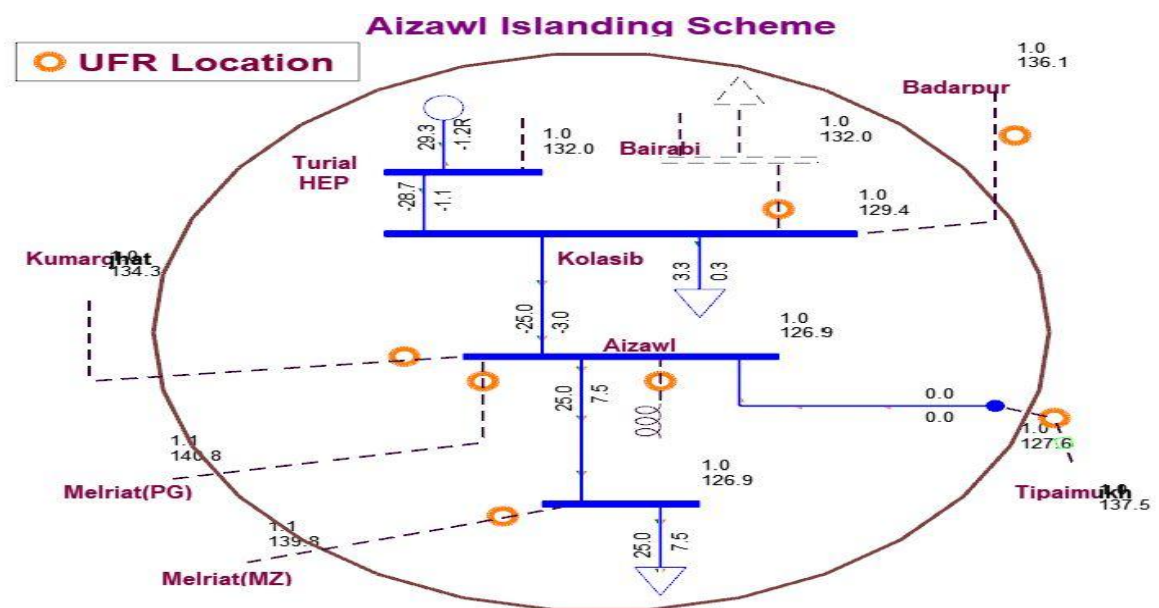
### D. Imphal Islanding scheme

Dynamic study to be done. Multi machine involved, which necessitates real time monitoring of load and generation and load in the machine, therefore PMUs and centralized processors are required, as done for Guwahati Islanding scheme



#### E. Aizawl Islanding scheme

Under implementation.



#### F. Meghalaya/Shillong Islanding Scheme

NERLDC informed that Stability issues observed due to small units.  
Further study to be done

### **Deliberation**

*Utilities updated as follow -*

| <b>S.N.</b> | <b>Island</b>      | <b>Update (228<sup>th</sup> OCCM)</b>                                                                                                                                                                                                   |
|-------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.          | Guwahati           | PSDF funding approved, except for communication part.                                                                                                                                                                                   |
| 2.          | Tripura/Agartala   | NEEPCO – to be done for AGTCCPP and Monarchak and mail to NERPC and NERLDC.<br>Tripura – UFRs to be procured.<br>Rest work done                                                                                                         |
| 3.          | Kohima             | Stability issues observed. Furthers study to be done                                                                                                                                                                                    |
| 4.          | Imphal             | Dynamic study to be done.                                                                                                                                                                                                               |
| 5.          | Aizawl             | Implemented on 17 <sup>th</sup> July'2025                                                                                                                                                                                               |
| 6.          | Meghalaya/Shillong | Dynamic study to be done. Multi-machine involved, which necessitates real time monitoring of load and generation and load in the machine, therefore PMUs and centralized processors are required, as done for Guwahati Islanding scheme |

#### **4.4 Automatic Under Frequency Load shedding (AUFLS) scheme of NER:**

Status as updated in 227<sup>th</sup> OCCM

| Name of the State/utility | Installation of UFRs                                                                                        | Status of mapping                                                                                                                                                                                                                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ar. Pradesh               | Completed                                                                                                   | DoP Arunachal Pradesh stated that mapping of feeder at Lekhi SS (Industry feeder, stage 1) completed<br><br>For rest of the feeders and substations, coordination with GE is underway and will be taken up gradually.                                                                                 |
| Assam                     | Completed                                                                                                   | Completed                                                                                                                                                                                                                                                                                             |
| Manipur                   | UFR installed but not enabled as system integration work is pending with GE. To be completed by June'25 end | Mapping is pending from substations end, which is being hampered due to Law & Order situation in the State. Also, system integration work is pending due to payment issue with M/s GE.                                                                                                                |
| Meghalaya                 | Completed                                                                                                   | Completed                                                                                                                                                                                                                                                                                             |
| Mizoram                   | Completed                                                                                                   | Coordination with GE is underway for mapping. SCADA integration of Shihmui completed but mapping left due to fibre issue. Coordination with PGCIL required. Mizoram further apprised that there is problem with SCADA display at Luangmual substation due to RTU issue. Issues to be resolved shortly |
| Nagaland                  | Completed                                                                                                   | Completed                                                                                                                                                                                                                                                                                             |
| Tripura                   | Completed                                                                                                   | Tripura apprised the forum that that mapping at Ambassa is completed but integration is left, OPGW being laid, to be completed by next OCCM.                                                                                                                                                          |

NERPC informed that AUFLS quantum has been revised for NER for the FY 2024-25 and presented the revised quantum for load shedding to the forum, which is provided below: –

UFR load shedding for NER States for the FY 2024-25

| State       | stg I (MW)  | Stg II      | Stg III     | Stg IV      |
|-------------|-------------|-------------|-------------|-------------|
| Ar. Pradesh | 8.659594937 | 10.39151392 | 12.12343291 | 12.12343291 |
| Assam       | 112.3419494 | 134.8103392 | 157.2787291 | 157.2787291 |
| Manipur     | 11.54612658 | 13.8553519  | 16.16457722 | 16.16457722 |
| Meghalaya   | 18.85556962 | 22.62668354 | 26.39779747 | 26.39779747 |
| Mizoram     | 7.542227848 | 9.050673418 | 10.55911899 | 10.55911899 |
| Nagaland    | 8.100911392 | 9.721093671 | 11.34127595 | 11.34127595 |
| Tripura     | 16.85362025 | 20.2243443  | 23.59506835 | 23.59506835 |
| Total       | 183.9       | 220.68      | 257.46      | 257.46      |

For FY 2023-24 (already under operation)

| State       | stg I (MW) | Stg II | Stg III | Stg IV |
|-------------|------------|--------|---------|--------|
| Ar. Pradesh | 10         | 14     | 12      | 10     |
| Assam       | 90         | 125    | 113     | 115    |
| Manipur     | 10         | 10     | 10      | 10     |
| Meghalaya   | 25         | 25     | 25      | 25     |
| Mizoram     | 5          | 5      | 5       | 5      |
| Nagaland    | 10         | 10     | 10      | 10     |
| Tripura     | 15         | 12.2   | 21.2    | 30     |
| Total       | 165        | 201    | 196     | 205    |

Regarding implementation of revised quantum, in the 227<sup>th</sup> OCCM it was updated that Mizoram has revised the quantum and only Manipur and Tripura left to implement.

### **Deliberation**

Regarding mapping, utilities updated that the status remains the same as noted in 227th OCCM.

Regarding implementation of revised quantum, Manipur and Tripura to implement shortly.

#### 4.5 Monthly Review of LGBR

| PARTICULARS<br>(Peak Demand in MW as per LGBR vs Actual) | Apr-25<br>(LGBR) | Apr-25<br>(Actual) | May-25<br>(LGBR) | May-25<br>(Actual) | Jun-25<br>(LGBR) | Jun-25<br>(Actual) |
|----------------------------------------------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|
| Arunachal Pradesh                                        | 200              | 172                | 217              | 184                | 185              | 192                |
| Assam                                                    | 2203             | 2081               | 2629             | 2336               | 2586             | 2717               |
| Manipur                                                  | 234              | 228                | 247              | 248                | 247              | 242                |
| Meghalaya                                                | 455              | 340                | 439              | 339                | 370              | 330                |
| Mizoram                                                  | 143              | 138                | 141              | 138                | 136              | 128                |
| Nagaland                                                 | 185              | 176                | 192              | 187                | 200              | 203                |
| Tripura (exc. Bangladesh)                                | 384              | 334                | 423              | 347                | 380              | 366                |
| NER DEMAND<br>(exc. Bangladesh)                          | 3689             | 3344               | 4066             | 3606               | 3899             | 3947               |

| PARTICULARS<br>(Energy Requirement in MU as per LGBR vs Actual) | Apr-25<br>(LGBR) | Apr-25<br>(Actual) | May-25<br>(LGBR) | May-25<br>(Actual) | Jun-25<br>(LGBR) | Jun-25<br>(Actual) |
|-----------------------------------------------------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|
| Arunachal Pradesh                                               | 82               | 86.37              | 82               | 97.2               | 93               | 99                 |
| Assam                                                           | 1108             | 1012.34            | 1108             | 1135.9             | 1312             | 1358               |
| Manipur                                                         | 94               | 86.13              | 94               | 96.9               | 105              | 88.3               |
| Meghalaya                                                       | 195              | 164.13             | 195              | 167.8              | 183              | 162.2              |
| Mizoram                                                         | 62               | 59.72              | 62               | 59.9               | 58               | 57.5               |
| Nagaland                                                        | 76               | 75.51              | 76               | 82.3               | 95               | 85.6               |
| Tripura (excl. Bangladesh)                                      | 180              | 165.99             | 180              | 169.1              | 179              | 202.5              |
| NER DEMAND<br>(exc. Bangladesh)                                 | 1797             | 1650               | 1797             | 1809               | 2025             | 2054               |



#### LGBR projection for July'25, August'25 and September'25

| PARTICULARS<br>(Peak Demand in MW as<br>per LGBR) | July-25<br>(MW) | July-25<br>(MU) | Aug-25<br>(MW) | Aug-25<br>(MU) | Sep-25<br>(MW) | Sep-25<br>(MU) |
|---------------------------------------------------|-----------------|-----------------|----------------|----------------|----------------|----------------|
| Arunachal Pradesh                                 | 204             | 99              | 214            | 111            | 212            | 103            |
| Assam                                             | 2787            | 1543            | 2835           | 1521           | 3082           | 1562           |
| Manipur                                           | 229             | 91              | 261            | 85             | 265            | 89             |
| Meghalaya                                         | 401             | 191             | 384            | 190            | 349            | 166            |
| Mizoram                                           | 141             | 65              | 164            | 59             | 162            | 62             |
| Nagaland                                          | 205             | 105             | 203            | 92             | 201            | 94             |
| Tripura (exc. Bangladesh)                         | 394             | 205             | 381            | 237            | 409            | 196            |
| NER DEMAND<br>(exc. Bangladesh)                   | 4158            | 2300            | 4265           | 2294           | 4396           | 2272           |

#### **Deliberation**

Forum noted the actual demand for June'25 is in line with the projected demand.

#### **4.6 Status Update and Revival Plan for Long-Outage NER Generators & Transmission Lines**

The following NER generators & transmission lines have been under outage since long time. Considering the increasing demand trend and reliable power supply in the Region, respective utilities are requested to intimate the updated expected date of revival & take necessary action to restore the mentioned units & lines at earliest:

#### **Generating Units:**

As updated in 228<sup>th</sup> OCC meeting

| S. N o. | Element Name           | Outage time             | Reason                                                                                                               | Expected date (as updated in 228th OCCM)                                                                                                                                    |
|---------|------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Khandong Unit I        | 10:45 Hrs of 26-03-2022 | Flash flood of reservoir causing submergence of the Khandong station                                                 | In service                                                                                                                                                                  |
| 2       | Khandong Unit II       | 10:45 Hrs of 26-03-2022 |                                                                                                                      | Khandong Unit II- July 2025                                                                                                                                                 |
| 3       | LTPS Unit 7 (20 MW)    | 17:08 hrs of 08-04-2024 | High Vibration issue in Bearing Block-4 turbine bearing of gas turbine                                               | Spare not available, waiting for OEM reply. Process may take significant time.                                                                                              |
| 4       | Baramura Unit 5 (21MW) | 20:17 Hrs of 26-03-2024 | Outage due to low gas pressure.                                                                                      | Machine Ok. Gas availability issue.                                                                                                                                         |
| 5       | Baramura Unit 4        | 23:20 Hrs of 05-06-2024 | gear box issue, leakage in auxiliary of gear box, display of control unit is not working due to suspected card issue | Baramura Unit 4. Tripura apprised that there is technical problem in rotor. Nonfunctional due to non-availability of gas. Forum advised to resolve rotor issue in the unit. |

#### Transmission Lines:

As updated in 228<sup>th</sup> OCC meeting

| S. N | Element Name | Outage time | Reason | Expected date (as updated in 228th OCCM) |
|------|--------------|-------------|--------|------------------------------------------|
|------|--------------|-------------|--------|------------------------------------------|

|   |                                                       |                |                              |                                                                                                                                                                                                                              |
|---|-------------------------------------------------------|----------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| o |                                                       |                |                              |                                                                                                                                                                                                                              |
| 1 | 400 kV Imphal<br>- Thoubal I                          | 18-10-<br>2021 | Tripped on DP, ROW<br>issue. | RoW issue. Law and<br>order situation is<br>fragile.                                                                                                                                                                         |
| 2 | 132 kV<br>Jiribam-<br>Rengpang                        | 17-11-<br>2023 | Tripped on Earth<br>fault    | Tower shifting<br>required due to<br>NHIDCL work.<br>Resurvey done in 1st<br>week of May'25. 16<br>towers affected.<br>Revival will take<br>significant time.                                                                |
| 3 | 132kV<br>Ningthoukhong<br>-<br>Churachandpu<br>rckt 1 | 04-08-<br>2024 | Z-1, 18.5 km, O/C            | Elements under<br>outage for more than<br>6 months and as<br>elements is under<br>intra-state<br>jurisdiction, SLDC<br>may follow their FTC<br>procedure (SIO etc<br>may be obtained) and<br>copy may be given to<br>NERLDC. |
| 4 | 132kV Srikona<br>– Panchgram                          | 14-01-<br>2019 | -                            | Survey complete,<br>estimate in process                                                                                                                                                                                      |

**Forum noted as above**

#### **4.7 Mock Black Start of Units in compliance with IEGC:**

As per IEGC Clause 34 (3), The user shall carry out 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.

Accordingly, Mock Black Start of the following generating plants were conducted for the FY 2024-25:

| <b>Sl. No.</b> | <b>Name of Power station</b> | <b>Date of Mock exercise</b>                                                          |
|----------------|------------------------------|---------------------------------------------------------------------------------------|
| 1              | AGBPS GTG 4                  | 14-05-2024                                                                            |
| 2              | Kopili Unit 1, 3 & 4         | Completed (U I & III 09 <sup>th</sup> March 25 & U II & IV 10 <sup>th</sup> March 25) |
| 3              | AgGBPS GTG 2                 | 11-09-2024                                                                            |

All utilities are requested to submit the latest status of planning related to mock black-start trials of **all units** that are pending or yet to be conducted and to complete these activities within FY 2024-25 to ensure compliance with IEGC.

Mock Black Start of the following generating plant are pending:

| <b>Sl. No.</b> | <b>Name of Power station</b> | <b>Last date of Mock exercise</b> | <b>Expected date of Mock exercise</b> |
|----------------|------------------------------|-----------------------------------|---------------------------------------|
| 1              | Doyang HEP                   | 12-05-2023                        | Unit II Completed on 04/04/2025.      |
| 2              | Khangdong Stg-2 HEP          | -                                 | November-2025                         |
| 3              | Kameng HEP                   | -                                 | November-2025                         |
| 4              | Loktak HEP                   | 31-07-2023                        | May-2025                              |
| 5              | Pare HEP                     | 10-01-2024                        | November-2025                         |
| 6              | Panyor HEP                   | 30-05-2023                        | May-2025                              |
| 7              | Tural HEP                    | -                                 | Completed on 08/04/2025.              |

In 227th OCCM, NERLDC informed that as per discussion held during the special meeting convened by NERPC on 10.05.2025 regarding the preparedness of islanding and black start capabilities, it was decided to carry out unannounced mock black start exercises for all generating stations equipped with black start facilities. In line with this decision, **Loktak and Pare HEP** have successfully carried out the unannounced mock black start exercises. NEEPCO stated that due issues related to online transfer of elements at Panyor HEP unannounced mock black start exercises may not be conducted.

### **Deliberation**

MS NERPC requested the utilities to provide the update on MBS exercise through mail to NERPC.

#### **4.8 Urgent Review of Online Element Transfer at PLHPS**

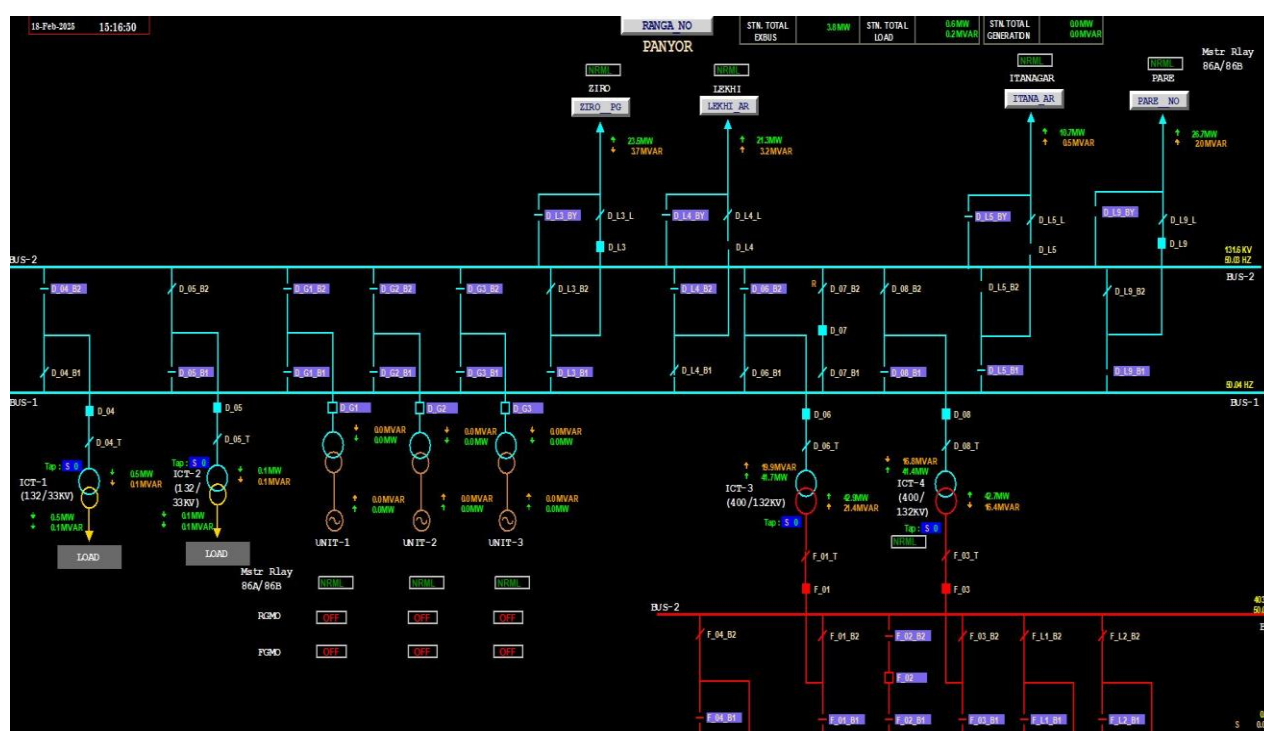
The Bus Scheme of PLHPS at the 132 kV level is a Double Main scheme, as confirmed via email. In this type of bus arrangement, the online transfer of elements from one bus to another can be performed seamlessly without any interruption in power flow.

