सत्यमेव जयते
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
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

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No: NERPC/NETeST/2025/3938-3977 28th January 2025

To

As per list attached

Sub: 30 वीं एन.इ टेस्ट बैठक का कार्यवृत्त
Minutes of 30th NETeST Meeting.

महोदय/महोदया,

कृपया 24 जनवरी, 2025 को एन.ई.आर.पी.सी कॉन्फ्रेंस हॉल, शिलांग में आयोजित 30 वीं एन.इ टेस्ट बैठक के कार्यवृत्त को अपनी जानकारी और आवश्यक कार्रवाई के लिए प्राप्त करें। कार्यवृत्त एन.ई.आर.पी.सी की वेबसाइट: www.nerpc.gov.in पर भी उपलब्ध है।

कृपया कोई भी टिप्पणी जल्द से जल्द एन.ई.आर.पी.सी सचिवालय को सूचित करें।

Sir/Madam,

Please find enclosed herewith the minutes of the 30th NETeST Meeting held at NERPC Conference Hall, Shillong on 24th January, 2025 for your kind information and necessary action. The minutes is also available on the website of NERPC: www.nerpc.gov.in.

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

भवदीय / Yours faithfully,

अनीक

(ए. दे/A. De)
(उप निदेशक / Deputy Director)

Encl: As above

Distribution List:

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
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9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (Commercial) -cum- CEI, DoP, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
15. Engineer-in-Chief, Department of Power, Govt. of Nagaland, Kohima – 797 001
16. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
17. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
18. Group GM, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
19. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
20. ED, PGCIL/NERTS, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
21. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
22. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
23. Dy. COO, CTUIL, "Saudamini", 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
25. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
26. Head & VP, (R&C), ENICL, IndiGrid, Windsor Building, Kalina, Santacruz (East), Mumbai- 98
27. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
28. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
29. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
30. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
31. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
32. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
33. Head of SLDC, MSPCL, Imphal – 795001
34. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
35. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
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
39. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
40. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.

अनीक

(ए. दे/A. De)

(उप निदेशक / Deputy Director)

MINUTES

OF

30TH NETeST MEETING

Time of meeting : 11:00 Hrs.

Date of meeting : 24th January, 2025 (Friday)

Venue : NERPC Conference Hall,Shillong

Contents

NORTH EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 30TH NETeST MEETING HELD ON 24.01.25 (FRIDAY) AT 11:00 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 29th Meeting of NETeST Sub-Committee of NERPC

The minutes of 29th meeting of NETeST Sub-committee held on 05.09.2024 at Hotel Royale De' Casa, Guwahati were circulated vide letter No. NERPC/NETeST/2024/2230-2269 September 19, 2024.

As no comments were received, the sub committee confirmed the minutes of 29th NETeST.

2. PART-B: ITEMS FOR DISCUSSION

AGENDA FROM NERPC

2.1. Commencement of Audit of Communication systems installed at ISTS/SLDC stations

As per Clause 10 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 – "The RPC Secretariat shall conduct a performance audit of communication system annually as per the procedure finalized in the forum of the concerned RPC. Based on the audit report, RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat."

The Communication Audit Committee of North Eastern Region vide NERPC letter dated 30.07.2024(Annexure-B 2.1) has been formed based on the provision of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017.

NERPC along with NERLDC have identified some critical stations for audit of communication system and physical inspection in view of performance of the communication network. List of proposed stations (priority wise) for carrying out communication Audit has been shared by NERLDC (Annexure B 2.1(i)).
NERPC vide e mail dated 22/11/24 and 10/01/25 (Annexure B 2.1(ii)) has requested PGCIL to submit the data in respect of Kahilipara substation to carry out the communication audit. Response from PGCIL is awaited.

Deliberation of the sub committee

NERPC apprised the forum that PGCIL has submitted the data in respect of Kahilipara substation on 20/01/2025. NERPC further intimated the forum that

communication audit shall be carried out by the committee in Kahilipara substation post scrutiny of the submitted data.

Tripura requested the forum to carry out communication audit at Surajmaninagar substation, P.K Bari substation and SLDC Tripura. The forum requested Tripura to submit the required data in the prescribed format in respect of the requested stations of communication audit.

The forum decided that communication audit shall be carried out as per the list of important substations shared by NERLDC in 25th NETeST meeting after the completion of audit at Kahilipara substation.

The sub committee noted as above.

2.2. Guidelines on availability of communication system

- CERC vide order dated 19.01.2024 had approved the "Guidelines on Availability of Communication System" (Annexure-B.2.2) under the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017.
- In 28th NETeST meeting, the sub-committee decided that CTU shall provide the details of communication channels to NERLDC and NERLDC shall forward the information of the channels to NERPC for computation of availability of the communication systems.
- CTU agreed to provide the list of channels as per guidelines from UNMS. Member Secretary, NERPC asked CTU to provide the information within 2 weeks. CTU has not provided the requisite information. CTU to update on the matter.

Deliberation of the sub committee

CTU apprised the forum that sharing the desired list of communication channels comes under the operational aspect of grid communication and CTU being a planning body shall not be responsible for sharing the list of communication channels. CTU informed that they file Petition in Hon'ble CERC in October-2024 in

this regard & hearing for the petition has been scheduled on 13/02/25. CTU further stated that the course of action shall be decided as per the hearing of Hon'ble CERC.

NERPC responded that as per Communication regulations shared by the Hon'ble CERC in January-2024, it is the responsibility of CTU to share the details of channels for communication. NERPC further stated that it is important to determine the channels whose availability is to be calculated. ULDC-POWERGRID agreed to share the list of important ISTS channels.

The forum advised ULDC-POWERGRID to share the list of important ISTS channels by 10th February-2025.

The subcommittee noted as above.

AGENDA FROM CTU

2.3. Dual reporting (2+2) of ISTS stations to Main RLDC and Backup RLDC

Presently SCADA data channels are reporting in main and backup mode (1+1) with 1 main channel to RLDC and 1 backup channel to Backup RLDC. To increase the redundancy in the system Grid-India requested that both main and backup channels should report to RLDCs as well as back up RLDCs (in dual mode). In this regard meetings were held among POWERGRID, Grid-India, CTU and CEA dated 09.05.2023 and 27.06.2023 (MoM attached at Annexure-B 2.3 I) where dual reporting of SCADA Chanels to main RLDC & Backup RLDC were deliberated.

Further, CERC has issued Guidelines on "Interface Requirements" under the CERC (Communication System for inter-State transmission of Electricity) Regulations, 2017 (Attached at Annexure-B 2.3 II) in Jan'24. Which also mandated that users shall provide communication interfaces with multiple ports, cards, gateways etc. to avoid failure of single hardware element.

To meet this requirement for new ISTS stations, CTU has started to include this requirement in the RFP inputs for the TBCB projects from Aug'23 onwards. For the existing substations CEA-PCD vide letter dtd.22.07.2024 (attached at Annexure-B 2.3 III) also confirms these requirement of 2+2 channels to main and backup RLDC.

For existing ISTS sub stations, CTU has requested all the TSPs e.g. POWERGRID, Adani, Sterlite, Indigrid, Aparaava, Renew Power etc. to provide status for readiness of 2+2 channels upto RLDC. As per inputs received POWERGRID, Indigrid, Sterlite existing SAS gateway / RTUs needs upgradation or replacement. Further TSPs stated that this requirement has cost implications, and they require a separate scheme to upgrade their existing substations.