As per the decision of the previous OCC forum, NERLDC requested PLHPS to transfer of an element to another bus on January 28, 2025, to facilitate the testing and verification of the healthiness of the non-energized element. However, in response to this request, Panyor NEEPCO stated that the existing scheme of PLHPS does not permit the online switching of isolators and that such an operation has never been carried out since the commissioning of the station.

This issue has already been raised with the NEEPCO team, highlighting that online bus transfers of elements are being successfully performed at multiple stations within the NER Grid, including AgGBPS, which is also owned by NEEPCO. However, PLHEP executives have consistently denied such operations, citing that they have never been practiced at their station.

It is important to note that with the commissioning of the 132 kV Roing-Chapakhowa D/C line and the increasing industrial load in the Pasighat area, the 132 kV Panyor-Ziro-Daporijo-Basar-Along-Pasighat-Roing-Chapakhowa link has become vital for Arunachal Pradesh and Assam power systems.

Given the importance of ensuring system reliability, a review of the non-transfer of elements at PLHPS is strongly recommended. If online element transfers are indeed not feasible under the current setup, experienced personnel should be consulted to explore possible solutions and address the issue effectively.



In 225<sup>th</sup> OCC meeting, NEEPCO informed that there is alignment issue with isolator which is hampering online transfer of the elements. He added that they are expediting the resolution of the matter at the earliest.

In 226<sup>th</sup> OCCM, forum opined that ensuring the online element transfer facility at the station is critical for reliable operation of the grid and urged In 227<sup>th</sup> OCCM Forum requested NEEPCO to expedite the plan for

rectification/replacement of the isolators and make necessary arrangement for online transfer.

### **Deliberation**

NEEPCO informed that budgetary offer has not been received yet; tentative completion target is June'26.

#### **4.9 Compliance with Annual Measurement of Harmonics, DC Injection, and Flicker as per CEA Regulations**

As per the CEA (Technical Standards for Connectivity to the Grid) Regulations, Clause B1(4), Measurement of harmonic content, DC injection and flicker shall be done at least once in a year in presence of the parties concerned and the indicative date for the same shall be mentioned in the connection agreement;

Provided that in addition to annual measurement, if distribution licensee or transmission licensee or the generating company, as the case may be, desires to measure harmonic content or DC injection or flicker, it shall inform the other party in writing and the measurement shall be carried out within 5 working days”;

In accordance with this regulation, all Wind generating stations and generating stations using inverters connected to the grid are required to perform this test annually and submit the test report to the relevant utility authorities. All utilities are requested to provide an update on the current status of test reports and outline their future testing plans as per CEA guidelines.

In 224th OCC meeting, NERLDC apprised that no wind generators or inverter-based generators have provided any test reports so far. Forum requested the SLDCS of the states where such plants are located, to take up the matter with developers of such plants to and provide a testing plan and reports to NERPC and NERLDC at the earliest.



Further, MS NERPC informed that regarding the uniform guidelines on Harmonics measurement by transmission and generating utilities, matter has been put for discussion in the upcoming NPC meeting.

As per 225<sup>th</sup> OCC meeting, forum noted that agenda for uniform procedure has been put up in NPC for further deliberations. Moreover, the forum advised SLDCs to update the status of the harmonic content contribution from solar and wind generators.

In the 226<sup>th</sup> OCCM Forum exhorted the Assam and Mizoram to provide the required details at the earliest to NERPC and NERLDC. Also, the forum requested state SLDCs to provide the charging clearance for Solar, wind and IBR based plants only after ensuring compliance with CEA regulations on testing of Harmonics, DC injection and flicker. SLDs agreed to the same.

In the 227<sup>th</sup> OCCM, Assam and Mizoram informed that corresponding SLDCs are taking up the matter with Solar developers, but no input has been received yet. MS NERPC exhorted Assam and Mizoram to ensure compliance with the regulations and timely conduct of the tests.

### **Deliberation**

MS NERPC requested Assam and Mizoram to provide update on conducting of tests to NERPC via email.

### **4.10 Submission of Healthiness Status of Under Frequency Relays (UFRs)**

The North Eastern Region (NER) grid incorporates multiple islanding schemes, which are critical for maintaining grid stability during contingencies. These schemes are primarily based on the operation of Under Frequency Relays (UFRs).

For the successful operation of the islanding schemes and protection scheme, it is imperative that the designated UFRs are in a healthy condition and functioning correctly. In this regard, all utilities are kindly requested to submit the healthiness status of their respective UFRs, based on recent tests

conducted to assess their performance. Please ensure the following while submitting report to NERPC and NERLDC:

- Clearly indicate the location and identification of each UFR.
- Mention the date and methodology of the last healthiness test.
- Include test results and any corrective actions taken (if applicable)

In 226th OCC meeting, Forum requested all the utilities to periodically test the healthiness of UFRs, used in AUFLS scheme and Islanding schemes, under their domain and send the reports to NERPC and NERLDC. In the 227<sup>th</sup> OCCM, The Forum also advised NERLDC to prepare a testing calendar for UFR testing, which may be jointly witnessed by NERPC and NERLDC.

### **Deliberation**

MS NERPC requested NERLDC to provide update to NERPC via email.

\*\*\*\*\*

**Annexure-I****List of Participants in the 228<sup>th</sup> OCC Meeting held on 25.07.2025**

| SN | Name & Designation                    | Organization | Contact No. |
|----|---------------------------------------|--------------|-------------|
| 1  | Sh. Hibu Bama, EE (E)                 | Ar. Pradesh  | 08119858317 |
| 2  | Sh.Ojing Jerang, EE (E), SLDC         | Ar. Pradesh  | 08974640622 |
| 3  | Sh. Abhijit Saha, DGM, APGCL          | Assam        | 07002186015 |
| 4  | Sh. Pankaj Bikash Sarmah, AGM, APGCL, | Assam        | 09435358402 |
| 5  | Sh. Tarali Deka, AGM (Tariff), AEGCL  | Assam        | 09864981330 |
| 6  | Sh. Ashim Sutradhar, DM, SLDC         | Assam        | 09864104356 |
| 7  | Sh. Sanjib Kalita, DM, APDCL          | Assam        | 08011100417 |
| 8  | Sh. Kakoli, DM, SLDC, AEGCL           | Assam        | 08638893819 |
| 9  | Sh. Darshan Kr.Das, DM (Coml.), APDCL | Assam        | 09101487012 |
| 10 | Sh. Nilotpal Bhattacharjee, AM, SLDC  | Assam        | 07044326443 |
| 11 | Sh. Dipmoni Nath, AM (T),AEGCL        | Assam        | 08011117343 |
| 12 | Sh. Shairem Anilkumar Singh, Mgr,SLDC | Manipur      | 08798012496 |
| 13 | Sh. Santosh Nongthombam, JE,MSPCL     | Manipur      | 09900479198 |
| 14 | Sh. B.Narry, SE, MePTCL               | Meghalaya    | 07005298338 |
| 15 | Sh. W.Khyriem, SE (G.C-I), MePGCL     | Meghalaya    | 09856007107 |
| 16 | Sh. B.Samiam, EE, SLDC                | Meghalaya    | 09862021883 |
| 17 | Sh. H.Law, EE,MePGCL                  | Meghalaya    | 07005208427 |
| 18 | Sh. R.L.Kharkongor, EE,MePGCL         | Meghalaya    | 09436163402 |
| 19 | Sh. Samuel Lalhriatzuala, SDO         | Mizoram      | 08729982857 |
| 20 | Sh, Lalramchhunga, AE, SLDC           | Mizoram      | 09774251677 |
| 21 | Sh. Pulovi Sumi, SDO                  | Nagaland     | 08575748180 |
| 22 | Sh. Namheu Khate, EE (T)              | Nagaland     | 09436000800 |
| 23 | Sh. Alex E.Ngullie, JE, SLDC          | Nagaland     | 08837080321 |
| 24 | Sh. Anil Debbarma, DGM, SLDC, TSECL   | Tripura      | 09612559250 |
| 25 | Sh. Debabrata Pal, Sr.Mgr, TSECL      | Tripura      | 09436500244 |
| 26 | Smt. Mamami Talukdar, GM (T)          | NEEPCO       | 09435339690 |
| 27 | Sh. Harika M., GM (T)                 | NEEPCO       | -           |
| 28 | Sh. Manas Pratim Sharma, Sr.Mgr       | NEEPCO       | 08729901871 |
| 29 | Sh. Ankumari H., Sr.Mgr               | NEEPCO       | 09435339733 |
| 30 | Sh. Jitendra Pandey, AM (E/M)         | NEEPCO       | 07827461225 |
| 31 | Sh. Babul Roy, GM                     | NERLDC       | 09436335377 |
| 32 | Sh. Anjan Kumar Pandey, Dy.Mgr        | NERLDC       | 07003728479 |
| 33 | Sh. Kishore Kalita, AM                | NERLDC       | 09101178340 |
| 34 | Sh. Asim Das, AM                      | NERLDC       | 07576850053 |
| 35 | Sh. Yogendra Singh, Engineer          | NERLDC       | 07005587509 |

|    |                                    |        |             |
|----|------------------------------------|--------|-------------|
| 36 | Ms. Sharmistha Dutta, Engineer     | NERLDC | 08119008441 |
| 37 | Sh. Brajmohan Thakuria, Engineer   | NERLDC | 09954324714 |
| 38 | Sh. Ashim Paul, DGM                | PGCIL  | 09436602688 |
| 39 | Sh. R.Haribabu, DGM                | PGCIL  | 09448021006 |
| 40 | Sh. Sanjib Pal, Section Head-PME   | OTPC   | 09436583737 |
| 41 | Sh. Rakesh Kumar, AGM              | NTPC   | 09131171001 |
| 42 | Sh. Suraj Kumar, Dy.Mgr ( E)       | NHPC   | 07903131843 |
| 43 | Sh. K.B.Jagtap, Member Secretary   | NERPC  | -           |
| 44 | Sh. Veerandranath Muncha, Director | NERPC  | 07358529099 |
| 45 | Smti Kanchan Chauhan, Dy.Director  | NERPC  | 08375070150 |
| 46 | Sh. Vikash Shankar, Asst. Director | NERPC  | 09455331756 |

| Shutdown Proposed for the month of August - 2025 |                                                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                          |                                                                                                                                                                                                                                                                                                                                   |                                               |
|--------------------------------------------------|-------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| SN                                               | Name of Element                                                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | Proposed Time            | Reason                                                                                                                                                                                                                                                                                                                            | Category                                      |
| SHUTDOWNS PROPOSED BY PGCIL                      |                                                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                          |                                                                                                                                                                                                                                                                                                                                   |                                               |
| 1                                                | 132kV IMPHAL-IMPHAL(MANIPUR)-1                                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0900 Hrs to 1200 Hrs     | Troubleshooting of communication card of line differential relay                                                                                                                                                                                                                                                                  | Normal Maintenance related shutdown.          |
| 2                                                | 132kV KHANDONG(NEEPCO)-KOPIL(NEEPCO)-2                                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1000 Hrs to 1700 Hrs     | AMP works                                                                                                                                                                                                                                                                                                                         | Normal Maintenance related shutdown.          |
| 3                                                | AR of 132kV DOYANG(NEEPCO)-DIMAPUR-1                                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1700 Hrs     | Circuit to be kept in Non Auto mode for PID Scanning                                                                                                                                                                                                                                                                              | Normal Maintenance related shutdown.          |
| 4                                                | AR of 132kV DOYANG(NEEPCO)-DIMAPUR-2                                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1700 Hrs     | Circuit to be kept in Non Auto mode for PID Scanning                                                                                                                                                                                                                                                                              | Normal Maintenance related shutdown.          |
| 5                                                | AR of 220 KV NEW MARIANI - KATHALGURI-2                                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations                                                                                                                                                                                 | Existing system improvement related shutdown. |
| 6                                                | AR of 220 KV NEW MARIANI - KATHALGURI-1                                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations                                                                                                                                                                                 | Existing system improvement related shutdown. |
| 7                                                | AR of 400kV MISA-NEW MARIANI-1                                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations                                                                                                                                                                                 | Existing system improvement related shutdown. |
| 8                                                | AR of 132KV Dimapur Imphal line                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0700 Hrs to 1800 Hrs     | Crcuit to be kept in Non Auto mode for PID scanning of 132 KV Dinapur - Imphal line .                                                                                                                                                                                                                                             | Normal Maintenance related shutdown.          |
| 9                                                | AR OF 400kV MISA-NEW MARIANI-1                                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0900 Hrs to 1700 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations                                                                                                                                                                                 | Existing system improvement related shutdown. |
| SN                                               | Name of Element                                                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | Proposed Time            | Reason                                                                                                                                                                                                                                                                                                                            | Category                                      |
| 220kV Transmission lines                         |                                                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                          |                                                                                                                                                                                                                                                                                                                                   |                                               |
| 10                                               | 220kV MARIANI-MARIANI(AEGCL)                                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | AMP OF BAY(202) AT AEGCL end                                                                                                                                                                                                                                                                                                      | Normal Maintenance related shutdown.          |
| 11                                               | 220kV SAMAGURI(ASSAM)-MISA-1                                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | AMP Bay works at AEGCL end                                                                                                                                                                                                                                                                                                        | Normal Maintenance related shutdown.          |
| 12                                               | 220kV SAMAGURI(ASSAM)-MISA-2                                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | AMP Bay works at AEGCL end                                                                                                                                                                                                                                                                                                        | Normal Maintenance related shutdown.          |
| 13                                               | 220 KV NEW MARIANI(PG) - KATHALGURI-2                                         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1600 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations no.: 1,23,36,37,38,40,47,48,58,65,66,70,80,85,87,88,89,90,91,97,102,111,113,116,117,122,126,127,129,130, 131,132,217,219,221,248,268,270,272,313,327,337 and 347                | Existing system improvement related shutdown. |
| 400kV Transmission lines                         |                                                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                          |                                                                                                                                                                                                                                                                                                                                   |                                               |
| 15                                               | 400 KV BALIPARA - MISA-2 LINE                                                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0900 Hrs to 1300 Hrs     | For Modification OF LBB RELAY scheme (Separation of Single phase and 3 Phase Initiation to Tie LBB Relay during fault in the line after replacemnet of electro mechanical relay with numerical Relay)                                                                                                                             | Existing system improvement related shutdown. |
| 16                                               | 400 KV BALIPARA - MISA-2 LINE                                                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1000 Hrs to 1400 Hrs     | For Modification OF LBB RELAY scheme (Separation of Single phase and 3 Phase Initiation to Tie LBB Relay during fault in the line after replacemnet of electro mechanical relay with numerical Relay)                                                                                                                             | Existing system improvement related shutdown. |
| 17                                               | 400KV BALIPARA BNC-2 LINE                                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1300 Hrs to 1700 Hrs     | For Modification OF LBB RELAY scheme (Separation of Single phase and 3 Phase Initiation to Tie LBB Relay during fault in the line after replacemnet of electro mechanical relay with numerical Relay)                                                                                                                             | Existing system improvement related shutdown. |
| 18                                               | 400KV BALIPARA BNC-2 LINE                                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1000 Hrs to 1400 Hrs     | For Modification OF LBB RELAY scheme (Separation of Single phase and 3 Phase Initiation to Tie LBB Relay during fault in the line after replacemnet of electro mechanical relay with numerical Relay)                                                                                                                             | Existing system improvement related shutdown. |
| 19                                               | 400kV MISA-NEW MARIANI-2                                                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0900 Hrs to 1700 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations                                                                                                                                                                                 | Existing system improvement related shutdown. |
| 20                                               | 400KV SILCHAR-IMPHAL-1                                                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0800 Hrs to 1700 Hrs     | For replacement of conventional porcelain insulators by composite long rod polymer insulators at Power/Deep valley/River/SH/NH crossing locations at loc no 57-58.                                                                                                                                                                | Existing system improvement related shutdown. |
| 21                                               | 400 KV Bonggaigon - Azara TL                                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1000 Hrs to 1600 Hrs     | AMP WORKS                                                                                                                                                                                                                                                                                                                         | Normal Maintenance related shutdown.          |
| 22                                               | 400kV BALIPARA-BONGAIGAON-1 LINE                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 1000 Hrs to 1700 Hrs     | 1) TESTING OF LBB RELAY AFTER REPLACEMENT IN 413 MAIN BAY WITH NUMERICAL AFTER REPLACEMENT WITH ELECTROMECHANICAL Relay at Bonggaigon SS .<br>2) CSD TUNNING WORKS in Balipara - Bonggaigon#1 Reactor at Balipara SS ( Switching operations required for reactor taking at Bus reactor at Balipara SS IF OEM ENGINEER ARRIVES ) . | Existing system improvement related shutdown. |
| SN                                               | Name of Element                                                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | Proposed Time            | Reason                                                                                                                                                                                                                                                                                                                            | Category                                      |
| 400 KV Bonggaigon SS                             |                                                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                          |                                                                                                                                                                                                                                                                                                                                   |                                               |
| 23                                               | 413 Bay ( Main Bay of 400KV Bonggaigon - Balipara - 1 line ) at Bonggaigon SS |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | CSD 0900 Hrs to 2000 Hrs | REPLACEMENT OF ELECTROMECHANICAL LBB RELAY WITH NUMERICAL RELAY IN 413 MAIN BAY                                                                                                                                                                                                                                                   | Existing system improvement related shutdown. |
| 24                                               | MAIN BAY of 400KV ALIPURDUAR-2(416) at Bonggaigon SS                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0900 Hrs to 1700 Hrs     | AMP of Bay equipments .                                                                                                                                                                                                                                                                                                           | Normal Maintenance related shutdown.          |

Annexure 2.1

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]



उ.पू.क्षे ग्रिड प्रदर्शन

**NER GRID PERFORMANCE**

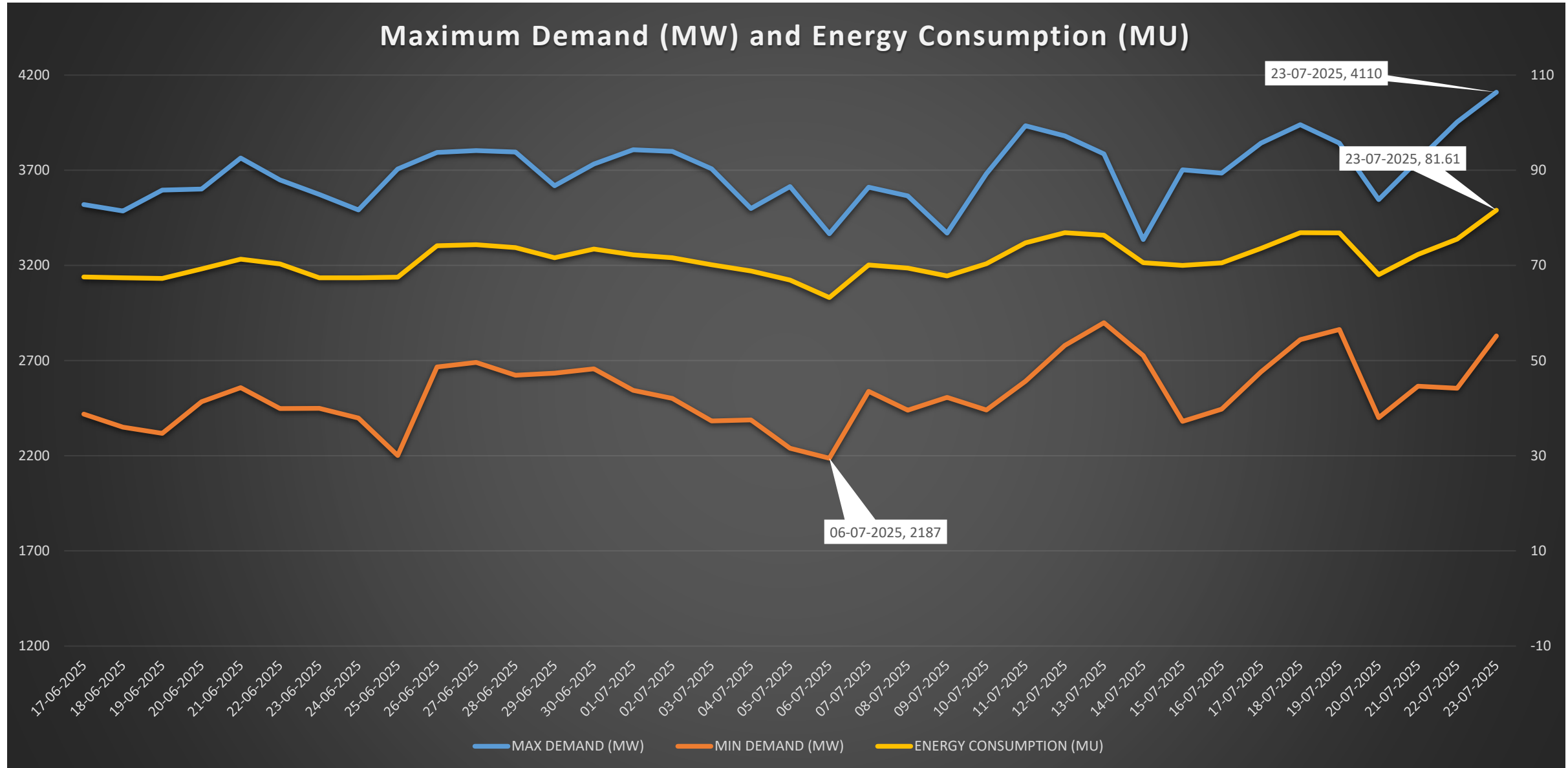
*For the month Jun'25-Jul'25*

**North-Eastern Regional Load Despatch Centre**

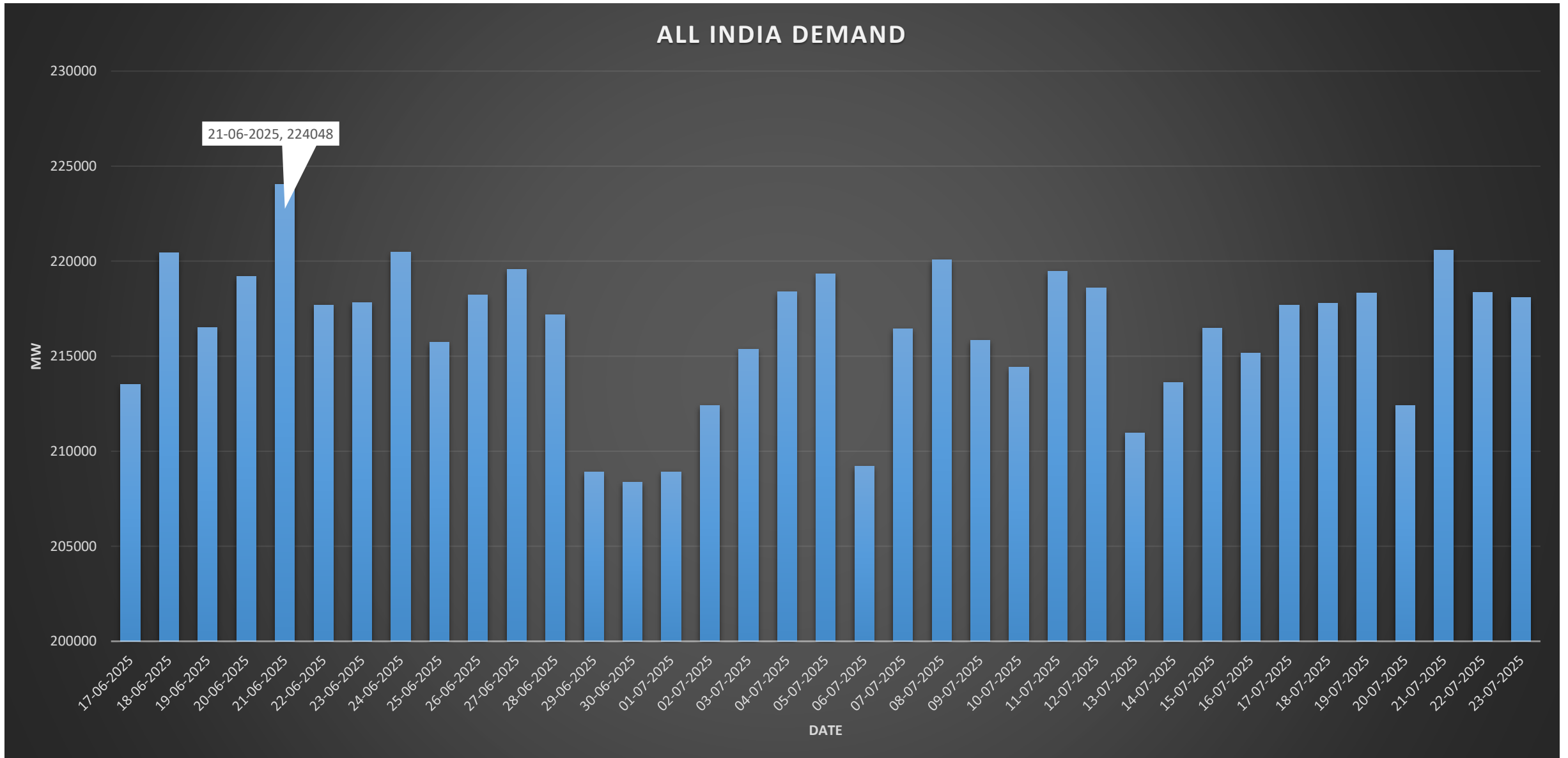
***Grid-India, Shillong***



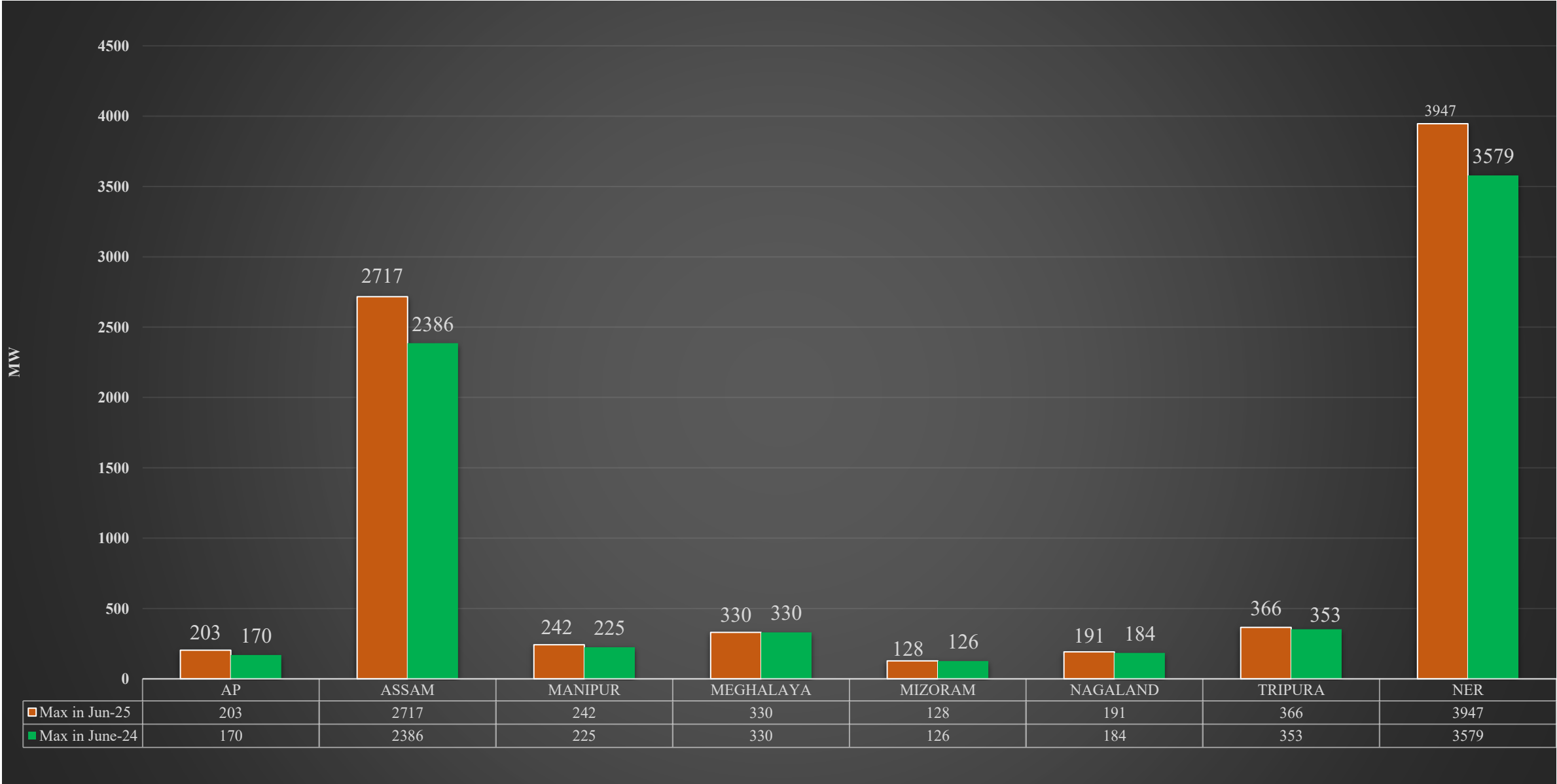
# Maximum MW and MU in NER: 17<sup>th</sup> Jun'25– 23<sup>rd</sup> Jul'25



# Maximum All India Demand: 17<sup>th</sup> Jun'25– 23<sup>rd</sup> Jul'25

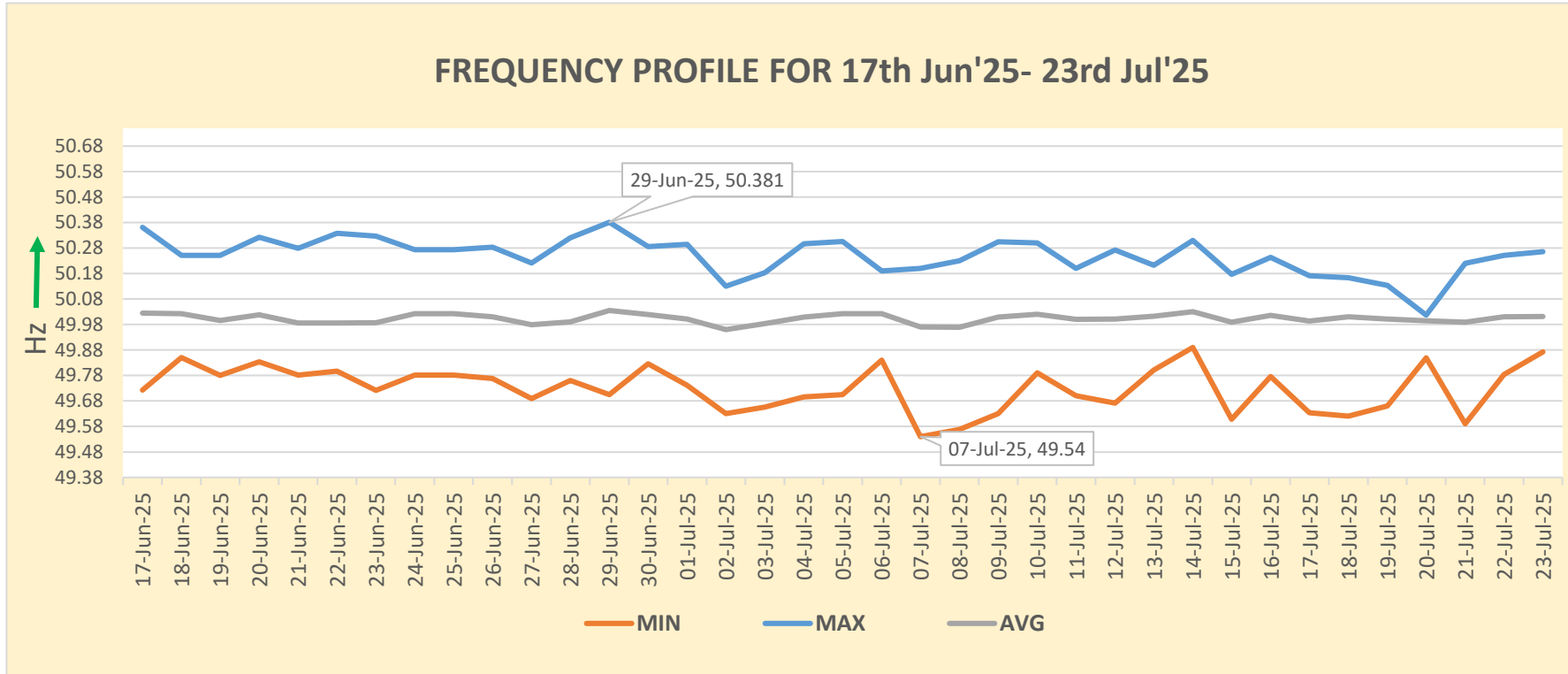


# Y-o-Y Maximum Demand Met



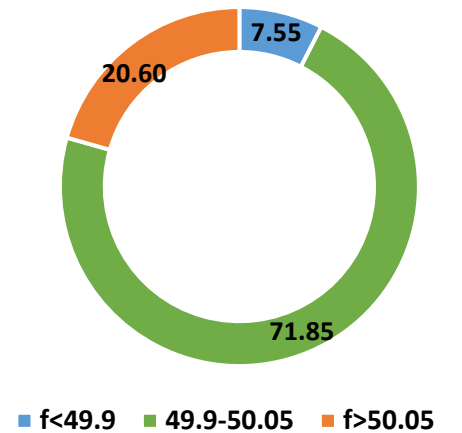


# Frequency Profile



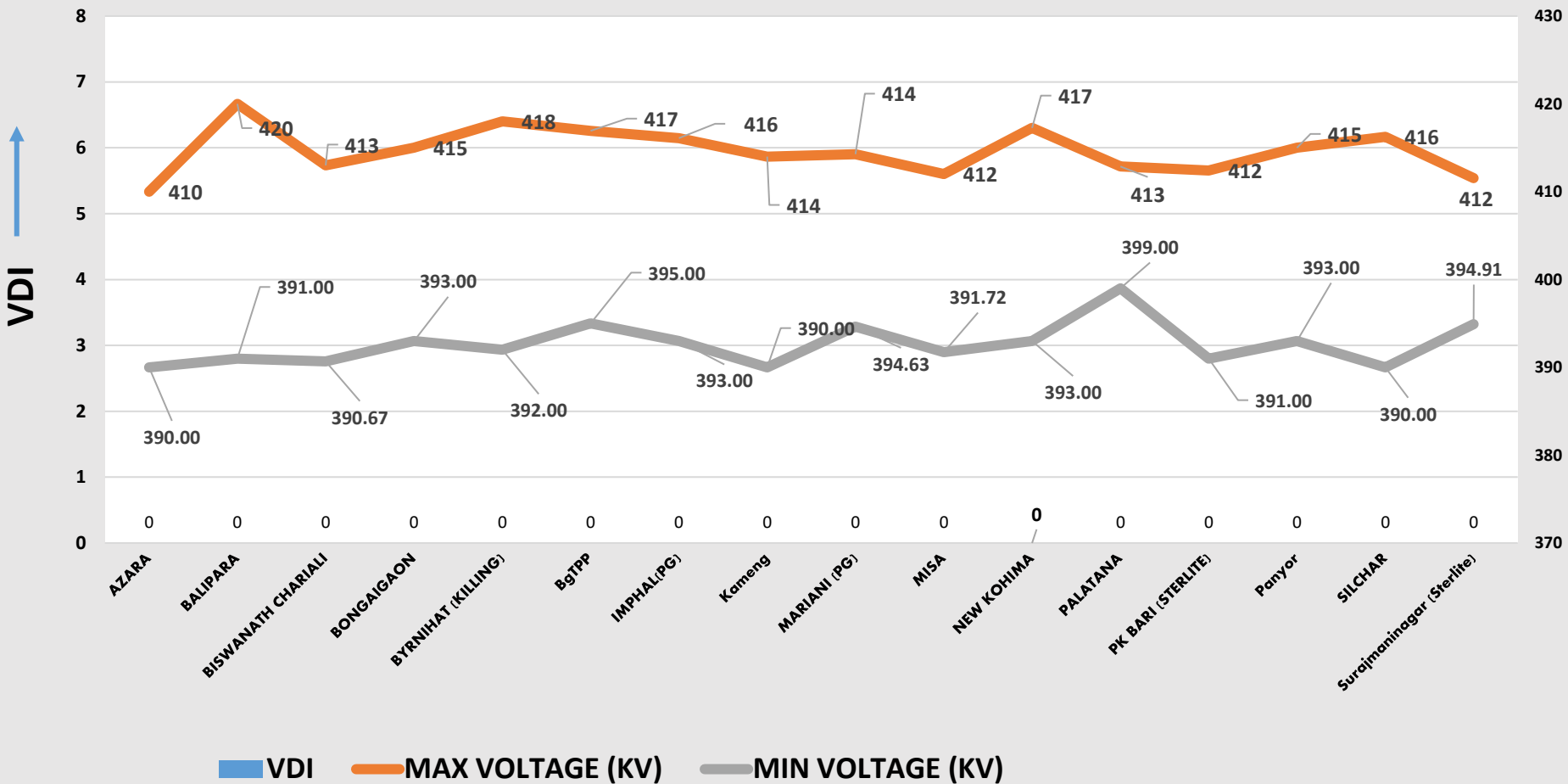
**50.38 Hz on 29-Jun-2025:** Due to substantial underdrawal by Northern Region constituents, namely Rajasthan (964 MW), Delhi (183 MW), Jammu & Kashmir and Ladakh (232 MW), Gujarat (1,027 MW) and Madhya Pradesh (229 MW).