As per discussions held within CTU (Engg & Communication departments), the Engg team suggested that as SAS upgradation comes under substation related work, this type of work can be carried out under O&M /AddCap as no separate transmission schemes are generally required at element level.
Agenda in this regard was also sent by CTU to NPC for deliberation and seeking their views and issuing guidelines, however NPC is of the view, that this agenda first needs to be put up in RPC level for consensus of all stakeholders. Thereafter CTU has forwarded the same to all the RPCs vide letter dtd. 11.09.2024 (attached at Annexure-B 2.3 IV)

Forum is requested to deliberate this requirement of SAS/RTU Upgradation/ Replacement for existing substations in Additional Capitalization for RTM substations and under Change in Law of TSA for the TBCB substations in line with CERC order on petition no. 94/MP/2021. This Agenda was discussed in 26th TeST meeting of NR also, where NRPC stated that this requirement may be taken up in similar manner as the finalized implementation mode of Firewall scheme by CEA NPC committee.

Deliberation of the sub committee

The forum advised CTU to submit the details of the substations along with the required upgradation details for further deliberation. The estimate of the work shall be prepared by CTU in consultation with the utilities. The Sub-Committee opined that based on details of the list, it may be decided whether to go for a new project or the work can be carried out under O&M /AddCap.

The Committee further opined that if the work is carried out under a new scheme, CTU can also approach PSDF Secretariat for funding under communication upgradation scheme.

The sub committee noted as above.

2.4. Status of North Eastern Region Communication Schemes awarded to TSPs:

Following communication projects have been awarded to various TSPs after approval in NCT

Sl No.	Project Name	Award Date	Implementing Agency	Implementation Time	Status update by TSP
1.	Additional FOTE at Loktak and Bongaigaon AGC locations in NER region	20.12.23	POWERGRID	06 months	
2.	Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised	02.09.24	POWERGRID	06 months	

Deliberation of the sub committee

Sl No.	Project Name	Award Date	Agency	Time	Status update by TSP
1.	Additional FOTE at Loktak and Bongaigaon AGC locations in NER region	20.12.23	PGCIL	06 months	Work at Loktak shall be completed by 15/02/25. The work at Bongaigaon has been completed.
2.	Scheme for Requirement of Additional FOTE for redundancy at AGC locations in NER: Revised	02.09. 24	PGCIL	06 months	Additional FOTE at Doyang, Palatana and Lower Subansiri shall be completed by March-2025.

The subcommittee noted as above.

2.5. OPGW availability status on 132kV Tipaimukh (Manipur)-Aizawl (Mizoram PG) line for communication planning of 132kV Tipaimukh (Manipur)-Aizawl (Mizoram PG) link.

As per CTU database,132kV Aizawl-Jiribam line is ISTS line owned by POWERGRID and this line is LILOed at Tipaimukh and the LILO ownership is with state.

As per operational feedback from NLDC, data for the subject mentioned line is not reporting due to absence of communication link.

In this regard, the OPGW availability on the said link may be confirmed so that necessary planning for OPGW laying may be done.

Also, it may be confirmed if the OPGW laying on the said line is already planned in some scheme.

If OPGW is not available, then ownership, line length and equipment requirement at either end may be confirmed.

Deliberation of the sub committee

NERPSIP Powergrid apprised the forum that stringing work of 49 km is pending between Tipaimukh and Jiribam and the work is expected to be completed by March-2025. NERPSIP Powergrid further stated that stringing work of 4 km is pending between Tipaimukh and Aizawl and the work is expected to be completed by February-2025. Post the completion of stringing of 4 km of line length between Tipaimukh and Aizawl, the data of Tipaimukh substation shall be routed through Aizawl substation.

The sub committee noted as above.

2.6. OPGW laying work on 132kV Dharamnagar- Dullavcherra and 132kV Dullavcherra- Halaikandi line.

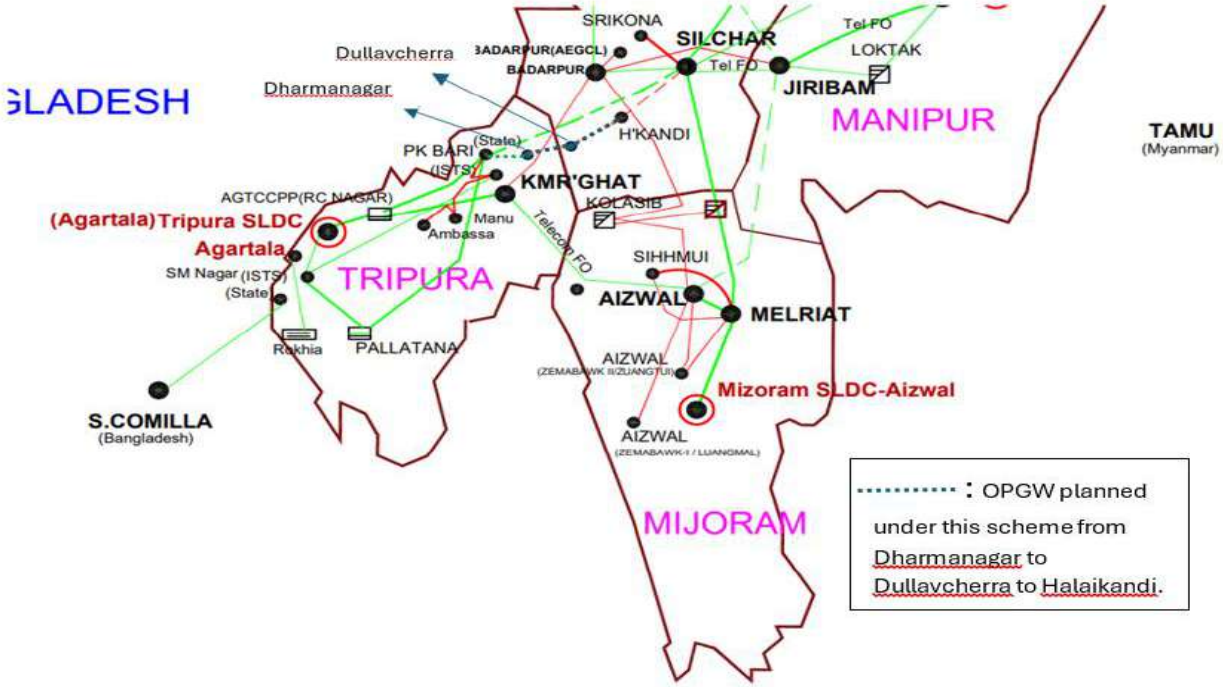
S. No.	Items	Details
1.	Scope of the scheme	OPGW(48F) laying work on 132kV Dharamnagar-Dullavcherra (37 km)(jointly owned by Assam and Tripura) and 132kV Dullavcherra- Halaikandi (31.4 km) line(Assam owned). Supply and Installation work of three no STM16 FOTEs, One each at Dharamnagar, Dullavcherra, Halaikandi S/s along with required interfaces for ISTS and STU connectivity of the 132kV Dharamnagar- Dullavcherra and 132kV Dullavcherra- Halaikandi link.
2.	Depiction of the scheme on FO Map	As depicted in Appendix-I