**49.54 Hz on 07-Jul-2025:** Due to sudden drop in Wind Generation in All India Grid and less availability of margin.

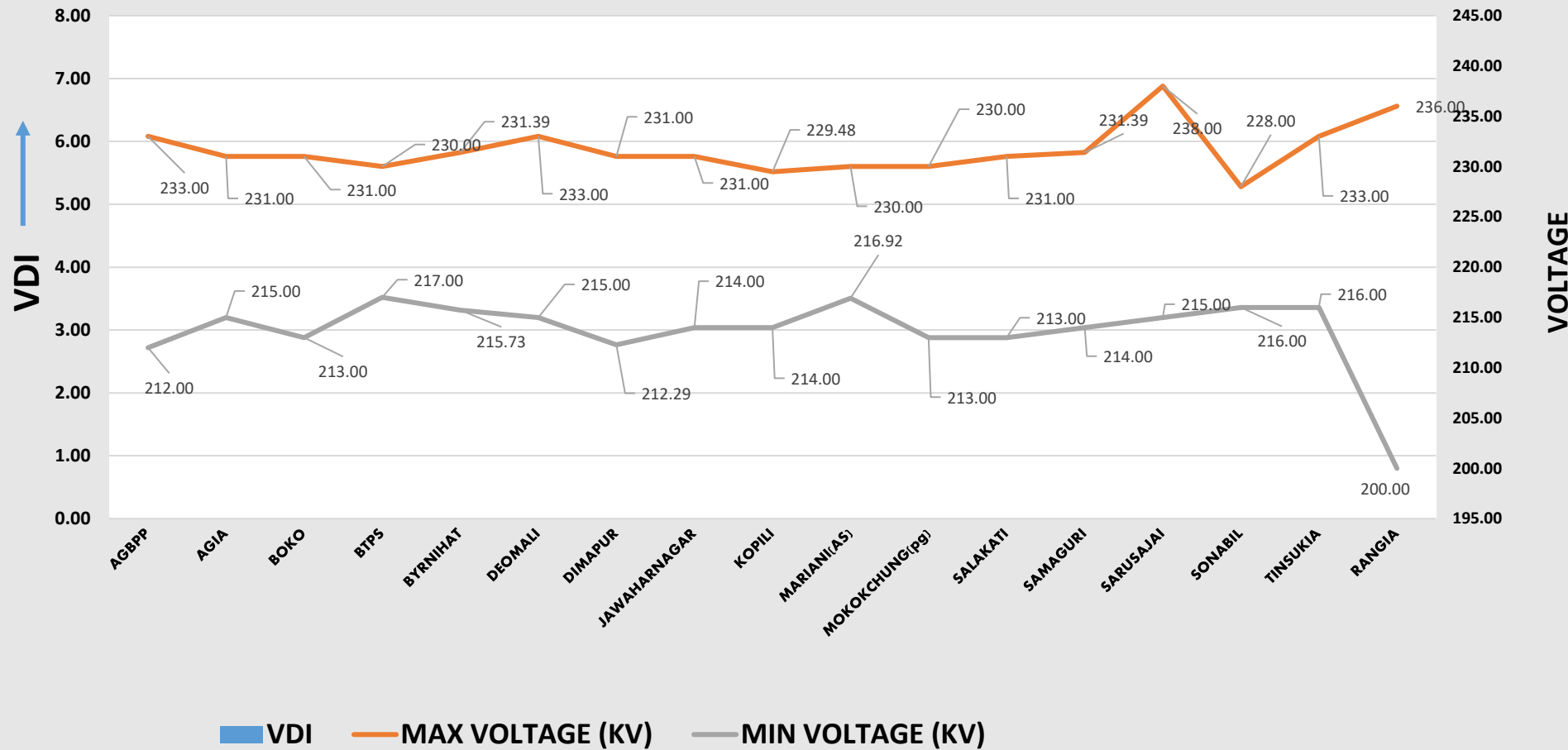


# VDI (400 KV) for June 2025

No. of 400 kV lines kept open for over voltage : 0



# VDI (220 KV) for June 2025



## Projected Hydro Generation Availability

| Plants          | Reservoir Level<br>in meters (as on<br>23/07/2025) | MU Content | Present DC<br>(MU) | No of days as<br>per current<br>Generation |
|-----------------|----------------------------------------------------|------------|--------------------|--------------------------------------------|
| Khandong STG II | 719.10                                             | 24.67      | 0.55               | 45                                         |
| Kopili          | 605.80                                             | 71         | 4.00               | 18                                         |
| Doyang          | 307.40                                             | 1.3        | 0.55               | 2                                          |
| Loktak          | 767.49                                             | 59         | 2.47               | 24                                         |

|           |    |
|-----------|----|
| No. of GD | 39 |
| No. of GI | 1  |

## Grid Disturbance during June'25

| SI No | Area Affected                                                                                    | GD   | Date & Time          |
|-------|--------------------------------------------------------------------------------------------------|------|----------------------|
| 1     | Grid Disturbance in Leshka HEP of Meghalaya Power System                                         | GD-I | 01-06-2025 05:37 Hrs |
| 2     | Grid Disturbance in Karbi Langpi HEP of Assam Power System                                       | GD-I | 02-06-2025 16:10 Hrs |
| 3     | Grid Disturbance in Zuangtui, Serchhip, Saitual and Vankal area of Mizoram Power system          | GD-I | 03-06-2025 05:54 Hrs |
| 4     | Grid Disturbance in Rengpang area of Manipur Power System                                        | GD-I | 04-06-2025 11:48 Hrs |
| 5     | Grid Disturbance in Meluri area of Nagaland Power System                                         | GD-I | 05-06-2025 03:20 Hrs |
| 6     | Grid Disturbance in Meluri area of Nagaland Power System                                         | GD-I | 05-06-2025 04:07 Hrs |
| 7     | Grid Disturbance in Dhaligaon, Gossaigaon, Barpeta, Barnagar and APM areas of Assam Power System | GD-I | 09-06-2025 05:18 Hrs |
| 8     | Grid Disturbance in Ningthoukhong area of Manipur Power System                                   | GD-I | 09-06-2025 13:34 Hrs |
| 9     | Grid Disturbance in Tangla area of Assam Power System                                            | GD-I | 09-06-2025 09:48 Hrs |

|           |    |
|-----------|----|
| No. of GD | 39 |
| No. of GI | 1  |

## Grid Disturbance during June'25

| SI No | Area Affected                                                                                            | GD   | Date & Time          |
|-------|----------------------------------------------------------------------------------------------------------|------|----------------------|
| 10    | Grid Disturbance in Udaipur areas of Tripura Power System                                                | GD-I | 09-06-2025 12:23 Hrs |
| 11    | Grid Disturbance in Dharmanagar areas of Tripura Power System and Dullavchera area of Assam power system | GD-I | 10-06-2025 18:45 Hrs |
| 12    | Grid Disturbance in Napit and Niglok areas of Arunachal Pradesh Power System                             | GD-I | 11-06-2025 16:30 Hrs |
| 13    | Grid Disturbance in Sanis area of Nagaland Power System                                                  | GD-I | 13-06-2025 16:53 Hrs |
| 14    | Grid Disturbance in Khupi & Tenga areas of Arunachal Pradesh Power System                                | GD-I | 14-06-2025 12:26 Hrs |
| 15    | Grid Disturbance in Zhadima, Chiephobozou, Wokha and Sanis areas of Nagaland Power System                | GD-I | 15-06-2025 01:07 Hrs |
| 16    | Grid Disturbance in Margherita area of Assam Power System                                                | GD-I | 17-06-2025 10:53 Hrs |
| 17    | Grid Disturbance in MLHEP P/S, Mynkre S/s, Mustem S/s and IIM S/s areas of Meghalaya Power System        | GD-I | 19-06-2025 14:00 Hrs |
| 18    | Grid Disturbance in Along area of AP Power System                                                        | GD-I | 21-06-2025 05:15 Hrs |

|           |    |
|-----------|----|
| No. of GD | 39 |
| No. of GI | 1  |

## Grid Disturbance during June'25

| SI No | Area Affected                                                                                                       | GD   | Date & Time          |
|-------|---------------------------------------------------------------------------------------------------------------------|------|----------------------|
| 19    | Grid Disturbance in Rangia, Amingaon, Kamalpur, Sipajhar, Tangla, Nalbari and Nathkuchi areas of Assam Power System | GD-I | 21-06-2025 19:14 Hrs |
| 20    | Grid Disturbance in Margherita area of Assam Power System                                                           | GD-I | 22-06-2025 22:59 Hrs |
| 21    | Grid Disturbance in Along, Pasighat, Napit and Niglok areas of Arunachal pradesh Power System                       | GD-I | 23-06-2025 16:52 Hrs |
| 22    | Grid Disturbance in Khupi area of Arunachal Pradesh Power System                                                    | GD-I | 23-06-2025 10:27 Hrs |
| 23    | Grid Disturbance in Sihhmui area of Mizoram Power System                                                            | GD-I | 23-06-2025 14:56 Hrs |
| 24    | Grid Disturbance in Along area of Arunachal Pradesh Power System                                                    | GD-I | 24-06-2025 10:59 Hrs |
| 25    | Grid Disturbance in Lumshnong area of Meghalaya Power System                                                        | GD-I | 25-06-2025 03:13 Hrs |
| 26    | Grid Disturbance in Lumshnong area of Meghalaya Power System                                                        | GD-I | 25-06-2025 23:25 Hrs |
| 27    | Grid Disturbance in Amguri (Jackson) area of the Assam Power System                                                 | GD-I | 26-06-2025 15:17 Hrs |

|           |    |
|-----------|----|
| No. of GD | 36 |
| No. of GI | 1  |

## Grid Disturbance during June'25

| SI No | Area Affected                                                                                                                    | GD   | Date & Time          |
|-------|----------------------------------------------------------------------------------------------------------------------------------|------|----------------------|
| 28    | Grid Disturbance in Rangia, Amingaon, Kamalpur, Sipajhar, Tangla, Nalbari, AIIMS, Hajo and Nathkuchi areas of Assam Power System | GD-I | 26-06-2025 09:42 Hrs |
| 29    | Grid Disturbance in Kohima, Zhadima, Chiephobozou, Wokha, Sanis, Meluri and Kiphire areas of Nagaland Power System               | GD-I | 26-06-2025 10:41 Hrs |
| 30    | Grid Disturbance in Rokhia area of Tripura Power System                                                                          | GD-I | 28-06-2025 06:06 Hrs |
| 31    | Grid Disturbance in Amrit area of Meghalaya Power System                                                                         | GD-I | 28-06-2025 17:45 Hrs |
| 32    | Grid Disturbance in Saitual area of Mizoram Power System                                                                         | GD-I | 28-06-2025 15:38 Hrs |
| 33    | Grid Disturbance in Rengpang area of Manipur Power System                                                                        | GD-I | 29-06-2025 09:25 Hrs |
| 34    | Grid Disturbance in Bairabi area of Mizoram Power system                                                                         | GD-I | 30-06-2025 13:09 Hrs |
| 35    | Grid Disturbance in Saitual area of Mizoram Power system                                                                         | GD-I | 30-06-2025 09:52 Hrs |
| 36    | Grid Disturbance in Turial area of Mizoram Power system                                                                          | GD-I | 30-06-2025 13:15 Hrs |

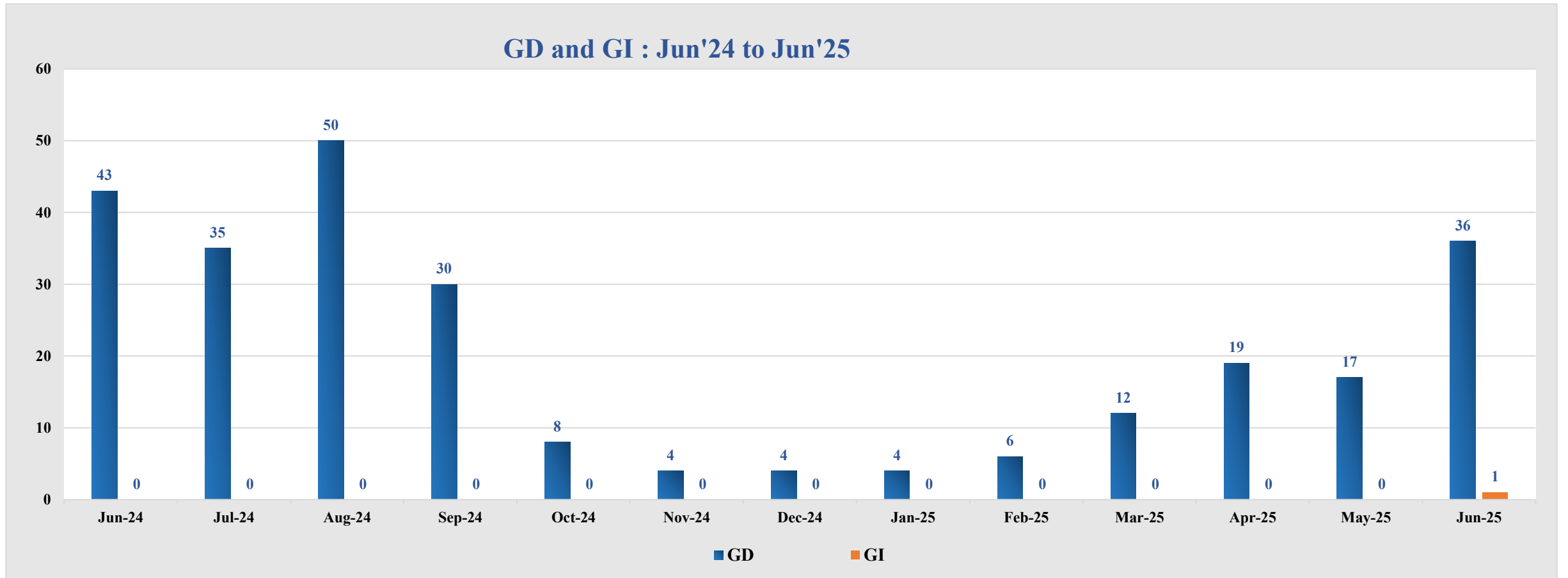


|           |    |
|-----------|----|
| No. of GD | 39 |
| No. of GI | 1  |

## Grid Incidence during June'25

| SI No | Affected Substation | GI    | Date & Time          |
|-------|---------------------|-------|----------------------|
| I     | Kopili              | GI-II | 26-06-2025 19:34 Hrs |

# Grid Disturbance/Incidences for last 12 Months



# OCC approved shutdown availing status for the month of June 2025

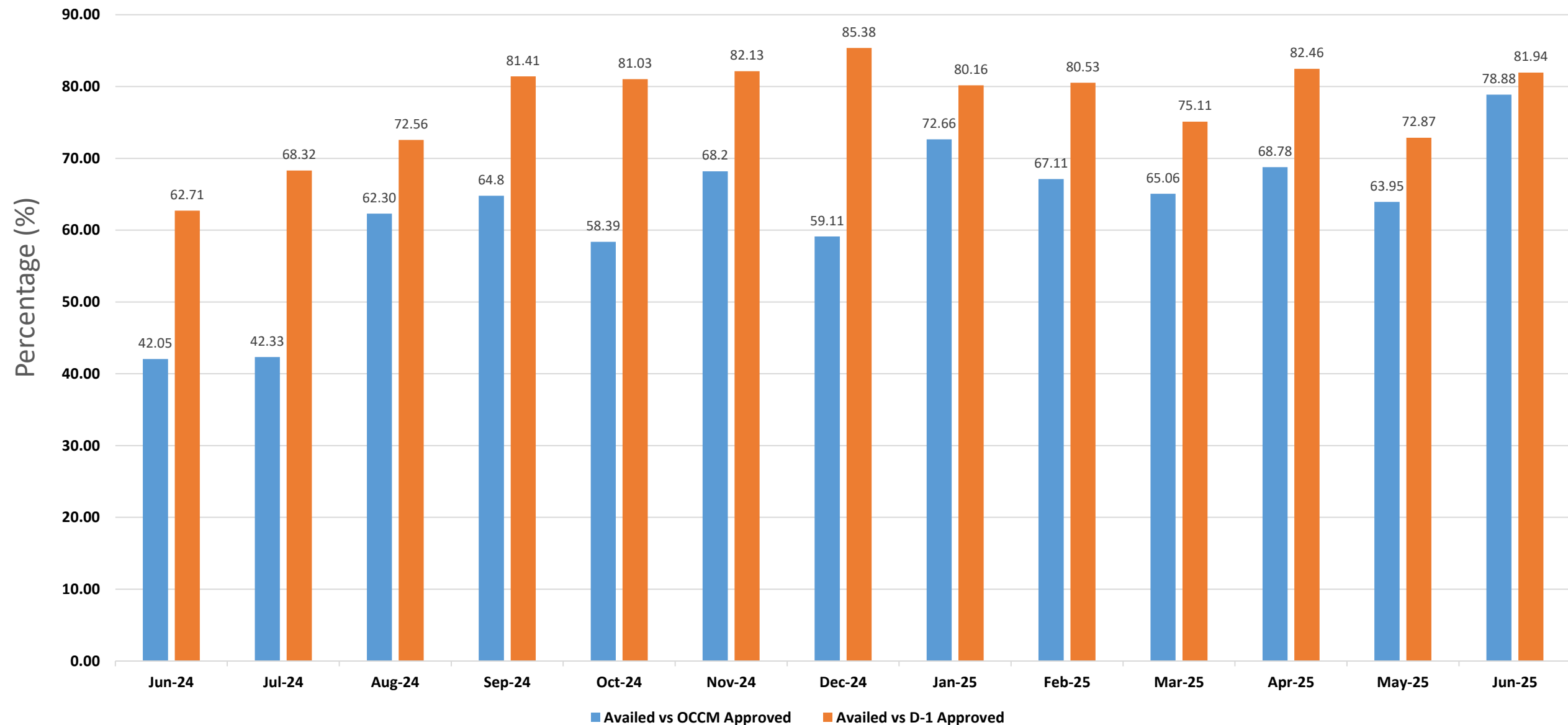
## SUMMARY OF NER OUTAGE

| MONTH   | PLANNED<br>IN OCC | APPROVED<br>IN D-1 | AVAILED<br>IN REAL<br>TIME | NOT AVAILED | AVAILED<br>Vs<br>PLANNED<br>% | AVAILED<br>Vs<br>APPROVED<br>% | DEFERRED BY<br>RLDC DUE TO<br>SYSTEM<br>CONSTRAINT |
|---------|-------------------|--------------------|----------------------------|-------------|-------------------------------|--------------------------------|----------------------------------------------------|
| June 25 | 161               | 155                | 127                        | 28          | 78.88                         | 81.94                          | 1                                                  |

## Shutdown Statistics

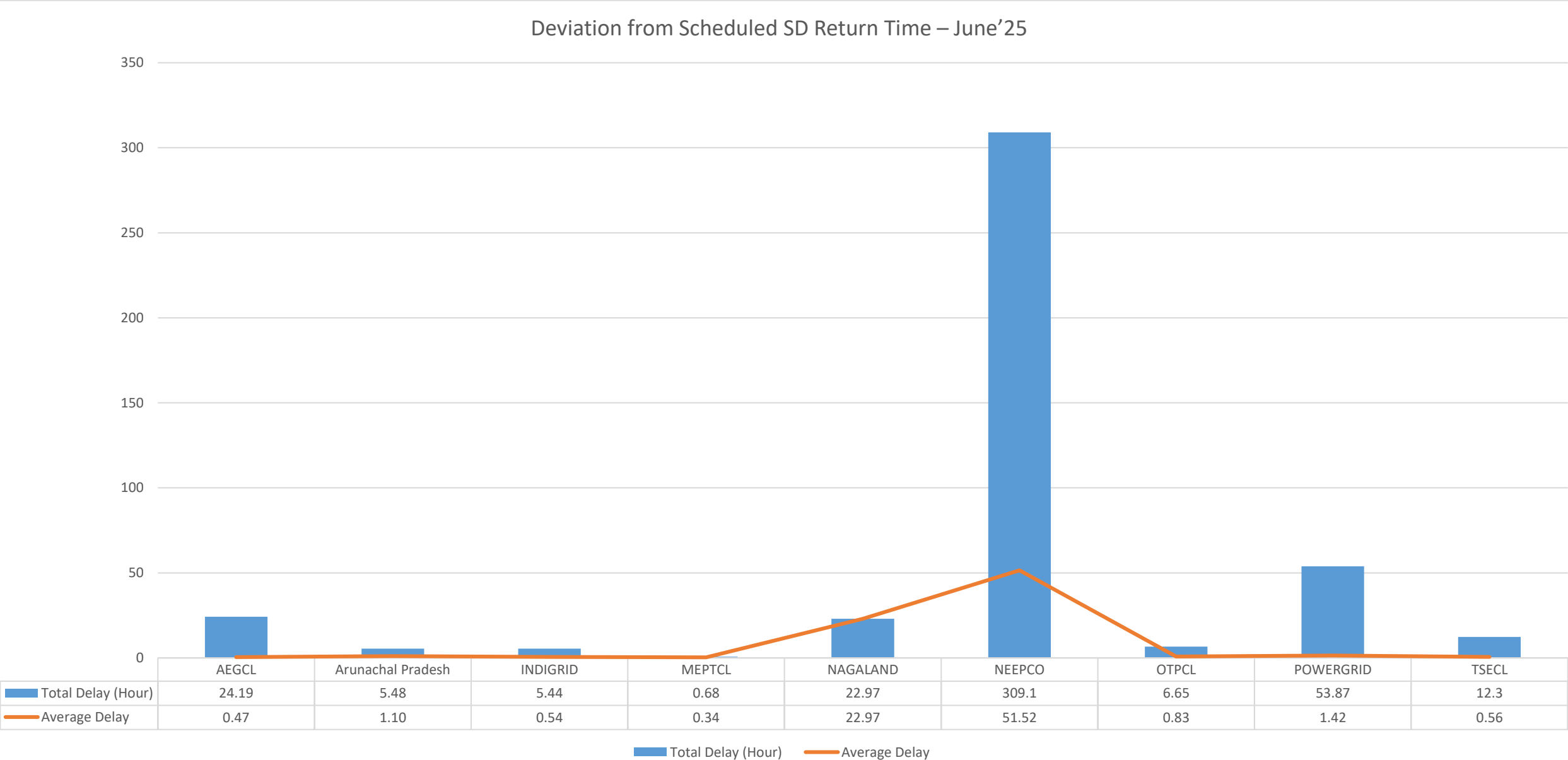
|                   | OCC Approved | D-1 Approved | Availed | Not Availed | RLDC Deferred |
|-------------------|--------------|--------------|---------|-------------|---------------|
| NER               | 161          | 155          | 127     | 28          | 1             |
|                   |              |              |         |             |               |
| NERTS             | 43           | 41           | 32      | 9           | 0             |
| ASSAM             | 63           | 61           | 53      | 8           | 0             |
| MANIPUR           | 0            | 0            | 0       | 0           | 0             |
| MEGHALAYA         | 8            | 8            | 5       | 3           | 0             |
| NAGALAND          | 4            | 4            | 1       | 3           | 0             |
| MIZORAM           | 0            | 0            | 0       | 0           | 0             |
| TRIPURA           | 25           | 23           | 19      | 4           | 1             |
| Arunachal Pradesh | 6            | 6            | 5       | 1           | 0             |
| NETC              | 0            | 0            | 0       | 0           | 0             |
| KMTL              | 0            | 0            | 0       | 0           | 0             |
| NEEPCO            | 4            | 4            | 4       | 0           | 0             |
| NTPC              | 0            | 0            | 0       | 0           | 0             |
| OTPC              | 8            | 8            | 8       | 0           | 0             |
| INDIGRID          | 0            | 0            | 0       | 0           | 0             |
| NHPC              | 0            | 0            | 0       | 0           | 0             |

## Approved Shutdown availing trend in percentage



# Shutdown Delay statistics

## Comparison of delay in returning Shutdown by Entities for the Month of June 2025



# Shutdown Delay statistics

| SL. | Availing Utility  | Total SD | Total Delay (Hour) | Average Delay |
|-----|-------------------|----------|--------------------|---------------|
| 1   | AEGCL             | 52       | 24.19              | 0.47          |
| 2   | Arunachal Pradesh | 5        | 5.48               | 1.10          |
| 3   | INDIGRID          | 10       | 5.44               | 0.54          |
| 4   | MEPTCL            | 2        | 0.68               | 0.34          |
| 5   | NAGALAND          | 1        | 22.97              | 22.97         |
| 6   | NEEPCO            | 6        | 309.1              | 51.52         |
| 7   | OTPCL             | 8        | 6.65               | 0.83          |
| 8   | POWERGRID         | 38       | 53.87              | 1.42          |
| 10  | TSECL             | 22       | 12.3               | 0.56          |

# RMSE of Load forecast for June'25

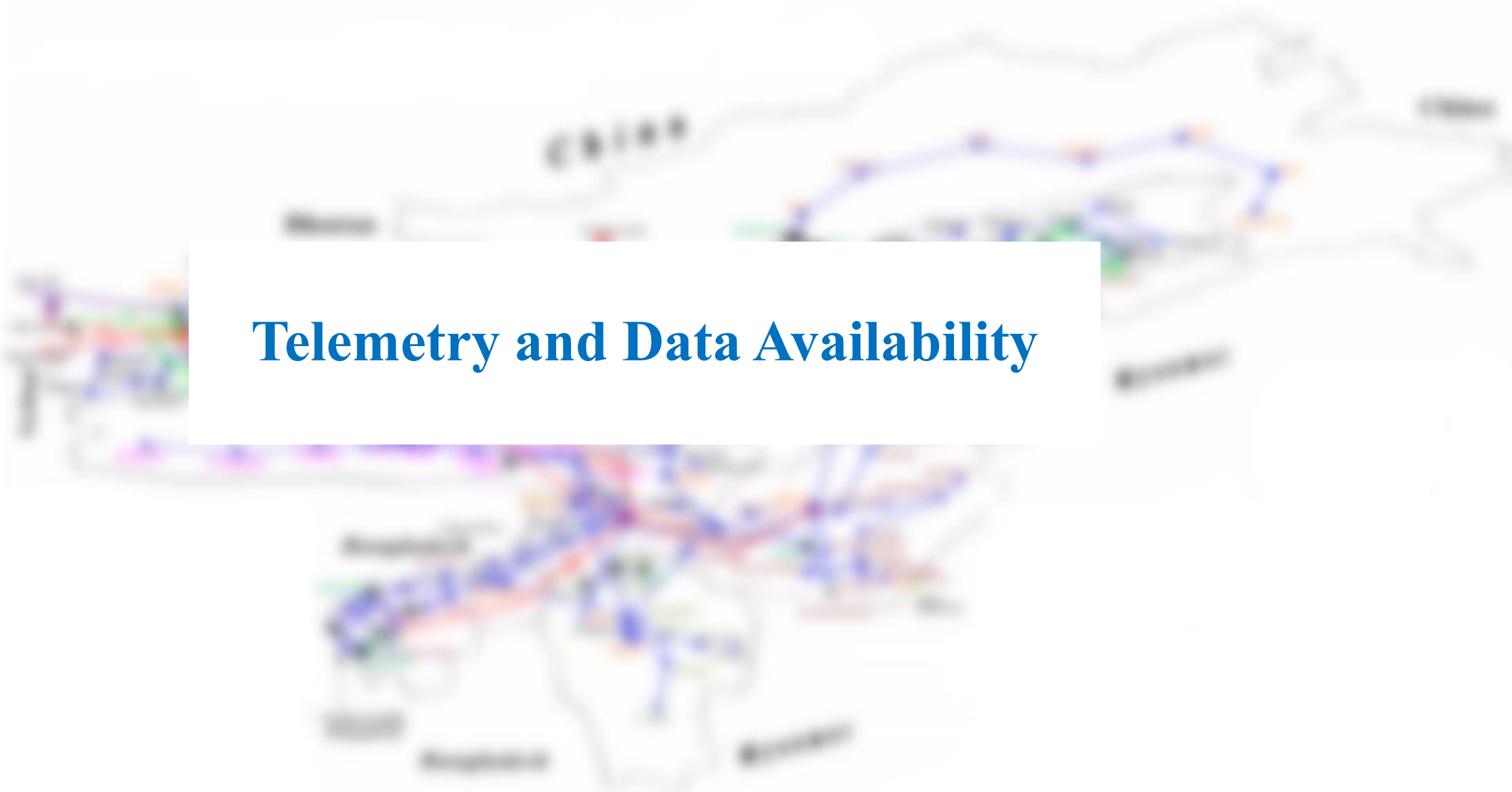
RMSE of the forecasted Demand by SLDCs Vs Actual Demand met as per IEM by SLDCs :

$$RMSE = \sqrt{\frac{\sum_{i=1}^N (Predicted_i - Actual_i)^2}{N}}$$

Where,  
**Predicted<sub>i</sub>** = Forecasted Value  
**Actual<sub>i</sub>** = Actual value  
**N** = Total number of observations.

|        | Arunachal Pradesh | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Tripura |
|--------|-------------------|-------|---------|-----------|---------|----------|---------|
| Median | 13                | 09    | 22      | 05        | 18      | 11       | 14      |

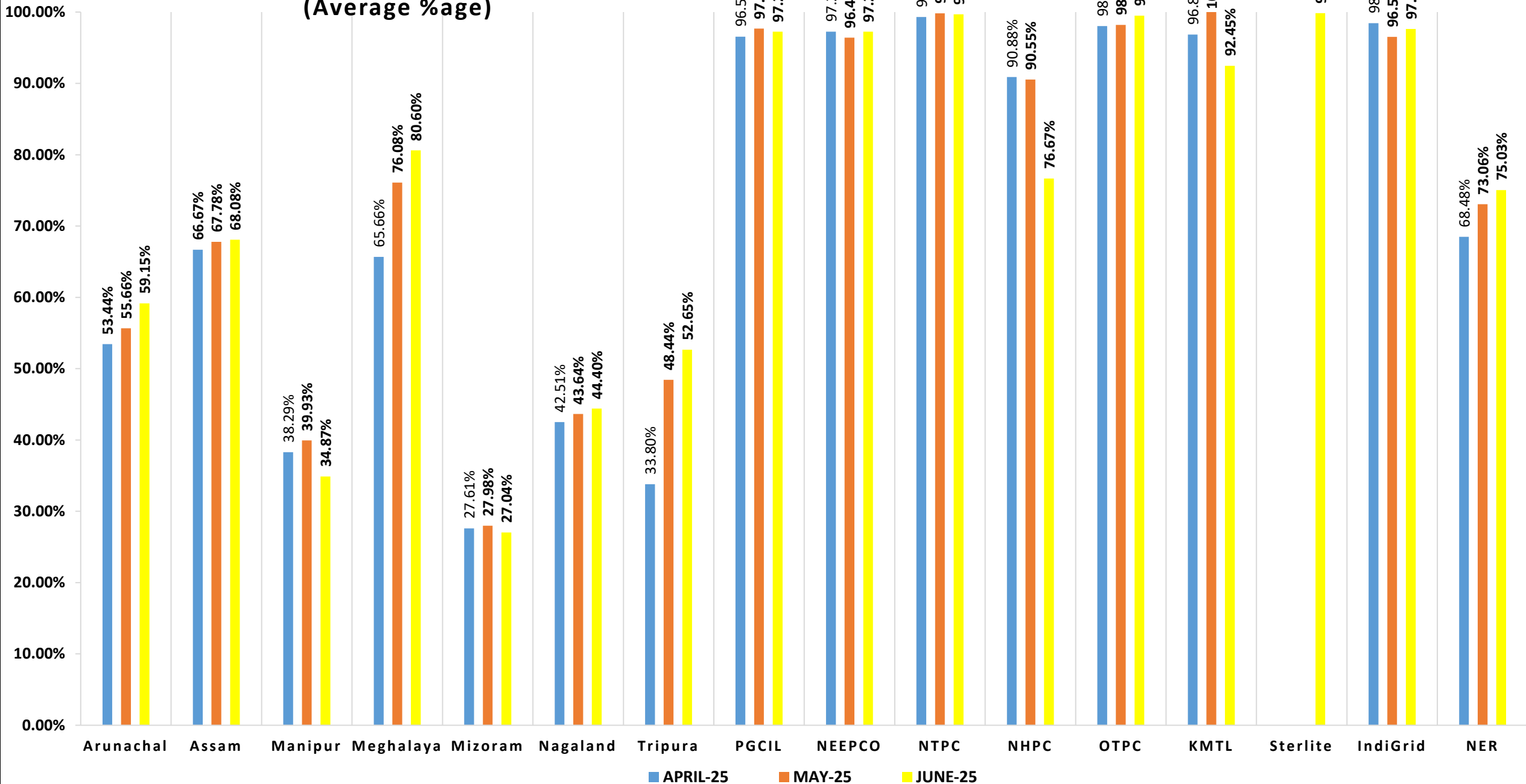




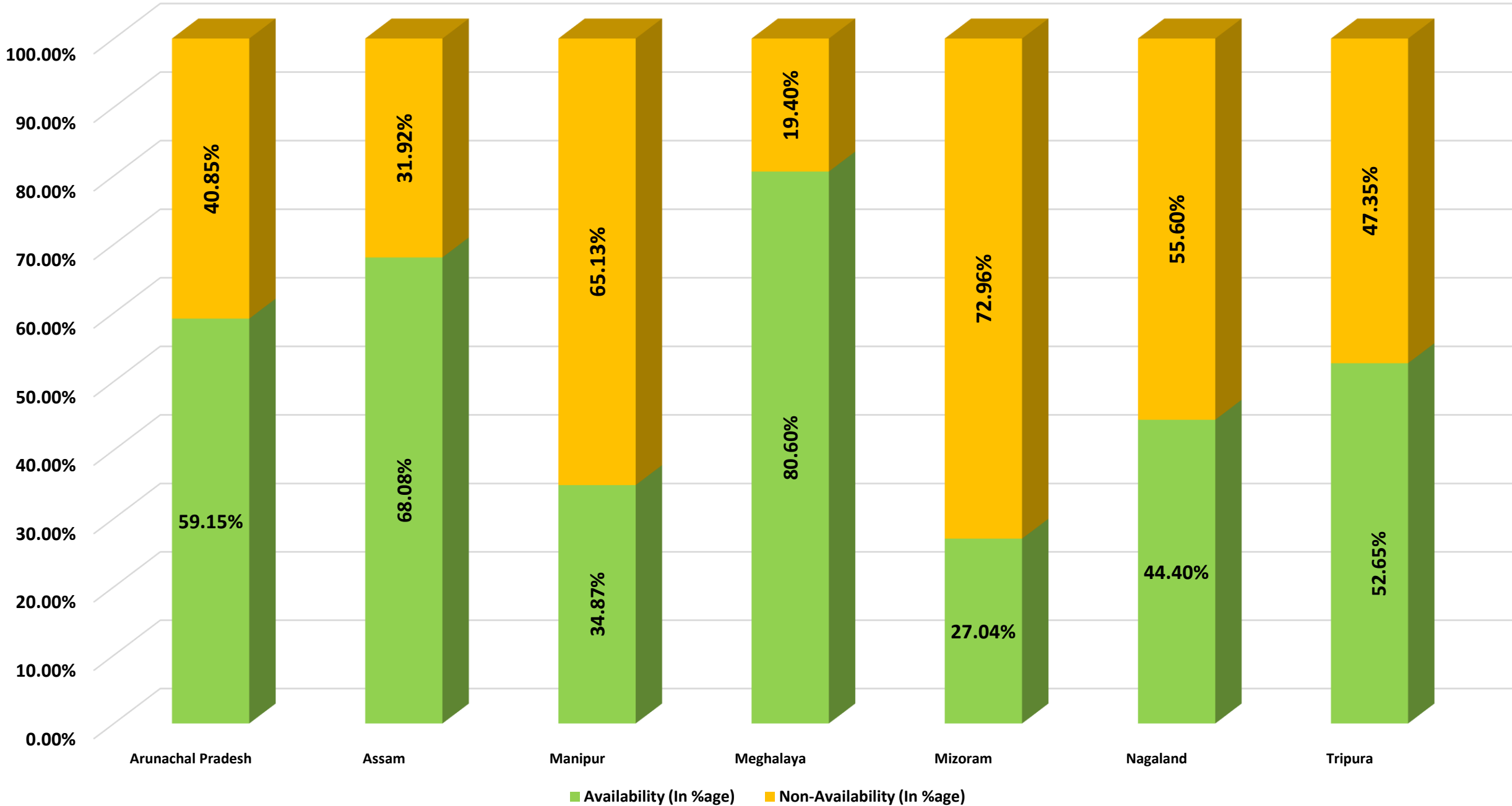
## Telemetry and Data Availability

| Telemetry Statistics for the month of June 2025 |                   |                          |                           |                              |                          |                               |
|-------------------------------------------------|-------------------|--------------------------|---------------------------|------------------------------|--------------------------|-------------------------------|
| Sl. No.                                         | Utility           | Average Total Percentage | Average Analog Percentage | Average Digital Availability | Average RTU Availability | Target as per 30th NeTEST MOM |
| 1                                               | PGCIL             | 97.26                    | 96.82                     | 97.48                        | 98.16                    |                               |
| 2                                               | NEEPCO            | 97.24                    | 96.98                     | 97.4                         | 99.8                     |                               |
| 3                                               | NTPC              | 99.69                    | 99.17                     | 99.96                        | 99.14                    |                               |
| 4                                               | NHPC              | 76.67                    | 85.94                     | 71.65                        | 86.25                    |                               |
| 5                                               | OTPC              | 99.5                     | 98.68                     | 99.88                        | 99.9                     |                               |
| 6                                               | KMTL              | 92.45                    | 87.88                     | 94.57                        | 99.93                    |                               |
| 7                                               | Sterlite          | 99.85                    | 99.9                      | 99.83                        | 99.9                     |                               |
| 8                                               | Indigrid          | 97.62                    | 97.77                     | 97.55                        | 98.85                    |                               |
| 9                                               | Arunachal Pradesh | 59.15                    | 53.45                     | 62.71                        | 54.24                    | 85                            |
| 10                                              | Assam             | 68.08                    | 68.97                     | 67.43                        | 71.07                    | 85                            |
| 11                                              | Manipur           | 34.87                    | 37.02                     | 33.58                        | 38.78                    | 70                            |
| 12                                              | Meghalaya         | 80.6                     | 90.56                     | 73.13                        | 94.05                    | 80                            |
| 13                                              | Mizoram           | 27.04                    | 40.2                      | 16.91                        | 39.75                    | 60                            |
| 14                                              | Nagaland          | 44.4                     | 42.42                     | 45.61                        | 50.73                    | 70                            |
| 15                                              | Tripura           | 52.65                    | 48.63                     | 55.26                        | 61.14                    | 80                            |