3.	Objective / Justification	In the 6th CPM of NER region held on 23.08.2024, NERLDC stated that OPGW connectivity for 132kV Dharamnagar-Dullavcherra ISTS line is crucial for grid parameter monitoring of the concerned states. This deemed ISTS line though exist between Tripura and Assam but has the ownership of states(Tripura & Assam) so states have the first right to lay OPGW. However, if the states do not agree then it may be considered to lay OPGW in ISTS schemes. Tripura stated that for the Dharamnagar to Dullavcherra line, Tripura has submitted a proposal to CEA for OPGW laying along with reconductoring of the line in their section. But, this is in proposal state only and hence it may be considered to lay OPGW in ISTS scheme. NERLDC/Tripura/Assam stated that this being important ISTS line, OPGW laying may be done in ISTS scheme rather than by states. It was further deliberated in the forum that as OPGW laying on Halaikandi to Silchar line and P K Bari to Dharamnagar line is already under implementation so OPGW laying on Dullavcherra-Halaikandi may also be planned as it will strengthen the ISTS OPGW connectivity in NER. It was agreed in the forum that OPGW laying from Dharamnagar- Dullavcherra and Dullavcherra-Halaikandi may be planned in ISTS scheme so as to connect these stations on OPGW. The agenda for laying OPGW on 132kV Dharamnagar-Dullavcherra line was also

		deliberated in 29th NETeST meeting held on 05.09.2024.
4.	Estimated Cost	Rs. 4,66,20,000/- (approx.) (Four Crores & Sixty Six Lacs and Twenty Thousands only) including taxes and duties as applicable.
5.	Implementation time frame	18 months from date of allocation.
6.	Implementation agency	To be implemented by POWERGRID in RTM mode.
7.	Deliberations	The agenda for OPGW laying on 132kV Dharamnagar-Dullavcherra line was deliberated in the in the 6th CPM of NER region held on 23.08.24 (minutes attached as Annexure 2.6 i). The same agenda was also deliberated in 29th NETeST meeting held on 05.09.2024(MoM attached as Annexure 2.6 ii). Accordingly, this scheme i.e. OPGW laying work on 132kV Dharamnagar- Dullavcherra and 132kV Dullavcherra- Halaikandi line has been prepared and after NERPC review the same shall be put up to NCT for approval.

The above scheme has been prepared considering one no. of STM 16 equipment at each of locations Dharamnagar, Dullavcherra, Halaikandi S/s. POWERGRID may

confirm the requirement of equipment and its capacity so that the scheme scope



and cost may be modified accordingly.

Deliberation of the sub committee

Tripura and NERPSIP Powergrid apprised the forum that there is currently STM-4 at Dharmanagar, P.K Bari and Hailakandi substations. Forum noted that in order to avoid congestion there is a need to upgrade the existing STM-4 at Dharmanagar, P.K Bari and Hailakandi substations to STM-16. Also, as per the proposed scheme, another STM-16 is required at Dullavcherra.

The forum agreed with the proposal. However, there will be a revised cost estimate considering the requirement of STM-16 at Dharmanagar, Dullavcherra, P.K Bari and Hailakandi.

So, the forum advised CTU to resubmit the scheme with the revised cost estimate to upcoming CCM.

The subcommittee noted as above.

AGENDA FROM NERLDC

2.7. Re-configuring RTUs of NEEPCO owned stations for reporting to NERLDC Guwahati

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.

Correspondence regarding this matter has been initiated through emails dated 25th September 2024 and 18th November 2024, as well as a formal letter addressed to CGM (O&M), NEEPCO, under reference number NERLDC/SL/COMMUNICATION/7171 dated 27th December 2024. However, the necessary actions from NEEPCO remain pending.

The stations requiring reconfiguration are as follows:

1. RC Nagar: The RTU need to be configured in the IEC-60870-104 protocol to facilitate reporting to NERLDC Guwahati.
2. Pare HEP: The RTU need to be configured in the IEC-60870-104 protocol to facilitate reporting to NERLDC Guwahati.
3. Khandong Stage-2: An additional port of the RTU must be configured in the IEC-60870-104 protocol to facilitate reporting to NERLDC Guwahati----
4. Ranganadi: Network reconfiguration of Channel Two of existing RTU is required.

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

Deliberation of the sub committee

The agenda matter could not be discussed as representative from NEEPCO was not present in the meeting.

The sub committee noted as above.

2.8. Re-configuring RTUs of POWERGRID owned stations for reporting to NERLDC Guwahati

NERLDC currently operates under the Main-1 and Main-2 concept, with its establishments located in Shillong and Guwahati. Presently, several stations owned by POWERGRID report exclusively to NERLDC Shillong. To address this, there is a need to reconfigure the RTUs to enable simultaneous reporting to NERLDC Guwahati.

The stations requiring reconfiguration are as follows:

1. 132 kV Aizawl: Network reconfiguration of one of the SAS Gateway and router/firewall is required.
2. +/- 800 kV BNC-HVDC: Network reconfiguration of one of the SAS Gateway and router is required.
3. 220 kV Dimapur Network reconfiguration of one of the SAS Gateway and router/firewall is required.
4. 132 kV Haflong: Network reconfiguration of one of the SAS Gateway and router/firewall is required.
5. 132 kV Nirjuli: Network reconfiguration of one of the SAS Gateway and router/firewall is required.
6. 132 kV Jiribam: Network reconfiguration of one of the SAS Gateway and router/firewall is required.
7. 132 kV Kumarghat: Network reconfiguration of one of the SAS Gateway and router/firewall is required.
8. 400 kV Mariani: Network reconfiguration of one of the SAS Gateway and router/firewall is required.

9. 132 kV Melriat: Network reconfiguration of one of the SAS Gateway and router/firewall is required.

10. 400 kV Misa: Creation of a new IEC-104 in the SAS Gateway is required.

11. 220 kV Mokokchung: Creation of a new IEC-104 in the SAS Gateway is required.

12. 132 kV Namsai: Network reconfiguration of one of the SAS Gateway and router/firewall is required after the completion of the OPGW link.

13. 132 kV Roing: Network reconfiguration of one of the SAS Gateway and router/firewall is required after the completion of the OPGW link.

14. 220 kV Salakati: Network reconfiguration of one of the SAS Gateway and router/firewall is required.

15. 400 kV Silchar: Creation of a new IEC-104 in the SAS Gateway is required.

16. 132 kV Tezu: Network reconfiguration of one of the SAS Gateway and router/firewall is required after the completion of the OPGW link.

In light of the above, NERLDC has communicated with POWERGRID via email on 6th January 2025.

NERLDC requests POWERGRID to take the necessary steps to implement these changes in coordination with NERLDC and to provide the target dates for completion.

Deliberation of the sub committee

POWERGRID apprised the forum that the availability of the ports shall be examined at the respective substations and in the event of non-availability of the ports, SAS upgradation shall be required which shall involve cost implication. The forum advised POWERGRID to carry out the survey and share the details by 15th February-2025.

The sub committee noted as above.

2.9. Integration of weather parameter data as per CERC guideline on Interface Requirements

In accordance with the CERC Guidelines on Interface Requirements dated 19th January 2024, all state-owned and central sector stations are required to integrate weather parameters, including Temperature, Wind Speed, Humidity, and Rainfall, into the SCADA system.

NERLDC requests the states to prioritize the incorporation of these weather parameters in the state capitals and other important load centers as a first step.

Additionally, NERLDC requests the following entities to take necessary actions to incorporate these weather parameters into the existing SAS/RTU systems at the earliest:

All utilities are kindly requested to provide station-wise target dates for the completion of this integration.

Deliberation of the sub committee

The forum advised all the stakeholders to prioritize the incorporation of the said weather parameters. The forum further advised the states to prioritize the incorporation of these weather parameters in the state capitals and other important load centers as a first step.

The sub committee noted as above.

2.10. Consolidated list of Circuit Breaker and Isolator for all utilities.

As per Agenda 2.5 of the Minutes of Meeting (MoM) for the 221st OCC, the forum requested NERLDC to share a consolidated list of all utilities, along with the status of their circuit breakers and isolators.

In response, the consolidated list of telemetry availability for all stations is included in the weekly Telemetry Report. The latest version of this report is attached as Annexure – B 2.10 for reference.

Deliberation of the sub committee

The forum advised all the utilities to refer to Annexure B 2.10 and take corrective measures accordingly.

The sub committee noted as above.

2.11. Installation of PMU at 220kV Nangalbibra S/s

NERLDC would like to bring attention of forum that M/s Sterlite (NBTL) initiated discussions with NERLDC on first-time charging clearance requirements, leading to a series of deliberations involving CTUIL, CEA, and NERLDC.

A virtual meeting on October 18, 2023, focused on the placement of Next Generation Firewall (NGFW) and Phasor Measurement Units (PMUs) within the Nangalbibra-Bongaigaon Transmission System. NERLDC highlighted that PMUs, required for 400 kV lines (even if charged at 220 kV) as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations-2022, and NGFW, mandated by CEA Cyber Security Guidelines 2021, should be included. M/s Sterlite expressed concerns that these items were not part of their original RFP or TSA and requested ratification from CEA for scope changes.

Following discussions, M/s Sterlite formally approached CEA on 26th October 2023, vide letter ref no. NBTL/PMU&NGFW/2023/CEA/01, seeking ratification to include PMUs and NGFW in compliance with updated guidelines.

In a subsequent November 2023 meeting, it was agreed that NBTL would install these items but requested a 6–8 months extension due to procurement constraints. NERLDC committed to granting first-time charging clearance with an assurance of timely implementation.

However, CEA vide letter 33109/2024 dated 17th September 2024 stated that NBTL, as a Special Purpose Vehicle (SPV) for the project, must complete its scope of work as per the Transmission Service Agreement (TSA). The implementation of PMUs and NGFW is not covered under the current TSA, and therefore, NBTL should complete the work strictly as per the TSA. CEA advised CTUIL and Grid-India to assist with the charging process, with NERPC supporting.

NBTL has already installed two (02) number of NGFW in 220 kV Nangalbibra S/s.

NERLDC requests intervention of forum to take up the matter with NPC and instruct M/s NBTL for installation of PMUs as per clause 48.6 of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations-2022.

Relevant documents are attached as Annexure-B 2.11

Deliberation of the sub committee

Representative of M/s Sterlite (NBTL) communicated over mail that as PMU and NGFW are not in the scope of RFP of NBTL. CEA has directed NBTL to complete its scope of work as per the Transmission Service Agreement (TSA). Member Secretary informed that a meeting was held under chairmanship of Member (Powe System) on 20.06.2024 to clarify issue regarding installation of PMUs on a PAN India basis. It is also noted in the MoM of 15th NPC.

By considering above, forum decided that M/s NBTL to follow the MoM of 15th NPC and install the PMU accordingly.

The sub committee noted as above.

2.12. Discussion on operational issues and punch points for UNMS of NER.

In view of the meeting held on 16th July 2024 between Grid-India, POWERGRID & CTUIL, letters addressed to ULDC-POWERGRID by NERLDC and NERPC meeting held on 18th December 2024. Following operational issues and punch points are yet to be resolved by ULDC-POWERGRID:

a. Naming Nomenclature Standardization

NERLDC highlighted operational challenges due to unclear service names in ECI, ABB, and Fibcom equipment, affecting RTU, PMU, and VoIP issue identification. ULDC-POWERGRID is awaiting standardized nomenclature from GA&C-POWERGRID but has initiated independent efforts. The forum requested a definitive timeline for implementation within a week.

ULDC-POWERGRID updated the forum that the nomenclature at ECI nodes have been changed. However, the change in nomenclature at Fibcom nodes is still pending. The forum advised ULDC-POWERGRID to resolve the issue at the earliest.

b. Audio Alarm Configuration

NERLDC flagged non-compliance with Clause 19.5 of CEA Technical Standards 2020 regarding audio alarms. GA&C-POWERGRID is addressing the issue. The forum urged ULDC-POWERGRID to provide a timeline for resolution within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

c. Custom Time Selection for Event Filtering

NERLDC emphasized the need for custom time filtering in UNMS for granular event analysis. GA&C-POWERGRID is addressing this. The forum requested a concrete resolution timeline within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

d. Public Access to Mail Service

Lack of public mail service in U-NMS affects report sharing and communication availability certification. NERLDC requested an interim solution, independent of the National UNMS project. The forum urged ULDC-POWERGRID to address the issue on priority within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

e. Mismatch in Link Status in U-NMS

NERLDC reported discrepancies in link status between U-NMS and actual conditions, especially in M/s Fibcom-managed links. The forum requested coordination with vendors and a resolution timeline within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

f. Node Name Display in U-NMS

ABB SDH equipment under NERPSIP-Assam shows IP addresses instead of node names. NERLDC requested ABB-NMS integration with U-NMS to resolve this issue. The forum urged a resolution timeline within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

g. Integration of State NMS with U-NMS

Updates on state-wise NMS integration under NERPSIP and Comprehensive T&D projects were provided. Pending issues include NMS delivery, node monitoring, and configuration delays. The forum requested timelines for completion from ULDC POWERGRID and other stakeholders.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by March-2025.

h. Integration of FOTE for TSPs

Integration of Fiber Optic Terminal Equipment (FOTE) for TSPs such as Sterlite, Aparva, and Indigrid remains incomplete. The forum requested expedited actions and timelines for integration completion.

ULDC-POWERGRID apprised the forum that the issue for all three TSPs namely Sterlite, Aparva, and Indigrid shall be resolved by February-2025.

i. Integration of VSAT with U-NMS

Integration of ULDC-POWERGRID's VSAT nodes with U-NMS is pending due to TATA NELCO device connectivity. The forum requested immediate action and a timeline within a week.

ULDC-POWERGRID apprised the forum that the issue shall be resolved by February-2025.

j. Submission of No Objection Certificates (NoCs)

ULDC-POWERGRID was reminded of pending NoCs from NER SLDCs for the U-NMS system. Updates were provided on state-wise progress, with specific issues in Assam (Keymile integration), Tripura (NERPSIP-NMS integration), and absent updates from Manipur and Meghalaya. The forum urged immediate resolution and NoC collection.

ULDC-POWERGRID apprised the forum that NERPSIP FOTE integration shall be completed by March-2025. ULDC-POWERGRID further apprised the forum that communication in respect of receipt of NoCs from Arunachal Pradesh, Manipur, Mizoram and Nagaland is in process.

The sub committee noted as above.

2.13. Extension of AMC of VoIP system of NER:

The AMC (Annual Maintenance Contract) for the VoIP system deployed in NER is valid only until July 2025. As per discussions held in various forums, a new VoIP system is currently in the approval stage and is expected to take 2-3 years for deployment.

The VoIP system is a critical component of day-to-day grid operations, and its maintenance is essential to ensure seamless functionality. At present, the VoIP system is being managed by ULDC-POWERGRID.

The forum is requested to deliberate on the matter and propose a feasible solution to extend the AMC for the existing VoIP system until the new system is fully deployed in NER.

Deliberation of the sub committee

The forum agreed that extension of AMC shall be offered for another two years.

The sub committee noted as above.

2.14. Connectivity of 132 kV Hastingmari – Ampati link with existing OPGW network of NER:

The connectivity of the 132 kV Hatsingimari – Ampati link with the OPGW network is crucial to ensure the reliable reporting of data/voice for Hatsingimari and to enable future connectivity between Assam and Meghalaya.