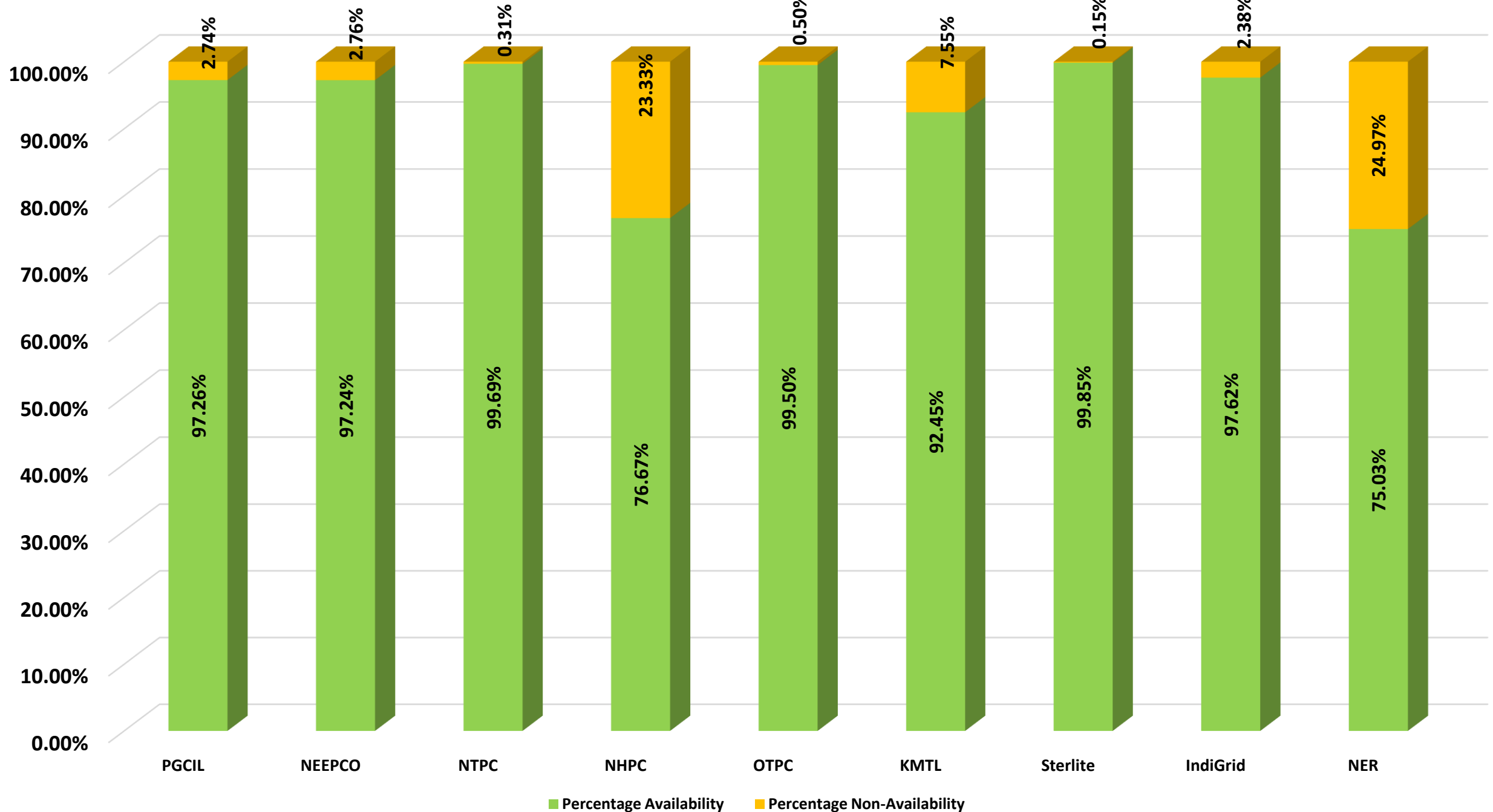
**Comparsion of Telemetry Availabilty Statistics  
(Average %age)**



Telemetry Statistics for NER States(Average availability of data for the month of June '25)



**Telemetry Statistics for Central Sector of NER (Average availability of data for the month of June '25)**





**ग्रीड 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)]  
राष्ट्रीय भार प्रेषण केन्द्र / **National Load Despatch Centre**

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

Ref: NLDC/SO-I/ 248

Date: 21<sup>st</sup> Mar 25

To,  
Executive Director  
NRLDC/WRLDC/SRLDC/ERLDC/NERLDC

**Subject: Expeditious Registration of Intra-State Generating Stations in NOAR**

Dear Sir,

As you may be aware, a High-Level Committee (HLC) has been constituted under the Chairmanship of the Additional Secretary (Power) to monitor the offering of power by generators and load shedding by distribution licensees. The registration status of GENCOs in the National Open Access Registry (NOAR) has been a recurring point of discussion.

Despite earlier communications to the respective states, advising GENCOs to register in NOAR, no significant progress has been observed. In the last HLC meeting held on 3rd March 2025, Grid-India was directed to request all Managing Directors (MDs) of GENCOs to expedite the registration process on the NOAR portal. Additionally, GENCOs were asked to provide detailed reasons for the delay in registration despite continuous follow-ups.

It is pertinent to mention that registration is also essential for compliance with the Late Payment Surcharge (LPSC) Rules. In this regard, it is requested to kindly ask from each GENCO the following:

- Completion of registration of all generating stations on the NOAR portal at the earliest.
- Reasons for non-registration of the plants until now and a timeline and relevant details (expected date of registration, issues faced, etc.)

As per the minutes of the meeting (annexure-I), Grid-India is asked to present the above details in the next HLC meeting, which is expected to be scheduled soon. Therefore, consolidated inputs from all GENCOs in your region may please be forwarded to NLDC at the earliest, and latest by 28.03.2025 to facilitate compilation for the meeting.

A plant-wise list of stations, not yet registered on the NOAR portal, is attached as an annexure-II for reference.

Your cooperation in ensuring the timely submission of the required details will be highly appreciated.

Regards

S. Usha

Executive Director, NLDC

Encl.: As above

For kind information:

1. Chairman and Managing Director, Grid India
2. Director (SO/MO), Grid India

**ANNEXURE-I**

**No.20/1/2024-DS(271942)**

**Government of India**

**Ministry of Power**

\*\*\*\*\*

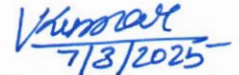
**Shram Shakti Bhawan, Rafi Marg  
New Delhi, Date:7<sup>th</sup> March, 2025**

**MINUTES OF MEETING**

**Subject: Minutes of the 6th Meeting of the Committee to monitor offering of power by Generators and load shedding by Distribution Licensees.**

The undersigned is directed to forward herewith the Minutes of 6th Meeting of the Committee to monitor offering of power by Generators and load shedding by Distribution Licensees, held on 03.03.2025 under the Chairmanship of Additional Secretary (Power), for information and necessary action.

**Encl. as above**

  
7/3/2025

**(Vikash Kumar)**

**Under Secretary (Distribution)**

**Tel: 011-23705268**

**Email: vikash.69@gov.in**

**To:**

All Committee Members



**Minutes of 6<sup>th</sup> meeting of the High-Level Committee to monitor offering of power by Generators and load shedding by Distribution Licensees.**

The 6th Meeting of the High-Level Committee was held under the chairmanship of Additional Secretary (Power) on 03.03.2025. The list of participants is at **Annexure I.**

2. Deputy Secretary (Distribution), Ministry of Power welcomed all committee members and other participants from various departments of Ministry of Power, Grid -India, RECPDCL, PFC and Officials from DISCOMs.

3. ATR of 5<sup>th</sup> Meeting was presented during the meeting. The deliberations during the meeting are summarised below.

**3.1. Formation of monitoring cells and automatic compensation process**

(i) It was informed that out of 36 States/UTs, monitoring cells have been formed in 5 States/UTs (Gujarat, Madhya Pradesh, Andhra Pradesh, J&K, Ladakh), and remaining States/UTs will constitute monitoring cells by March '25.

**3.2. Offering of power by GENCOs under LPS rules.** It was informed that 3 new gas plants have been registered on the NOAR portal.

**3.3. NFMS report on power outages**

It was informed that out of 2.52 lakh feeders, 2.04 lakh feeders are now monitored across all States/UTs. Further, hours of supply data is now shared with the DISCOMs on a daily basis for necessary action.

**3.4. Discussion on PIB Reports on Power Outages**

(i) **Telangana:** It was informed that outages were due to tree branches falling on lines and routine maintenance of LT lines. Supply was restored the next day.

(ii) **Haryana:** Representative of DISCOM informed that the outage was due to fire in the 220kV Substation, which led to a 36-hour power outage in some sectors of Gurugram.

4. After detailed deliberations, the following recommendations were made:

- a. SERCs/JERCs may be followed up to expedite the formation of monitoring cells.  
**(Action by: RCM Div)**



- b. States/UTs may be followed up to expedite the registration of GENCOs on NOAR portal. Grid India may write to MDs of GENCOs for registration in the portal and present a report in next meeting highlighting the reasons for non-registration. **Action by: GRID-INDIA, RCM Div)**
- c. Correct hours of supply data may be acquired from Rajasthan DISCOMs (JdVVNL, JVVNL) **(Action by: RECPDCL)**
- d. Balance approximately 50,000 feeders may be integrated with NFMS portal expeditiously. **(Action by: RECPDCL)**

**The meeting ended with a vote of thanks to all participants.**

\*\*\*\*\*

**Annexure-I****List of Participants**

| S. No.                   | Name                                                                     | Designation                     |
|--------------------------|--------------------------------------------------------------------------|---------------------------------|
| <b>Ministry of Power</b> |                                                                          |                                 |
| 1.                       | Sh. Srikant Nagulapalli                                                  | Additional Secretary (Power)    |
| 2.                       | Sh. Sunil Kumar Sharma                                                   | Director (RCM)                  |
| 3.                       | Sh. Praveen Kumar<br>Dudeja                                              | Director (OM)                   |
| 4.                       | Sh. Aravind Kumar M.K.                                                   | Deputy Secretary (Distribution) |
| <b>Grid-India</b>        |                                                                          |                                 |
| 5.                       | Sh. Suhas Damhare                                                        | CGM, NLDC                       |
| 6.                       | Sh. Anoop Sharma                                                         | Deputy Manager                  |
| <b>RECPDCL</b>           |                                                                          |                                 |
| 7.                       | Sh. T. S. C. Bosh                                                        | CEO (RECPDCL)                   |
| 8.                       | Sh. Jaspal Kushwah                                                       | GM, RECPDCL                     |
| <b>PFC</b>               |                                                                          |                                 |
| 9.                       | Sh. Mayank Sharma                                                        | DGM (PFC)                       |
| <b>DISCOMs</b>           |                                                                          |                                 |
| 10                       | Officials from the DISCOMs of state of Haryana and Telengana through VC. |                                 |

**ANNEXURE-II****Status as on 03-03-25**

| <b>Intra-state* Coal (inc. lignite) Plants</b> |                  |                           |                                                                                                                            |
|------------------------------------------------|------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>State</b>                                   | <b>Total No.</b> | <b>Registered in NOAR</b> | <b>Name of the plants NOT registered</b>                                                                                   |
| <b>Haryana</b>                                 | 4                | 0                         | Panipat, Rajiv Gandhi, Yamuna Nagar, Mahatma Gandhi                                                                        |
| <b>Punjab</b>                                  | 5                | 0                         | Lehra Mohabbat, Ropar, Goindwal Sahib, Rajpura, Talwandi Sabo                                                              |
| <b>Rajasthan</b>                               | 12               | 3                         | Chhabra-II, Chhabra-I Ph-1, Chhabra-I Ph-2, Kalisindh, Kota, Suratgarh STPS, Suratgarh TPS, Giral                          |
| <b>Uttar Pradesh</b>                           | 16               | 4                         | Anpara, Harduaganj, Jawaharpur, Obra, Parichha, Lalitpur, Rosa Ph-I, Barkhera, Khambarkhera, Kundarki, Maqsoodpur, Utraula |
| <b>Chhattisgarh</b>                            | 5                | 0                         | DSPM, Korba-West, Marwa, Katghora, Swastik Korba                                                                           |
| <b>Gujarat</b>                                 | 12               | 9                         | Sabarmati (D-F Stations), Akrimota (Lignite), Surat (Lignite)                                                              |
| <b>Madhya Pradesh</b>                          | 6                | 2                         | Amarkantak Ext., Sanjay Gandhi, Satpura, Shree Singaji                                                                     |
| <b>Maharashtra</b>                             | 18               | 13                        | Bela, Dahanu, Butibori, Mihan, GEPL Ph-I                                                                                   |
| <b>Andhra Pradesh</b>                          | 5                | 1                         | Dr. N. Tata Rao, Rayalaseema, Damodaram Sanjeevaiah, Vizag                                                                 |
| <b>Karnataka</b>                               | 6                | 2                         | Bellary, Raichur, Yermarus, Adani Power Limited Udupi                                                                      |
| <b>Tamil Nadu</b>                              | 8                | 1                         | Mettur, Mettur-II, North Chennai, Tuticorin, Neyveli(Z), Tuticorin St-IV, Tuticorin(P)                                     |
| <b>Telangana</b>                               | 6                | 0                         | Singareni, Bhadradi, Kakatiya, Kothagudem (New), Kothagudem (Stage-7), Ramagundem-B                                        |
| <b>Jharkhand</b>                               | 2                | 0                         | Tenughat, Jojobera                                                                                                         |
| <b>Odisha</b>                                  | 3                | 1                         | IB Valley, Vedanta/Sterlite                                                                                                |
| <b>West Bengal</b>                             | 12               | 0                         | D.P.L., Bakreswar, Bandel, Kolaghat, Sagardighi, Santaldih, Budge Budge, Haldia, Hiranmaye, Southern, Titagarh, Dishergarh |
| <b>DVC</b>                                     | 7                | 6                         | Bokaro `A` Exp.                                                                                                            |
| <b>TOTAL</b>                                   | <b>127</b>       | <b>42</b>                 | 85 non-registered                                                                                                          |

\*incl. state IPP and plants scheduled by the state (SLDC)

| Intra-state* Hydro Plants |            |                    |                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State                     | Total No.  | Registered in NOAR | Name of the plants NOT registered                                                                                                                                                                                                                                                                                                                                                              |
| Himachal Pradesh          | 12         | 4                  | Bassi, Giri Bata, Larji, Sanjay, Integrated Kashang, Shanan, Chanju-I, Baspa                                                                                                                                                                                                                                                                                                                   |
| Jammu & Kashmir           | 6          | 2                  | Lower Jhelum, Upper Sindh-II, Chutak, Nimoo Bazgo                                                                                                                                                                                                                                                                                                                                              |
| Punjab                    | 7          | 0                  | Anandpur Sahib-I, Anandpur Sahib-II, Mukerian-I, Mukerian-II, Mukerian-III, Mukerian-IV, Ranjit Sagar                                                                                                                                                                                                                                                                                          |
| Rajasthan                 | 4          | 0                  | Jawahar Sagar, Mahi Bajaj-I, Mahi Bajaj-II, R P Sagar                                                                                                                                                                                                                                                                                                                                          |
| Uttarakhand               | 15         | 1                  | Chibro (Yamuna), Chilla, Dhakrani, Dhalipur, Khatima, Khodri, Kulhal, Maneri Bhali-I, Maneri Bhali-II, Ramganga, Vyasi, Shrinagar, Vishnu Prayag, Khara                                                                                                                                                                                                                                        |
| Uttar Pradesh             | 3          | 0                  | Matatila, Obra, Rihand                                                                                                                                                                                                                                                                                                                                                                         |
| Madhya Pradesh            | 11         | 0                  | Indira Sagar, Omkareshwar, Bansagar Tons-I, Bansagar Tons-II, Bansagar Tons-III, Bargi, Gandhi Sagar, Rana Pratap Sagar, Jawahar Sagar, Madhikhera, Raighat                                                                                                                                                                                                                                    |
| Maharashtra               | 13         | 0                  | Bhira Tail Race, Koyna DPH, Koyna-I&II, Koyna-III, Koyna-IV, Tillari, Vaitarna, Pench, Bhandardhara St-II, Bhira, Bhivpuri, Khopoli, Ghatgarh                                                                                                                                                                                                                                                  |
| Chhattisgarh              | 1          | 0                  | Hasdeobango                                                                                                                                                                                                                                                                                                                                                                                    |
| Gujarat                   | 2          | 0                  | Ukai, Kadana                                                                                                                                                                                                                                                                                                                                                                                   |
| Andhra Pradesh            | 5          | 0                  | Lower Sileru, N J Sagar RBC & Ext., Srisaillam, Upper Sileru-I&II, Srisaillam LBPH, Machkund^                                                                                                                                                                                                                                                                                                  |
| Telangana                 | 6          | 0                  | Priyadarshini Jurala, Pochampad, N'Sagar, N J Sagar LBC, Lower Jurala, Pulinchinthala                                                                                                                                                                                                                                                                                                          |
| Karnataka                 | 16         | 0                  | Almatti, Gerusoppa (Sharavathy Tail Race), Ghat Prabha, Mahatma Gandhi (Jog), Kadra, Kalinadi (Nagjhari), Kalinadi (Supa), Kodasali, Lingnamakki, Munirabad, Sharavathy, Sivasamundrum, Varahi, Bhadra, T B Dam, Hampi                                                                                                                                                                         |
| Kerala                    | 14         | 0                  | Idamalayar, Idukki, Kakkad, Kuttiyadi, Kuttiyadi Extn., Kuttiyadi Additional Extn., Lower Periyar, Nariamangalam, Pallivasal, Panniar, Poringalkuttu, Sabirigiri, Sengulam, Sholayar                                                                                                                                                                                                           |
| Tamil Nadu                | 27         | 0                  | Kadamparai, Aliyar, Bhavani Kattalai Barrage-I, Bhavani Kattalai Barrage-II, Bhavani Kattalai Barrage-III, Kodayar-I, Kodayar-II, Kundah-I, Kundah-II, Kundah-III, Kundah-IV, Kundah-V, Lower Mettur-I, Lower Mettur-II, Lower Mettur-III, Lower Mettur-IV, Mettur Dam, Mettur Tunnel, Moyar, Papanasam, Parson'S Valley, Periyar, Pykara, Pykara Ultimate, Sarakarpthy, Sholayar-I, Suruliyar |
| DVC                       | 4          | 0                  | Maithon, Panchet, Subernrekha-I, Subernrekha-II                                                                                                                                                                                                                                                                                                                                                |
| West Bengal               | 5          | 0                  | Purulia, Jaldhaka, Rammam, Teesta Low Dam-III, Teesta Low Dam-IV                                                                                                                                                                                                                                                                                                                               |
| Odisha                    | 6          | 0                  | Balimela, Hiraakud (Burla), Hiraakud (Chiplima), Rengali, Upper Indravati, Upper Kolab                                                                                                                                                                                                                                                                                                         |
| Arunachal Pradesh         | 2          | 0                  | Dikshi                                                                                                                                                                                                                                                                                                                                                                                         |
| Assam                     | 2          | 0                  | Karbi Langpi, Myntreng                                                                                                                                                                                                                                                                                                                                                                         |
| Meghalaya                 | 9          | 0                  | Umiam St-III, Umiam St. I, New Umtru, Umiam St. IV, Myntdu St-I, Ganol, Lakroh, Sonapani, Umiam St-II                                                                                                                                                                                                                                                                                          |
| Mizoram                   | 1          | 0                  | Serlui-B                                                                                                                                                                                                                                                                                                                                                                                       |
| Nagaland                  | 1          | 0                  | Likimro                                                                                                                                                                                                                                                                                                                                                                                        |
| Tripura                   | 1          | 0                  | Gumti                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>TOTAL</b>              | <b>173</b> | <b>7</b>           | 166 non-registered                                                                                                                                                                                                                                                                                                                                                                             |