As per the Minutes of the NERPC Special Meeting on the Establishment of an Alternate Path for the Hatsingimari – Ampati Line, held on 9th December 2024, the responsibilities of various utilities are outlined in the table below:

Sl No.	Location	Details of Work	Responsibility	Timeline
1	Ampati	Optical patching at Ampati has been completed. KLM is shared between the ECI multiplexer (owned by NBTL) and the ABB multiplexer (owned by Meghalaya).	M/s Sterlite	Completed
2	Nangalbibra	Supply of one GE make and one ABB make STM-1 SFP. Notify MePTCL 2–3 days before delivery. MePTCL to complete inter-patching of GE and ABB FOTE within 2 days after receipt of material. Extend the KLM to Agia substation.	M/s Sterlite (supply), MePTCL (patching & KLM)	2-3 days after receipt of material
3	Agia	Assam FOTE at Agia node maintained by ULDC POWERGRID. POWERGRID to provide one ECI make SFP.	POWERGRID & MePTCL (works)	2–3 days after completion of Nangalbibra

		POWERGRID and MePTCL to perform inter-patching between GE and ECI FOTE Mux. POWERGRID to extend KLM to SLDC Assam.		
4	Testing of Links	Joint testing between SLDC Assam and Hatsingimari to verify link establishment.	SLDC Assam, POWERGRID, AEGCL and MePTCL	In parallel with completion of Nangalbibra works

The forum is requested to review the responsibilities and discuss the necessary steps to expedite the implementation of the OPGW connectivity for this critical link.

Deliberation of the sub committee

Representative of M/s Sterlite communicated over mail that all hardware as requested by MePTCL has been delivered at site except ABB make SFP. The same is expected by the end of January-2025.

The sub committee noted as above.

2.15. Non-compliance of Communication System Outage Planning:

As per Regulation 7.3 of the Central Electricity Regulatory Commission (Communication System for Inter-State Transmission of Electricity) Regulations, 2017, it has been observed that utilities are not adhering to the regulations laid down by the Hon'ble CERC.

In the 29th NETeST Meeting, it was decided that:

All constituents shall submit their outage requirements for the following month to NERPC by the 7th of the current month.

NERLDC, in coordination with NERPC, shall prepare the communication outage list for NER by the 15th of the month.

States were advised to share the list of important lines critical from a communication perspective with NERLDC by 20th September 2024.

Despite these decisions, several issues have been observed:

ULDC-POWERGRID frequently applies for shutdowns one or two days before the planned outages, which are of a planned nature.

None of the utilities have submitted the list of important lines critical from a communication perspective to NERLDC as mandated in the 29th NETeST Meeting.

NERPC is requested to intervene and instruct all utilities to strictly follow the regulations and established protocols to ensure smooth communication outage management.

Deliberation of the sub committee

The forum advised ULDC-POWERGRID to avail the planned shutdowns of communication elements/channel as per the communication outage planning procedure. ULDC-POWERGRID agreed to send the planned outage propositions for the next month by the 5th of the current month.

The sub committee noted as above.

2.16. Long outage of 400 kV New Kohima – Imphal link: Restoration of Communication Link Between 400kV New Kohima (KMTL) and NERLDC via 400kV Imphal (PG)

The 400kV New Kohima (KMTL) is connected to NERLDC, Shillong via two communication paths: one through the Fibcom link via Mariani (PG) and the other via the 400kV New Kohima (KMTL) - 400kV Imphal (PG) link. The communication link via 400kV Imphal (PG) has been out of service since June 2024. Despite follow-ups by NERLDC through emails dated 10th and 17th September 2024, the issue remains unresolved. Aparava reported that an OTDR test on the OPGW cable revealed signal loss between towers 74 and 84 in Manipur, but due to the prevailing law and order situation in the region, accessing the site is not feasible. As the outage has persisted for over seven months, it is imperative to discuss efforts to engage the local administration for assistance in resolving this critical issue. The forum is requested to deliberate on the matter and propose actionable steps.

Deliberation of the sub committee

POWERGRID apprised the forum that the 400kV New Kohima (KMTL) - 400kV Imphal (PG) line belongs to M/s KMTL. The matter could not be deliberated further as representative of KMTL was not present during the deliberation. The forum advised KMTL to update the status via e-mail to NERPC.

The sub committee noted as above.

AGENDA FROM GENUS

2.17. Regarding updates on installation of balance meters and replacement of forty-nine (49) numbers of -/1A meters with -/5A meters

This has reference to the above-mentioned LOA received from NERPC for Supply, Installation, Testing and Commissioning of 0.2S class ABT type energy meters and Automated Meter Reading(AMR) solutions as per SAMAST guidelines at various substations of state utilities in the North Eastern States of Manipur, Mizoram, Tripura, Nagaland and Arunachal Pradesh and your letter as mentioned above.

We are pleased to inform you that despite the prevailing law and order situation in Manipur, we are on track to complete the installation of 25 ABT meters in the coming week.

Regarding the balance 49 Nos of ABT meters, we would again like to reiterate that we have commenced manufacturing the meters subsequent to completing surveys of all designated substations and obtaining formal approvals. Each metering point was meticulously detailed in the approved survey, specifying meter ratings (-/1A or -/5A). Furthermore, we have already offered the meters for inspection and dispatched them promptly upon successful inspections and receipt of dispatch approvals.

Changing the meters at this juncture would entail significant financial implications for us, as the manufactured meters strictly adhere to the specifications outlined in the LOA and are not suitable for deployment in other projects. This concern was also deliberated upon at various NeTEsT and OCC meetings in the presence of MS, NERPC.

We request your prompt action towards taking over of the 49 Nos of -/1A meters so that we may proceed towards project closure. Your cooperation is crucial for the timely and successful completion of the project

We look forward to your support for the timely and successful completion of the project.

Deliberation of the sub committee

The matter could not be discussed as representative of Manipur was absent during the deliberation. The forum decided to refer the matter for further deliberation in upcoming NERPC Board meeting.

The subcommittee noted as above.

AGENDA FROM PwC

2.18. State wise agenda points

States	Agenda	Details
Assam	1) Progress status of the project	Project has completed with the completion of Warranty support period on 31 July 2024
	2) Pending payments related to milestone # 2 (Datacenter commissioning) and milestone # 5 (Go-live)	Aging of milestone # 2 invoice is 1032+ days and that of milestone#5 invoice is 498+ days. AEGCL is yet to receive 16% of funds.
Meghalaya	1) Progress status of the project	Project has completed with the completion of Warranty support period on 31 July 2024
	2) Pending payments related to milestone # 5 (Go-live)	Aging of milestone# 5 invoice is 496+ days. MePTCL is yet to receive 10% fund from PSDF
Arunachal Pradesh	1) Progress status of the project	Warranty support period is in progress
	2) Pending payments related to milestone # 2 (Datacenter	Aging of milestone # 2 invoice is 85+ days. DoP,AP is yet to

	commissioning)	receive 30% of funds.
Manipur	1) Progress status of the project	SAT is in progress. Completed SAT for 4 modules, waiting SAT date from SLDC for the remaining 3 modules since last one and half years.
	2) Unavailability of AMR data for Site Acceptance Testing	SAT of Meter Data Management module and Energy Accounting & Settlement module are yet to be initiated due to unavailability of significant AMR data. This has a significant impact on SAT schedule.
	3) Contract expiration	Contract period has ended on 30th Sep 2024. No extension has been provided yet, even after multiple follow ups through email, verbal communication and letters. Due to the absence of the extension letter, there is no contract at present.

Mizoram	1) Progress status of the project	Warranty support period is in progress
	2) Fund requisition pending for milestone#5	P&ED Mizoram to submit fund requisition to PSDF for the last milestone for the remaining 10% fund.

Nagaland	1) Progress status of the project	Warranty support period is in progress
	2) Payment Status	DoP GoN needs to submit the requisition to PSDF for Milestone #5, which is delaying the payment for the last milestone.
Tripura	1) Progress status of the project	Warranty support period is in progress
	2) Partial payment of milestone# 3 (Factory Acceptance Testing)	Aging of milestone#3 invoice is 610+ days and it has been paid partially. SLDC to submit fund requisition to pay it fully.

Deliberation of the sub committee

The forum advised all the states to send requisitions for fund to PSDF Secretariat to clear the pending payments to M/s PwC.

The sub committee noted as above.

AGENDA FROM MEGHALAYA

2.19. Telemetry issues due to non-functional 48V DC Chargers installed under NERPSIP- MePTCL

The 48 V DC chargers installed by PGCIL at NEHU,Mawlai,Nongstoin, Nangalbibra and Rongkhon substations as part of the NERPSIP project are non functional. PGCIL has not responded to the concerns on this issue which were highlighted way back in August 2023. It may be noted that all the telemetry information from all the sub stations after 132 kV Nongstoin are being routed via the 132 kV Nongstoin NERPSIP HITACHI SDH. However the power supply to this SDH is being fed from the existing old 48 V DC charger

which goes down every now and then especially during off peak hours due to high system voltage wherein the charger disconnects its AC inputs. NERPC is requested to instruct PGCIL to attend to these issues immediately.

Additionally, no DI cards were installed at Ampati substation against the two 132 kV bays at Phulbari.

The pending NMS installation and commissioning supplied under NERPSIP by PGCIL thereby rendering maintenance or restoration work impossible. From the communication point of view NERPC is requested to instruct PGCIL to attend to these issues immediately.

Deliberation of the sub committee

NERPSIP Powergrid apprised the forum that the issues pertaining to faulty 48 volt DC chargers have been resolved at NEHU,Mawlai and Rongkhon substations. However, the issues at Nongstoin and Nangalbibra substations are still pending and will be resolved by March-2025.

Regarding, DI cards the forum advised Meghalaya to share the requisite details to NERPSIP Powergrid.

The forum advised NERPSIP Powergrid to complete the pending NMS integration and commissioning by March'25.

The sub committee noted as above.

AGENDA FROM TERRAFENCE PVT LTD.

2.20. Presentation on technology for hardware isolation between SCADA and IT network

Terrafence Pvt. Ltd. requests an opportunity to present our Uni-directional Gateway solution (Data Diode) that could significantly benefit the Power sector.

The proposed solution offers physical hardware isolation between SCADA and IT Network, and we are confident that it will contribute positively securing the Power sector. We would appreciate the chance to share detailed insights, including data-driven analysis, potential impacts, and actionable steps, during the meeting.

In today's interconnected world, the power sector forms the backbone of modern economies. System Load Dispatch Centers (SLDCs) play a pivotal role in ensuring uninterrupted power supply by managing and monitoring electricity transmission across vast networks. These critical operations are facilitated by Operational Technology (OT) and Supervisory Control and Data Acquisition (SCADA) systems. However, with increasing connectivity, SLDCs are increasingly exposed to cyber threats, making robust cybersecurity measures necessary.

Among the most advanced solutions to secure OT networks is the Data Diode technology. Terafence, a leading cybersecurity solutions provider, has been at the forefront of deploying Data Diode technology in the power sector, ensuring that vital systems like those at POSOCO (Power System Operation Corporation) are safeguarded against cyber threats. This article explores the importance of Data Diode technology for the SLDC power segment, its operational benefits, and its compliance with the Ministry of Power's notifications for deploying air gap solutions.

Deliberation of the sub committee

Representative of M/s Terrafence Pvt. Ltd could not attend the meeting.

The sub committee noted as above.

AGENDA FROM M/S ORBIT INDIA LTD.

2.21. Presentation of solutions for establishing C-SOC at SLDCs of NER

M/s Orbit India Ltd. Requests for a presentation of solutions for establishing C-SOC at SLDCs of NER.

Deliberation of the sub committee

Representative of M/s Orbit India Ltd. Could not attend the meeting.

The sub committee noted as above.

ADDITIONAL AGENDA FROM NERPSIP

2.22. Provision of space for NMS server

The NMS has been supplied under NERPSIP for the states of Manipur, Nagaland, and Mizoram. The NMS, supplied by M/s Tejas, includes an NMS server that is suitable for installation in racks (600mm x 400mm x 2200mm). As sufficient space is available in the existing racks installed at SLDCs, it is requested that the concerned state utilities provide space in the existing racks to accommodate the NMS servers supplied under NERPSIP.

Deliberation of the sub committee

The matter could not be discussed as representatives from Manipur, Nagaland and Mizoram were absent during the deliberation. However, forum opined that matter to be resolved bilaterally.

The sub committee noted as above.

2.23. Pending issues related to state utilities

The following communication links could not be established due to various issues in the existing lines or issues related to state utilities:

Sl No	OPGW links where issues being faced	Issues
1.	LILO of SM Nagar-Rokhia at Gokul Nagar SS: 1. SM Nagar - Gokul Nagar link 2. Rokhia - Gokul Nagar link	The OPGW laying completed in LILO portion under NERPSIP. SM Nagar - Rokhia parent line is not ready.
2.	132kV West Pheileng – Zemabak TL:	6 KM balance to be laid out of 51KM. The work is pending as poles are to be replaced with towers & damaged tower peak to be rectified by state P&E deptt. Mizoram.
3.	132kV Lunglei – Lungsen TL:	1 KM balance to be laid out of 27 KM: The work is pending as poles are to be replaced with towers & damaged tower peak to be rectified by state P&E deptt. Mizoram.

Deliberation of the sub committee

Tripura updated the forum that the SM Nagar-Rokhia parent line shall be ready by March-2025.

Issues pertaining to Mizoram could not be discussed as representative from Mizoram was absent during the deliberation.

The sub committee noted as above.

ADDITIONAL AGENDA FROM CTU

2.24. Regarding SOP for Procurement and Installation of ISTS Interface Energy Meter (IEM)

CTUIL has formulated and circulated a draft 'SOP regarding Procurement & Installation of ISTS Interface Energy Meter (IEM)' for comments/feedback from various stakeholders. Same was also shared with all RLDCs and Member Secretary of all RPCs vide e-mail dated 15.05.2024. Comments were received from various stakeholders in RPCs (SRPC, ERPC & NRPC) which were suitably incorporated, and the updated SOP was approved in 74th NRPC held on 29.06.2024. SOP has also been uploaded on CTUIL website for comments.

The SOP(as Annexure-2.24) is submitted for information and adaptation by NERPC.

Deliberation of the sub committee

The forum advised all the stakeholders to submit comment on the draft 'SOP regarding Procurement & Installation of ISTS Interface Energy Meter (IEM)' within reasonable time. The forum also advised CTU to give a presentation an overview of the draft SOP in the 223rd OCC meeting.

The sub committee noted as above.

ADDITIONAL AGENDA FROM NERLDC

2.25. Discussion on Construction, Temporary Configuration, and SCADA Readiness of 132 kV Sihhmui-Zuangtui Line with T-Connection at Luangmual

As per deliberations during the 222nd OCC meeting, Mizoram informed that they are in the process of constructing a 132 kV line from Sihhmui to

Zuangtui, with a T-connection at Luangmual utilizing an available bay at Luangmual. Meanwhile, PGCIL is scheduled to commence reconductoring work on the 132 kV Melriat-Zuangtui line. During the shutdown period, Mizoram plans to use the 132 kV Sihhmui-Zuangtui line while keeping the bay at Luangmual open. During this interim arrangement, SCADA visibility will only be available from the Sihhmui end, as the Zuangtui end RTU augmentation work is pending.

Upon completion of the reconductoring work, Mizoram intends to operate the line permanently as 132 kV Luangmual-Zuangtui. However, before commissioning this line, Mizoram will ensure the following activities are completed to establish SCADA visibility at both ends:

Luangmual End: Integration of the Zuangtui Bay into the existing RTU will be carried out, and any RTU-related issues will be resolved in coordination with M/s GE. Additionally, Mizoram will collaborate with ULDC-POWERGRID to address any OPGW communication issues.