\*incl. state IPP and plants scheduled by the state (SLDC) ^Scheduling Jointly with Odisha

| Intra-state* Gas Plants |           |                    |                                                                                                            |
|-------------------------|-----------|--------------------|------------------------------------------------------------------------------------------------------------|
| State                   | Total No. | Registered in NOAR | Name of the plants NOT registered                                                                          |
| Haryana                 | 1         | 1                  |                                                                                                            |
| Delhi                   | 4         | 3                  | Rithala                                                                                                    |
| Rajasthan               | 2         | 0                  | Dholpur, Ramgarh                                                                                           |
| Uttarakhand             | 2         | 2                  |                                                                                                            |
| Gujarat                 | 10        | 6                  | Hazira, Baroda, Essar, Peguthan                                                                            |
| Maharashtra             | 3         | 2                  | Mangaon                                                                                                    |
| Andhra Pradesh          | 10        | 1                  | Jegurupadu Ph-I, Gautami, Grel, Jegurupadu Ph-II, Konaseema, Kondapalli, Peddapuram, Vemagiri, Vijjeswaram |
| Tamil Nadu              | 6         | 0                  | Kovikalpal, Kuttalam, Valuthur, Karuppur, P. Nallur, Valantarvy                                            |
| Puducherry              | 1         | 0                  | Karaikal                                                                                                   |
| Assam                   | 3         | 3                  |                                                                                                            |
| Tripura                 | 3         | 0                  | Baramura GT, Rokhia GT, Monarchak                                                                          |
| <b>TOTAL</b>            | <b>45</b> | <b>18</b>          | 30 non-registered                                                                                          |

\*incl. state IPP and plants scheduled by the state (SLDC)

| STATE UTILITY | Status      | PLANT NAME      | REMARKS                                                                                                                              |
|---------------|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| MEGHALAYA     | In progress | UMIAM STAGE I   | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | NEW UMTRU       | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | UMIAM STAGE IV  | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | MYNTDU LESHKA I | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | GANOL HEP       | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | LAKROH          | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | SONAPANI        | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MEGHALAYA     | In progress | UMIAM STAGE II  | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| MIZORAM       | In progress | SERLUI B        | CERTIFICATE OF Waiver for SLDC charges pending from SLDC end to MePGCL as per communication from MePGCL coordinator for registration |
| NAGALAND      | Completed   | LIKIMRO HEP     | COMPLETED                                                                                                                            |
| TRIPURA       | Not started | GUMTI           | SLDC TRIPURA FOLLOWING UP, STILL IN TALKING STAGE WITH PLANTS                                                                        |
| TRIPURA       | Not started | BARAMURA        | SLDC TRIPURA FOLLOWING UP, STILL IN TALKING STAGE WITH PLANTS                                                                        |
| TRIPURA       | Not started | ROKHIA          | SLDC TRIPURA FOLLOWING UP, STILL IN TALKING STAGE WITH PLANTS                                                                        |
| TRIPURA       | Completed   | MONARCHAK CCPP  | COMPLETED                                                                                                                            |
| ASSAM         | Completed   | MYNTRENG HEP    | COMPLETED                                                                                                                            |
| ASSAM         | Completed   | NRPP            | COMPLETED                                                                                                                            |
| ASSAM         | Completed   | LRPP            | COMPLETED                                                                                                                            |

|                   |             |            |                                                                                          |
|-------------------|-------------|------------|------------------------------------------------------------------------------------------|
| ASSAM             | Completed   | NTPS       | COMPLETED                                                                                |
| ASSAM             | Completed   | LTPS       | COMPLETED                                                                                |
| ARUNACHAL PRADESH | Not started | DIKSHI HEP | DEVI ENERGIES, OPERATOR OF DIKSHI HEP has agreed, to be pursued by DoP Arunachal Pradesh |



भारत सरकार  
Govt. of India  
विद्युत मंत्रालय  
Ministry of Power  
केन्द्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
जल विद्युत परियोजना मूल्यांकन प्रभाग  
Hydro Project Appraisal Division

**विषय: Updated Report on Power Optimisation Study of Khandong System (Khandong Power Station and Kopili Stage-II HEP) under Renovation & Modernisation and Life extension works of Khandong Power Station (2x23 MW), Umrongso, Assam**

**संदर्भ:** एच.ई.आर&एम प्रभाग का दिनांक 25.08.2021 का पत्र।

उपरोक्त विषय के संदर्भ में एच.पी.ए प्रभाग का पत्र संलग्न है।

**संलग्न:** उपरोक्त

Signature Not Verified  
Digitally signed by ASHISH  
KUMAR LOHIA  
Date: 2021.09.14 13:55:22 IST

(आशीश कुमार लोहिया)  
उप निदेशक (एच.पी.ए)

**मुख्य अभियंता (एच.ई.आर&एम प्रभाग), के.वि.प्रा.**

**प्रतिलिपि :**

कार्यकारी निदेशक (सी), डिज़ाइन एवं इंजीनियरिंग, नॉर्थ ईस्टर्न इलेक्ट्रिकल पावर कॉर्पोरेशन लिमिटेड, तल मंज़िल, नीपको भवन, आर.जी.बरुआ रोड, सुंदरपुर, गुवाहाटी, असम-781005.





भारत सरकार  
 Govt. of India  
 विद्युत मंत्रालय  
 Ministry of Power  
 केन्द्रीय विद्युत प्राधिकरण  
 Central Electricity Authority  
 जलविद्युत परियोजना मूल्यांकन प्रभाग  
Hydro Project Appraisal Division

**Subject: Updated Report on Power Optimisation Study of Khandong System (Khandong Power Station and Kopili Stage-II HEP) under Renovation & Modernisation and Life extension works of Khandong Power Station (2x23 MW), Umrongso, Assam**

Reference is invited to HER&M Division letter dated 25.08.2021 forwarding therewith M/s NEEPCO Ltd. letter no. NEEPCO/GHY/D&E/T-53/2021-22/293 dated 18.08.2021 enclosing therein Updated Report on Power Optimisation Study of Khandong System (Khandong Power Station and Kopili Stage-II HEP) in respect of the Renovation & Modernisation and Life Extension works of Khandong Power Station (2x23 MW) in Umrongso, Assam by M/s North East Electric Power Corporation Ltd. (NEEPCO) for examination and vetting of CEA.

The PPS Report has been examined and installed capacity of **46 MW for Khandong Power Station and 23 MW for Kopili St-II HEP** is found to be in order with combined design energy as **292.0 MU**. The various parameters considered are as under:

| Sl. No. | Parameters            | Vetted by CEA                                                                                                  |                  |
|---------|-----------------------|----------------------------------------------------------------------------------------------------------------|------------------|
|         |                       | Khandong Power Station                                                                                         | Kopili St-II HEP |
| 1.      | Installed Capacity    | 46 MW                                                                                                          | 23 MW            |
| 2.      | FRL (m)               | 725.0 m                                                                                                        |                  |
| 3.      | MDDL (m)              | 1. EL.707.4 m when all 3 machines are running<br>2. EL. 705.1 m during lean season when 2 machines are running |                  |
| 4.      | Maximum Head Loss     | 19.0 m                                                                                                         |                  |
| 5.      | TG efficiency         | 87.90% (conditional)                                                                                           | 86.79%           |
| 6.      | Design Energy Benefit | 217.0 MU                                                                                                       | 75.0 MU          |
| 7.      | Plant Load Factor     | 53.85%                                                                                                         | 37.32%           |

However, the installed capacity and energy benefits are subject to following conditions:

1. Vetting of Combined efficiency of T-G by HE&TD Division, CEA.
2. HCD (NW&S) Dte, CWC vide letter dated 15.12.2020 opined that due to ageing of concrete, acidic environment and reported loss of mass in concrete lining, increasing the discharge through WCS beyond design discharge of 85.5 cumec is not advisable.
3. Operating levels in the reservoir as mentioned in HCD (NW&S) Dte, CWC letter dated 05.08.2021.

Further, the installed capacity and energy benefits may be reviewed on account of following:

1. Change in various operating levels (FRL, MDDL, TWL) etc, if any.
2. Change in Water Conductor System Losses, if any.
3. Consequential change in Design Head, if any.
4. Change of Combined efficiency of TG, if any.
5. Change of Layout Plan, if any.

This issues with the approval of competent authority.

**Sd/-**  
**(Ashish Kumar Lohiya)**  
**Deputy Director(HPA)**

**Chief Engineer (HER&M), CEA**

**Dated: 14.09.2021**

**Copy to:** Executive Director (C), Design & Engineering, NEEPCO Ltd., Ground Floor, NEEPCO Bhawan, R. G. Road, Sundarpur, Guwahati, Assam-781005.



सत्यमेव जयते

**भारत सरकार**  
**Government of India**  
**विद्युत मंत्रालय**  
**Ministry of Power**  
**केन्द्रीय विद्युत प्राधिकरण**  
**Central Electricity Authority**  
**विद्युत प्रणाली संचार विकास प्रभाग**  
**Power System Communication Development Division**  
 \*\*\*\*\*

**Subject:** issuance of guidelines to be followed for processing of PTCC proposals for 33 kV feeders of ISTS connected Renewable Energy (RE) power projects

Madam/ Sir,

As per Clause 80 of the Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2023, *the owner of every electric supply line of 11 kV and above must obtain PTCC clearance to ensure the safety of personnel and nearby telecommunication infrastructure, in accordance with Section 160 of the Electricity Act.*

Most RE power plants utilize multiple 33 kV feeder lines to transmit power from Inverter Duty Transformers (IDTs) or Wind Turbine Generators (WTGs) to the Pooling Substation (PSS), and subsequently to the electricity grid.

Several RE developers have recently highlighted delays in obtaining PTCC approvals due to involvement of multiple utilities and creation of multiple feeder-wise files, particularly for the large number of 33 kV feeders, which are critical for timely project execution.

In response to these concerns, A guideline has been prepared to streamline and expedite the PTCC approval process and reduce the number of cases for 33 kV feeders associated with ISTS-connected RE projects, while ensuring the harmonious coexistence and safety of nearby telecom assets and maintaining ease of doing business for power utilities.

These guidelines are being issued for immediate implementation.

**Signed by Suman Kumar**  
**Maharana**

**Date: 03-07-2025 16:46:35**  
**Chief Engineer and Chairman CLPTCC**

To,

|    |                                          |                                                                                                                      |                                                                      |
|----|------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 1. | Chief General Manager, QA&I Circle, BSNL | 2 <sup>nd</sup> floor, Sanchar Complex, WMS Compound, Jayanagar, 5th Block, 9th Main, 47th Cross, Bengaluru- 560 041 | <a href="mailto:cgm_qa@bsnl.co.in">cgm_qa@bsnl.co.in</a>             |
| 2. | Director (Tele), Railway Board,          | 256-A, Raisina Road, Rajpath Area, Central Secretariat, New Delhi, Delhi 110001                                      | <a href="mailto:dtele@rb.railnet.gov.in">dtele@rb.railnet.gov.in</a> |
| 3. | Director General of Signals              | General Staff Branch, Integrated HQ, MoD (army), Sena Bhawan, DHQ, PO, New Delhi- 110 105                            | <a href="mailto:webstar@nic.in">webstar@nic.in</a>                   |

|    |                                                      |                                                                                                       |                                                                                                                                                                                            |
|----|------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. | Solar Power Developers Association (SPDA)            | Sustainable Projects Developers Association, 910, Surya Kiran Building, 19, KG Marg, New Delhi-110001 | <a href="mailto:dg@spdaonline.com">dg@spdaonline.com</a><br><a href="mailto:spda@spdaonline.com">spda@spdaonline.com</a>                                                                   |
| 5. | National Solar Energy Federation of India (NSEFI)    | 135-137, 1 <sup>st</sup> Floor, Rectangle-1, D-4 Saket District Center, New Delhi - 110017            | <a href="mailto:pulipaka@nsefi.in">pulipaka@nsefi.in</a><br><a href="mailto:ceooffice@nsefi.in">ceooffice@nsefi.in</a><br><a href="mailto:ankur.kumar@nsefi.com">ankur.kumar@nsefi.com</a> |
| 6. | Wind Independent Power Producers Association (WIPPA) | 6 <sup>th</sup> Floor, Tower 4A, DLF Corporate Park, DLF Phase III, MG Road, Gurgaon-122002, Haryana  | <a href="mailto:president@wippaindia.in">president@wippaindia.in</a><br><a href="mailto:manager@wippaindia.in">manager@wippaindia.in</a>                                                   |

### Copy for information

1. Chairperson, CEA, Sewa Bhawan, New Delhi
2. Member (Power System), CEA, Sewa Bhawan
3. Executive Director, National Load Despatch Centre

## **Guidelines for processing of PTCC proposals for 33 kV feeders of ISTS connected RE projects**

Clause 80 of the Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations 2023 states as follows:

*“The owner of every electric supply line of voltage level 11 kV or above shall obtain the clearance of Power Telecommunication Co-ordination Committee to ensure the safety of the personnel and telecommunication line as per the requirement of Section 160 of the Act.”*

The above clause mandates the requirement of obtaining PTCC approval even for the 33 kV feeders. Multiple renewable developers have approached CEA for streamlining and easing the process of obtaining PTCC approval for these 33 kV feeders.

Considering the need to obtain PTCC approval to ensure the safety of personnel and the telecommunication line, and at the same time, to address any unwarranted obstacles faced in obtaining this approval, the following guidelines are being issued for immediate implementation.

The PTCC approval process is broadly categorised into two, on the basis of the presence of these 33 kV feeders either within or outside the premises owned by the developer.

### **I. For 33 kV feeders passing within the premises owned by the developer**

As stated by most developers, for such cases, there is no cable of BSNL, Railway, or Defense passing through such premises. However, considering the fact that electromagnetic induction can still impact the telecom assets lying within the boundary of 5 km from the boundary of the project the case shall be processed as follows:

Renewable Energy (RE) developer to mark all their feeders along with the boundary of the project on a single toposheet and submit a single proposal to BSNL, Railway, and Defense for marking of their assets/ Issuance of a letter certifying non-existence of any Telecom asset within the 5 km boundary on all sides of the project. A copy of the proposal shall also be submitted to CEA.

#### **i. For cases where No telecom asset exists within 5 km boundary on all side of the project**

- a) The letter certifying the non-existence of any Telecom asset within the 5 km boundary from all the stakeholders involved, viz. BSNL, Railway, and Defense to be shared with CEA.
- b) CEA after receipt of these letters will issue the Route Approval Certificates (RACs) for these feeders.

#### **ii. For cases where Telecom assets exist within 5 km boundary on all side of the project**

- a) The letters listing the telecom assets along with its marking to be shared with CEA.

- b) RE developers to submit the separate questionnaire and .kml files of the route of feeders (along with the markings of BSNL, Railway and Defense) to CEA for Induced Voltage (IV) Calculation.
- c) IV calculations for each feeder to be issued by CEA to the concerned stakeholders (BSNL/ Railway/ Defense) along with a copy to RE developer.
- d) BSNL/ Railway/ Defense to check whether the IV is within the safe limit and issue No Objection Certificate (NOC) accordingly.
- e) After receipt of NOC from BSNL, Railway and Defense, CEA to issue RACs for the feeders.

## **II. For 33 kV feeders passing outside the premises owned by the developer**

- a) RE developer to submit separate proposal along with the route marked on the toposheet to BSNL, Railway, and Defense for marking of their assets/ Issuance of a letter certifying non-existence of any Telecom asset within the 5 km boundary of the proposed route. A copy of the proposal shall also be submitted to CEA.
- b) BSNL/ Railway/ Defense to check for the existence of telecom asset within the 5 km boundary and share their findings with CEA.
- c) **In case of non-existence of telecom assets within 5 km boundary of the proposed route**
  - i. The letter certifying the non-existence of any Telecom asset within the 5 km boundary from all the stakeholders involved, viz. BSNL, Railway, and Defense to be shared with CEA.
  - ii. CEA, after receipt of these letters, will issue the RACs for these feeders.
- d) **In case of the existence of telecom assets within 5 km boundary of the proposed route**
  - i. Letters listing the telecom assets along with their markings are to be shared with CEA.
  - ii. RE developers to submit separate .kml files of the route of feeders (along with the markings of BSNL, Railway and Defense) to CEA for Induced Voltage (IV) Calculation.
  - iii. IV calculations for each feeder to be issued by CEA to the concerned stakeholders (BSNL/ Railway/ Defense) along with a copy to RE developer.
  - iv. BSNL/ Railway/ Defense to check whether the IV is within the safe limit and issue No Objection Certificate (NOC) accordingly.
  - v. After receipt of NOC from BSNL, Railway and Defense, CEA to issue RACs for the feeders.

### **Timelines:**

The timelines for processing of these cases shall be as given below

- |     |                                                                                                                |         |
|-----|----------------------------------------------------------------------------------------------------------------|---------|
| (a) | For furnishing of telecom details/ Letter certifying Non-existence of telecom assets by BSNL/ Railway/ Defense | 3 weeks |
|-----|----------------------------------------------------------------------------------------------------------------|---------|

- |     |                                                                                                                             |         |
|-----|-----------------------------------------------------------------------------------------------------------------------------|---------|
| (b) | Scrutinizing the details submitted by BSNL, preparing additional copies and forwarding to CEA <i>by DET BSNL</i>            | 1 week  |
| (c) | Furnishing Induced Voltage (IV) calculation by the Joint Secretary, Power & endorsing copies to all concerned <i>by CEA</i> | 3 weeks |
| (d) | Furnishing recommendations by BSNL/ Railways/ Defense                                                                       | 2 weeks |
| (e) | Final examination and issue of Route Approval Certificate <i>by CEA</i>                                                     | 1 week  |



भारत सरकार  
Government of India

विद्युत् मंत्रालय  
Ministry of Power  
केंद्रीय विद्युत् प्राधिकरण  
Central Electricity Authority

सेवा भवन, आर.के.पुरम, नई दिल्ली - 110 066

Sewa Bhawan, RK Puram, New Delhi - 110 066

ई-मेल/ E-mail: secretary.cea@nic.in; दूरभाष/ Phone No.: 011-26732203

No. CEA/PLG/RP&T/15/11/2024/21-25

दिनांक/ Date: 7<sup>th</sup> July, 2025

To,

1. Principal Secretary/ Secretary(Power/Energy) of all State Governments/UTs.
2. Head REIAs.
3. Solar Power Developers Association.
4. Wind Power Developers Association.
5. CMD, Grid Controller of India.

Subject: CEA Guidelines for Automatic Weather Stations for Solar and Wind Power Plants.

Sir/Madam,

As you are aware that solar and wind generation depends on weather conditions. There are issues of not getting accurate weather forecast. Many a time, forecasting errors result in significant financial penalties under the Deviation Settlement Mechanism.

2. Accurate measurement of critical meteorological parameters would optimize RE generation. Also, it would improve overall generation predictability, efficiency, enhance grid reliability and ensure regulatory compliance.

3. In view of above, there is need to install Automatic Weather Stations in Solar and Wind Power Plants. Accordingly, CEA has prepared the Guidelines for the same.

4. A copy of "CEA Guidelines for Automatic Weather Stations for Solar and Wind Power Plants" is enclosed for necessary action please.

5. Further, all Renewable Energy Implementing Agencies are requested to suitably include the requirement of Automatic Weather Stations in bid documents.

भवदीय/ Yours faithfully,

संलग्नक/ Encl.: as above.

रकेश  
07/07/2025

(राकेश कुमार/ Rakesh Kumar)  
सचिव/ Secretary

प्रति/ Copy to:

1. Secretary, Ministry of Power.
2. Secretary, Ministry of New & Renewable Energy.
3. Secretary, Ministry of Earth Sciences.



**CEA Guidelines for Automatic Weather Stations (AWS)  
for Solar and Wind Power Plants  
(July-2025)**

# CEA Guidelines for Automatic Weather Stations (AWS) for Solar and Wind Power Plants

## 1. Objective

Measurement of critical meteorological parameters for accurate, real-time measurement of weather to enable optimization of RE generation. This would improve overall generation predictability, efficiency, enhance grid reliability and ensure regulatory compliance.

## 2. Location and Site Preparation for Installation of AWS

The Automatic Weather Station (AWS) should be installed at a location within the renewable energy project site. For **solar power plants**, the AWS should be located in terrain that closely resembles the overall site conditions, with irradiance sensors mounted at the **same tilt and orientation** as the photovoltaic modules. For **wind power projects**, the AWS must be positioned in areas that reflect the true wind regime of the site, turbulence zones, or artificial barriers.

Typically, one AWS per RE plant is to be installed for 50 MW and above RE (or as per respective SERC regulation) capacity connected at intra state network and ISTS connected RE plants shall be governed by respective regulations of CERC.

The area of the AWS site should be 10 m x 10m. The site should be levelled and made free of obstructions such as buildings, structures, trees, bushes or equipment that could cause shading, turbulence, or other local interference. Herbicide should be sprayed and sites should be cleaned.

### 2.1 Fencing for the AWS site with Gate

- a) The height of the fencing for the AWS site (10 m X 10 m) must be 1.5 meters from the ground level.
- b) The fencing angle should be of size 50 mm x 50 mm x 6 mm and pre-coated with red-oxide. Length of the angle shall be 2.5 meters i.e. (0.5 m below ground level). Each angle shall be grouted in concrete blocks of size (0.5 m x 0.5 m x 0.5 m). Angle iron should be painted with 2 coating of synthetic enamel paint.
- c) Two MS angles must be used diagonally at each of the four corner angles of the site.
- d) Distance between each fencing angle should not be more than 2 m.

### 2.2 Chainlink Fencing

- a) Dimensions of GI Chain link: 10 cm x 10 cm and of Gauge: 10 (3 mm diameter).
- b) GI chainlink mesh must be stretched on the fencing angles.
- c) Entry Gate Dimensions: 2 m x 1 m x 6 mm (Length x Width x Thickness) of MS angle with locking facility and painted with white/ silver colour.

### 2.3 Mast Specification for AWS

- a) The mast shall be 10 m in height and tilttable which is made of anodized Aluminum alloy suitable for coastal stations.
- b) Three stainless steel guy wires (rust proof) support is to be provided for the mast.

- c) The mast shall be painted in red and white colour scheme.
- d) Concrete Platform for the mast should be 2.0 ft x 2 ft (length x width) and 4 ft height (3.0 ft below ground level and 1.0 ft. above the ground level). All concrete shall be in ratio of 1:1.5:3 and well compacted after being laid.

#### **2.4 Rain Gauge foundation**

The Rain gauge foundation must be of dimensions 1 ft x 1ft (length x width) and 2ft height (1.0 ft below ground level and 1.0 ft above the ground level).

#### **2.5 Earthing for signal ground and Lightning Arrestor**

1. All AWS stations shall be provided with 2 earth pits - one for signal earth, and another for lightning arrestor.
2. AWS Data Acquisition System (DAS) enclosure should be grounded with local earthing.
3. The earth pits shall ensure 100 % protection for all sensors and systems from severe lightning.
4. The lightning arrestor rod shall be made of copper and mounted on the top of the AWS tower. It should be of thickness 12 mm and of one-meter length with a connected copper wire of dimension 15-meter length and 6 mm thickness (gauge). At the other end of the copper wire is earthing rod of dimensions 15 mm in thickness and 1.8m in length, which is about 1.8 m deep-buried into the ground. On the bottom of earthing rod, one copper plate of dimension (30 cm x 30 cm x 3 mm) should be connected.

#### **2.6 Sensor Installation**

- a) A rain gauge sensor will be installed at a distance of 3 meters from the tower.
- b) The Ambient Temperature/Relative Humidity sensors shall be installed on the horizontal boom of 1.5 m fixed at 2 m height on the 10 m Tilttable mast.
- c) Ultrasonic wind sensors will be installed on the horizontal boom of 1.5 m fixed at 10 m height on the 10 m Tilttable mast.
- d) Pressure sensor will be kept inside the Enclosure of Datalogger.

### **3. Measuring Parameters**

AWS shall be capable of measuring the following parameters and converting them to digital format for transmission to the Data Acquisition System (DAS).

#### **3.1. Parameters for Wind Plants for developing NWP model**

- a) Barometric Pressure (Pascal)
- b) Ambient Air Temperature (°C)
- c) Wind Speed (meter/second)
- d) Wind Direction ( degrees from true north)
- e) Relative Humidity (%)

#### **3.2. Parameters as per CERC/SERC regulations for Solar Plants**

- a) Global Horizontal Irradiance (GHI) - Watt per meter square
- b) Global Inclined Irradiance (GII)- Watt per meter square
- c) Rainfall (mm)

## 4. Technical Specifications

### 4.1 Specifications of Sensors

|       |                                                              |                              |
|-------|--------------------------------------------------------------|------------------------------|
| 4.1.1 | <b>Pyranometer for measurement of GHI and GII</b>            |                              |
| I)    | Sensor Type                                                  | Thermopile-based Pyranometer |
| a)    | Spectral Range                                               | 285 to 3000 nm               |
| b)    | Measurement range                                            | 0 to 2000 W/m <sup>2</sup>   |
| c)    | Response time                                                | ≤ 5 seconds                  |
| d)    | Sensitivity                                                  | 5 to 20 μV/W·m <sup>2</sup>  |
| e)    | Non-linearity                                                | < ±0.5%                      |
| f)    | Directional Error (up to 80°)                                | < ±10 W/m <sup>2</sup>       |
| g)    | Temperature Response                                         | < ±2%                        |
| h)    | Operating Temperature Range                                  | −20°C to +60°C               |
| i)    | Output                                                       | Digital/Analog               |
| j)    | Protection Level (Housing)                                   | IP 65 or above               |
| 4.1.2 | <b>Temperature and Humidity Sensor with Radiation Shield</b> |                              |
| I)    | <b>Temperature</b>                                           |                              |
| a)    | Measurement Range                                            | −40°C to +60°C               |
| b)    | Resolution                                                   | 0.01°C or better             |
| c)    | Accuracy                                                     | ± 0.35 °C or better          |
| II)   | <b>Relative Humidity</b>                                     |                              |
| a)    | Measurement Range                                            | 0 to 100%                    |
| b)    | Resolution                                                   | 0.1%                         |
| c)    | Accuracy                                                     | ± 3% or better               |
| III)  | <b>Output</b>                                                | Digital/Analog               |
| IV)   | <b>Radiation Shield</b>                                      |                              |
| a)    | Type                                                         | Thermoplastic                |
| b)    | Louvered                                                     | Minimum 9                    |
| c)    | Ventilation                                                  | Natural                      |
| 4.1.3 | <b>Ultrasonic Wind sensors</b>                               |                              |
| I)    | <b>Wind speed</b>                                            |                              |
| a)    | Measurement Range                                            | 0 to 75 m/s or better        |
| b)    | Resolution                                                   | 0.01 m/s or better           |
| c)    | Accuracy                                                     | ± 2% or better               |
| d)    | Threshold                                                    | 0.01 m/s                     |
| II)   | <b>Wind Direction</b>                                        |                              |
| a)    | Measurement Range                                            | 0 to 359.9°                  |
| b)    | Accuracy                                                     | ± 3° or better               |
| c)    | Resolution                                                   | 1°                           |
| III)  | <b>Protection level Housing</b>                              | IP65 or above                |
| IV)   | <b>Output</b>                                                | Digital                      |
| 4.1.4 | <b>Atmospheric Pressure Sensors</b>                          |                              |
| a)    | Measurement Range                                            | 60000 Pa to 110000 Pa        |
| b)    | Resolution                                                   | 10 Pa                        |
| c)    | Accuracy                                                     | ± 20 Pa                      |
| d)    | Output                                                       | Digital                      |

|       |                                                 |                                                                                                                                                                                                                |
|-------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1.5 | <b>Siphon Tipping Bucket Rain Gauge sensor</b>  |                                                                                                                                                                                                                |
| I)    | Sensor type                                     | Siphon control mechanism with dual switch with varistor protection and Tipping Bucket                                                                                                                          |
| a)    | Orifice Size/ collector diameter                | The specified diameter of the collector rim should be 200 mm                                                                                                                                                   |
| b)    | Collector Area                                  | The specified Collector Area should be 314 cm <sup>2</sup>                                                                                                                                                     |
| c)    | Switch                                          | Rugged Magnetic Proximity                                                                                                                                                                                      |
| d)    | Resolution                                      | 0.5 mm per tip or better                                                                                                                                                                                       |
| e)    | Output                                          | 0.1 sec switch closure                                                                                                                                                                                         |
| f)    | Rainfall capacity                               | Unlimited                                                                                                                                                                                                      |
| g)    | Accuracy                                        | ±2% or better, for rain rate up to 25 mm/hr<br>±3% or better, for rain rate between 25mm/hr to 50 mm/hr<br>±4% or better, for rain rate between 50mm/hr to 100 mm/hr<br>±5% or better, for rain rate>100 mm/hr |
| h)    | Material of Outer Body/housing (Base/Collector) | Any one of the following:<br>1. Marine grade stainless steel<br>2. Fibre glass Reinforced Plastic (FRP)<br>3. UV resistant ABS plastic<br>4. Anodized Aluminum alloy (Al 99.5 grade)                           |
| i)    | Levelling                                       | Suitable levelling adjustment screws and circular spirit level must be provided on the base of TBRG for levelling the Tipping bucket Mechanism.                                                                |
| j)    | Debris protection filter                        | Suitable (Wire mesh) debris protection filter should be provided inside the collector.                                                                                                                         |

## 4.2 Data Acquisition System (DAS)

### 4.2.1. Hardware Capabilities

- The DAS should support inputs (analogue, digital), counters, frequency, and quadrature /shaft encoder.
- All the Analog, Digital and SDI-12 channels in the DAS must be compatible with the sensors installed and integrated with the system.
- The DAS should have provision to interface all the sensors installed at the site and able to accept all sensor inputs without external signal conditioning.
- To facilitate data processing, the DAS shall have a provision for a 24-hour Real-Time Clock (RTC) powered by a battery (with minimum one-year lifetime) to ensure that time is maintained even during power outages.
- DAS system should have the functionality of time synchronization to a satellite-based reference time source, preferably NAVIC, isolated from internet.

- f) DAS should have a keypad (Non-touch screen) and a backlit LCD/LED display (internal/external unit) with menu-driven facility to display the command and data characters.
- g) DAS should have a suitable port to interface with any external display unit.
- h) The DAS should have the capability to store at least 30 days data for specified parameters in distinct multiple log files for each sensor and other related parameters.
- i) The data stored in DAS should be in encrypted form (AES 256 bit algorithm or higher) to ensure its confidentiality with following measures:
  - 1. Access to data stored in DAS shall be restricted to only authorized personnel based on principle of AAA mechanism.
  - 2. Retrieval of such encrypted data shall be in a standard format and restricted through Serial port / Ethernet port only to a dedicated, whitelisted and sanitized PC / laptop, without the requirement of any additional software, over and above the application software deployed for DAS. Further, shall ensure that flow of such data shall be unidirectional only i.e. from DAS to such external device but not reverse.
- j) The DAS shall have the facility to sample the output of the attached sensors with user-selectable sampling intervals.
- k) The DAS shall have provision to easily include and change the “Unique station identification code”, “Station Name”, “Time of observation and transmission”, “Measurement schedule” and “Sensor identification information”, for all parameters, as mandatory requirements. Any change in the DAS should be properly logged along with user, date and time details and:
  - 1. Such logs shall be retained for minimum period of 180 days.
  - 2. A record of all changes implemented in DAS shall be maintained.

#### **4.2.2. Communication Capabilities**

- a) The DAS shall have a dedicated sealable slot for accommodating plug-in type bi-directional communication module which shall integrate the respective cellular technology (3G/4G/5G / cellular network compatible) with the DAS, leading to seamless exchange of data with National Centre for Medium Range Weather Forecasting (NCMRWF). The Plug-In module shall be field swappable/ replaceable.  
The DAS shall ensure that such exchange of real time information and data thereof over Cellular network, shall be over secured connection, subject to condition that such exchange of sensitive information and data thereof over such connection shall be encrypted to ensure its confidentiality, integrity and privacy.
- b) DAS shall have provision to integrate with local plant level SCADA system on MODBUS/IEC-104 through TCP/IP communications. Redundant ports for IEC-104/MODBUS communication shall be available in the system. Also, ensure the following:

1. The interconnection of DAS system with the SCADA is permitted on the basis of risk assessment and approval of head or board of utility, as applicable.
  2. The deployment of suitable perimeter level cyber security devices, including firewall, at point of interconnection of DAS with SCADA systems such that the deployed security system meets the requirements of, inter alia, detection and filtering of OT related protocols as well as traffic; content, user and application based filtering; deep packet inspection, intrusion detection; geo-fencing; user controlled updates; detection based on signature and behavioral anomalies and filtering thereof.
  3. The continuous monitoring of such interconnection for detection of malicious activities and corrective measures thereof.
  4. The logs associated with such interconnection shall be retained for a period of 180 days.
- c) The remote access if required to DAS, may be permitted for meeting emergency and troubleshooting requirements. Also, ensure the following:
1. The remote access to cyber assets, if necessary, may be permitted only for troubleshooting and emergency requirements, as per an established procedure.
  2. This remote access may be granted after conducting a comprehensive risk assessment along with identification of effective measures thereof and such access shall be continuously monitored to detect any anomaly or unauthorized attempts.
  3. Such remote access is safe and secured through suitable control measures including minimum duration with least privileges, multi-factor authentication and geo-fencing.
- d) The protocol details of data transmission (every minute of logged data) through this port have to be documented properly so that any authorized user can interface their device/ display unit.

**4.2.2.1. Modem for Cellular Communication (GPRS, 3G,4G,5G compatibility with dual SIM Facility):**

A 5G/4G-based Modem (compatible with 3G) with dual SIM facility having provision of fast and reliable wireless data communications along with support for IP-based access to the central server IP. The Modem shall be compatible with all service providers' SIM. The following technical specifications are indicative:

- a) Cellular communication facility with fast and reliable wireless data communications.
- b) Remote dial-up facility.
- c) Shall support SFTP.
- d) Accept dual standard SIM cards.
- e) Ethernet/RS 232/485 interface with DAS.

- f) Indication of network availability (signal strength).
- g) Suitable High gain Antenna for reliable communication.

In future, if any of this technology becomes obsolete, the same should be replaced with the higher version available without any data gap. Both the SIMs should not be of the same generation and the higher should be compatible with the lower generation.

#### 4.2.3. Data Sampling

- a) The sampling and measurement interval for individual parameters shall also be user selectable.
- b) Provision of disseminating the data from AWS site at an interval of 15 minutes; but can be changed (by manual process only) to 1 minute whenever required during extreme weather event and heavy rainfall seasons. In case of requirement of remote access, the same shall be permitted as per established procedure for ensuring remote access, as stated in clause number 4.2.2 (c).

#### 4.2.4. Data Quality Control(QC)

- a) The DAS should have a facility to apply Quality Control procedures such as Gross error checks and time consistency checks for sensors interfaced. Detailed QC procedures and algorithms proposed to be implemented at field sites shall be in accordance with WMO No.8 “Guide to Meteorological Instruments and Methods of Observation” Part-III Chapter 1 and Part-II Chapter 1, Seventh Edition, 2008.
- b) Data quality control has to be applied as real-time QC performed at the Data-logger of AWS.
- c) **QC of raw data (signal measurements):** The basic QC is performed at an AWS site. This QC level is relevant during the acquisition of Level I data and should eliminate errors of technical devices, including sensors, measurement errors (systematic or random), and errors inherent in. Some errors introduced during the measuring process must be eliminated.
- d) **Plausible value check (The gross error check on measured value):** Each sample should be examined to check if its value lies within the measurement range of a particular station. If the value fails the check, it is rejected and not used in the further computation of the relevant parameter.
- e) **Check on Plausible rate of change (The time consistency check on measured values):** This check is to verify the rate of change (unrealistic jumps in the values). After each signal measurement, the current sample shall be compared to the preceding one. If the difference between these two samples is more than the specified limit then the current sample is identified as a suspect and not used for the computation of the average. However, it is still used for checking the temporal consistency of the sample.
- f) **Check on Inter-sensor checks:** Internal consistency checks of a variable against other variables, based upon established physical and meteorological principles.



#### **4.2.5. Cyber Security**

- a) The DAS should be adequately protected through Firewall using IDS system and Deep Packet Inspection facility and whitelisting of IPs connected through cellular network may be enabled.
- b) All Data & Logs must be suitably maintained for reproduction if needed for forensic analysis for a minimum period of 180 days as per CERT-In Direction.
- c) User settings, credentials, authentications must be stored in encrypted format.
- d) Data transferred through cellular network (3G/4G/GPRS) must be over secured connection, and be suitably encrypted while in transit to ensure its confidentiality, integrity and privacy.
- e) Cyber Security controls as per CEA Guidelines 2021 or amendments thereof may be adhered especially for the IP based communicable devices.

#### **4.3 Power Supply**

The complete AWS station shall have the capability for unattended operation at remote places using Maintenance Free (MF) Battery, Solar Charge controller (Maximum Power Point Tracker) and rechargeable through a Solar panel .

- (i) Battery: Suitable capacity MF (Maintenance Free Battery).
- (ii) Solar Charge controller: It should charge the supplied Sealed Maintenance Free (SMF) battery with a suitable solar panel and also overload protection, Short circuit protection, Protection from the lightning strike and Under-voltage protection.
- (iii) Solar Panel: Suitable solar panel to charge the SMF battery.

#### **4.4 Weatherproof FRP enclosure**

- a) Two separate enclosures are required for AWS. Weatherproof Enclosure of AWS should be FRP Enclosure (IP 66) and for outdoor use to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water.
- c) One enclosure FRP Enclosure (IP 66) suitable to keep Datalogger, solar charge Controller and switch with the suitable fuse for power supply to the Data logger and UHF Transmitter.
- d) Another separate FRP Enclosure (IP 66) for MF batteries.
- e) Silicone gasket is used for both Enclosures in harsh environments and extreme temperatures.
- f) FRP Enclosure (IP 66) enclosures should be designed for outdoor applications that require corrosion protection against chemicals and water. From humble to harsh environments, it safeguards vital electrical and electronic components with enclosures, climate control and accessories to help keep operations up and running smoothly.
- g) Enclosure with hinged door and locking facility.
- h) Data Pockets provide convenient storage for wiring diagrams, operation manuals and other documentation inside an enclosure.

## 5. System Configuration of AWS

- a) The AWS equipment along with the data communication system should incorporate state-of-the-art technology and provide the capability for unattended operation in all weather conditions. The system shall run using Maintenance Free (MF) battery(s), rechargeable through a solar panel. The battery shall be capable to run the system for a minimum period of 20 days on full load during total cloudy or foggy conditions without charging through the solar panel.
- b) Transmission of data at user-defined measurement schedule from field stations using mobile telemetry over cellular network (GPRS/3G/4G/5G etc.) shall be over secured connection, using SFTP (Secure File Transfer protocol), simultaneously to at least two static whitelisted IP addresses in file format compatible with requirements of NCMRWF and ensure uninterrupted reception and archival of data at the central data server located at NCMRWF/Indian Meteorological Department (IMD).
- c) Integration of AWS data to local plant SCADA system installed at site as per clause number 4.2.2 (b).
- d) The AWS data (.csv format) shall also be received at IMD/NCMRWF Central Server via SFTP service facility as per user-defined time interval (1 min to 15 min).

## 6. AWS Data sharing

Data from the AWS site shall be transmitted through the cellular network modem following IMD Mobile Telemetry protocol and its data format to NCMRWF.

- 7. Suitable provisions for testing, calibration & maintenance of AWS shall be specified by IMD.

-----X-----X-----