Zuangtui End: Mizoram has informed that the distance between the Bay and RTU is more than 250 meters. Hence, it is requested to install MFT in the RTU panel and lay cables from CT/PT from bay till MFT. Similarly cables for isolator and CB position will be laid from Relay panel upto DI card of RTU, if required necessary CMR will also be installed. Mizoram will install CT and PT cables from the relay panel of the 132 kV Luangmual Bay to the MFT, which will be positioned near the RTU. RTU augmentation work at Zuangtui will be undertaken in coordination with M/s GE.

For both stations, SCADA database updates will be performed at SLDC Mizoram and shared with NERLDC.

All outlined activities will be completed by Mizoram before commissioning the 132 kV Luangmual-Zuangtui line, which is currently temporarily configured as the 132 kV Sihhmui-Zuangtui line with a T-connection at Luangmual. FTC consent will be provided for 132 kV Luangmual-Zuangtui, once the SCADA visibility is completed as discussed above.

The depiction of above configuration is attached as Annexure – A.1

Deliberation of the sub committee

Mizoram agreed for the activities mentioned in the above agenda before commissioning of the 132 kV Luangmual-Zuangtui line.

The sub committee noted as above.

2.26. Requested to provide protection point data as per CERC interface guidelines under CERC communication regulations, 2017.

CERC in the interface guidelines has outlined the minimum protection points that needs to telemetered to RLDC/SLDCs. The points are LBB operation, Master Trip Operation, Over voltage protection, SPS ON/OFF, SPS operation, Class A,B,C protection of Generator.

Hence, all utilities are requested to provide an action plan on implementation of the same.

Deliberation of the sub committee

The forum referred the matter for discussion in the next NETeST meeting.

The sub committee noted as above.

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

3.1. Missing link OPGW in 132 kV Karong-Kohima line (as per Agenda 2.10 of 29th NETeST MoM)

NERPSIP-Manipur has laid OPGW from Karong (in Manipur) up to Mao (the border of Manipur and Nagaland). However, there is currently no project planned to extend the OPGW from Mao to Kohima, which is necessary to complete the link from Karong to Kohima. This line is an ISTS connection between the two states. The OPGW connectivity will enhance the reliability and redundancy of the power systems in both Manipur and Nagaland, as well as for the entire North Eastern Region (NER).

As per MOM of 32nd CMETS-NER, DoP, Nagaland has agreed to install OPGW and associated equipment in the Nagaland portion of 132 kV Kohima (Nagaland) – Karong line i.e in the Mao to Kohima portion. (Please refer to Points 2.9 and 2.10 of MOM of 32nd CMETS-NER)

In 29th NETeST meeting DOP Nagaland has been requested to prepare a DPR to be submitted to PSDF under State Reliable Communication Scheme or any other suitable scheme for 100% funding from PSDF.

The proposed link connection is shown below:

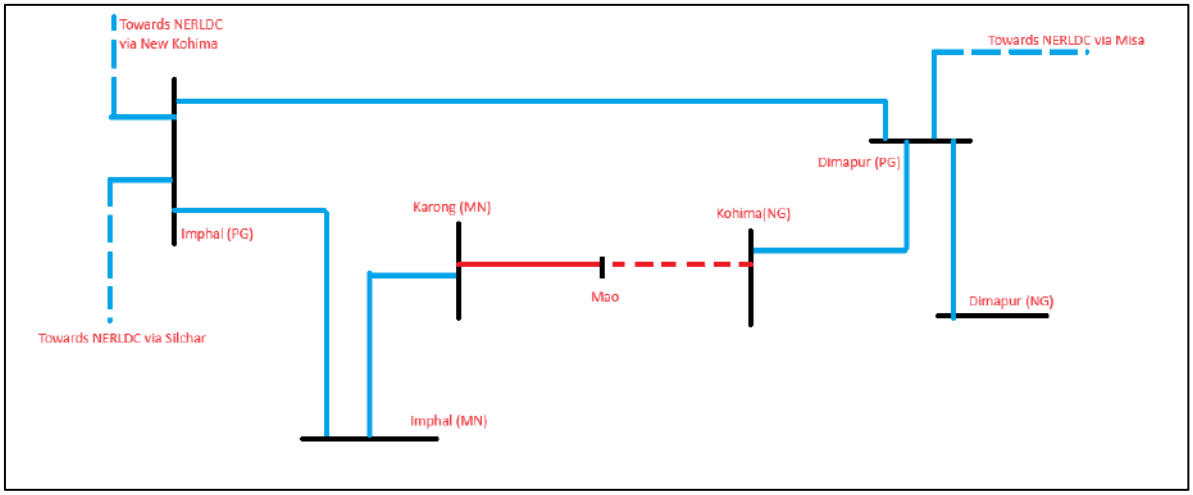


Figure 1: Connectivity Depicting Karong-Kohima

DOP-Nagaland shall update the status of DPR via e-mail to NERPC.

3.2. Dharmanagar-Dullavcherra OPGW connectivity. (as per Agenda 2.11 of 29th NETeST MoM)

NERLDC would like to draw attention to the criticality of Dharmanagar and Dullavcherra as state drawal points for Tripura and Assam, respectively. These stations have been deprived of OPGW connectivity for an extended period, resulting in their data not being reported to the SLDCs and NERLDC. Since these points are connected via the ISTS element 132 kV Dullavcherra - Dharmanagar line, their monitoring is crucial for NERLDC operations.

To address this issue, the forum is requested to deliberate on laying OPGW along the Dharmanagar - Dullavcherra - Hailakandi section to connect Dharmanagar and Dullavcherra to the ULDC Network.

Updates and Deliberations:

1. 6th Communication Planning Meeting (CPM) of CTU for the NER Region held on 23rd August 2024:
    - Tripura officials confirmed that OPGW has been installed in the P K Bari (TR) to Dharmanagar (TR) section under NERPSIP, but the FOTE installation is still pending.
    - Assam and Tripura officials requested OPGW implementation in the Dharmanagar - Dullavcherra - Hailakandi portion [(37 + 35) km ~ 72 km length] for improved data availability.

CTU agreed to initiate a fresh proposal for OPGW implementation in this portion. Alternatively, POWERGRID was asked to include this section under an existing OPGW scheme.

2. 29th NETeST Meeting and 6th CTUIL-CPM Minutes:
    - It was discussed that OPGW laying for the Dharmanagar - Dullavcherra (37 km) and Dullavcherra - Hailakandi (35 km) segments could either be planned under the ISTS scheme or included in an existing OPGW scheme of NER by POWERGRID.

3. NERPSIP-Tripura Commitment:

- As per the 29th NETeST Meeting, NERPSIP-Tripura committed to commissioning the FOTE of Dharmanagar by September 2024.

Request for Updates:

- NERPSIP-Tripura is requested to provide an updated status on the commissioning of FOTE at Dharmanagar.
- ULDC-POWERGRID is requested to inform the forum whether the OPGW laying for Dharmanagar - Dullavcherra (37 km) and Dullavcherra - Hailakandi (35 km) sections has been included in any ongoing project.

Forum may discuss and provide further direction to expedite the implementation of OPGW connectivity in these critical sections.

The proposed link connection is shown below:

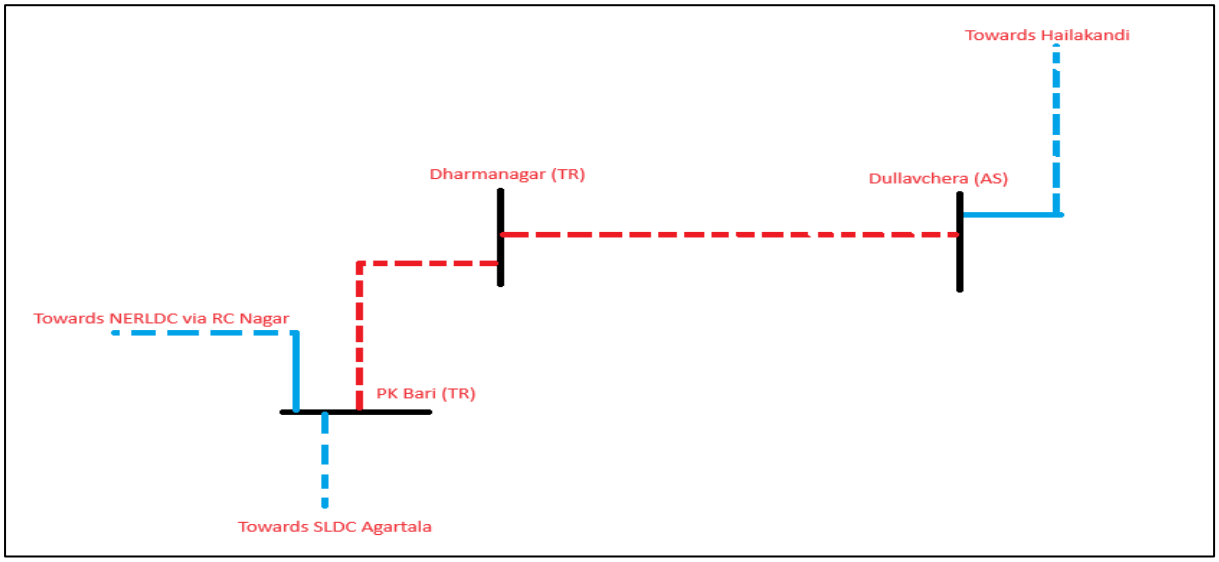


Figure 2: Connectivity Depicting Dharmanagar-Dullavcherra

<u>Deliberation of the sub committee</u>

Tripura and NERPSIP Powergrid apprised the forum that there is currently STM-4 at Dharmanagar, P.K Bari and Hailakandi substations.

The forum also noted that in order to avoid congestion there is a need to upgrade the existing STM-4 at Dharmanagar, P.K Bari and Hailakandi substations to STM-16.

Also, as per the proposed scheme, another STM-16 is required at Dullavcherra.

The forum agreed with the proposal. However, there will be a revised cost estimate considering the requirement of STM-16 at Dharmanagar, Dullavcherra, P.K Bari and Hailakandi.

Forum advised CTU to resubmit the scheme with the revised cost estimate to upcoming CCM.

The sub committee noted as above.

3.3. Connectivity of OPGW for 132 kV Kumarghat - PK bari for redundancy of Communication System of Tripura. (as per Agenda 2.12 of 29th NETeST MoM)

On 07/07/2024, at 1900 hrs, a technical issue at RC Nagar resulted in the failure of the 132 kV RC Nagar-Kumarghat link. This led to the unavailability of VoIP, PMU, and RTU services for the following stations at NERLDC:

- 400 kV SM Nagar
- 400 kV PK Bari
- Palatana
- RC Nagar

The outage persisted for over 20 hours, with restoration completed by 16:00 hrs on 08/07/2024.

To enhance connectivity and prevent future disruptions, it is proposed to operationalize OPGW on the 132 kV Kumarghat-PK Bari line.

Key Updates and Deliberations:

6th Communication Planning Meeting (CPM) of CTU for the NER Region held on 23rd August 2024:

- Tripura officials confirmed that OPGW and FOTE have already been installed in the Kumarghat (PG) to PK Bari (TR) portion under NERPSIP,but inter-patching remains pending.
- This link can be extended to RC Nagar via the existing OPGW (owned by Indigrid) on the 132 kV RC Nagar (NO) - PK Bari (TR) line.

Request for Fibre Allocation:

- TSECL and NERPSIP are requested to allocate a pair of fibers for the 132 kV Kumarghat-PK Bari link, which will be connected to ULDC-FOTE at both stations.

Commitments from 29th NETeST Meeting:

- NERPSIP-Tripura and TPTL committed to completing the following by September 2024:
  a. Inter-patching with ULDC-FOTE at Kumarghat and PK Bari.
  b. Providing a pair of fibers to establish a redundant communication channel between Kumarghat and PK Bari.

Request for Updates:

- NERPSIP-Tripura, TPTL, and ULDC-POWERGRID are requested to provide an updated status on the progress of the inter-patching and fibre allocation activities.

Forum may discuss and provide further direction to ensure timely completion of these critical tasks. The proposed link connection is shown below:

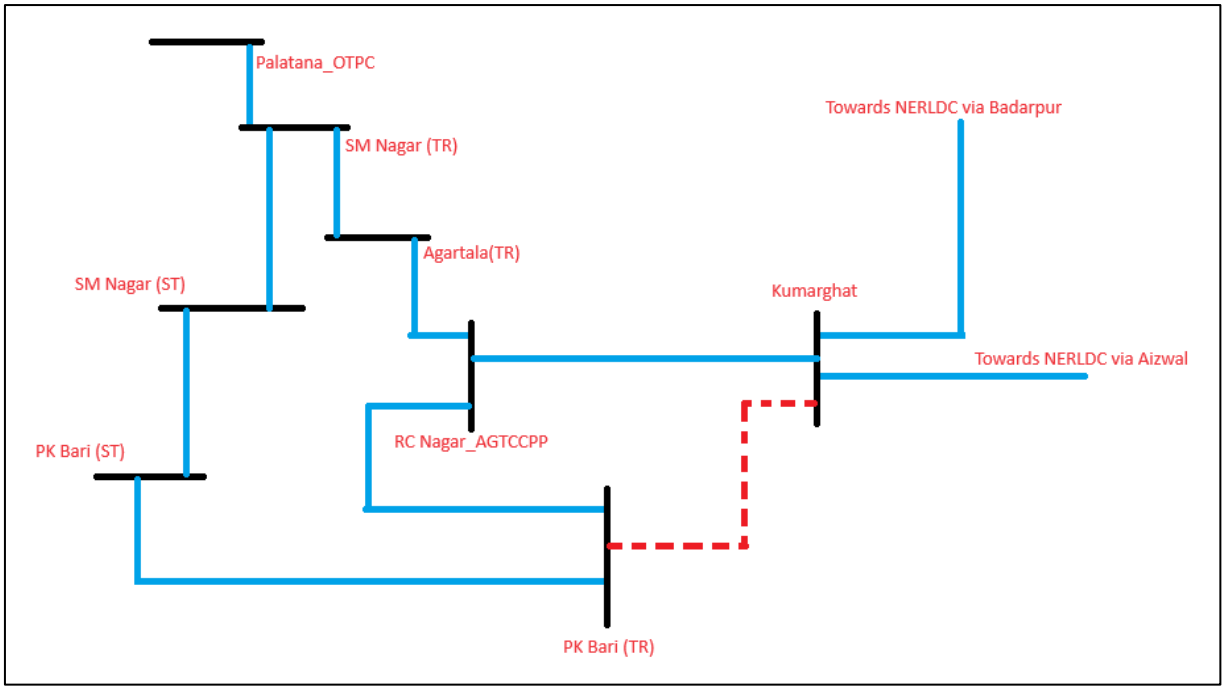


Figure 3: Connectivity Depicting Kumarghat-PK Bari

Members shall update the latest status via e-mail to NERPC.

3.4. Feeble condition of State-Estimator of NERLDC SCADA system due to low availability of Real-time Telemetr. (as per Agenda 2.13 of 29th NETeST MoM)

As per IEGC 33.2, "SLDCs, RLDCs and NLDC shall utilize network estimation tool integrated in their EMS and SCADA systems for the real time operational planning study. All users shall make available at all times real time error free operational data for the successful execution of network analysis using EMS/SCADA. Failure to make available such data shall be immediately reported to the concerned SLDC, the concerned RLDC and NLDC along with a firm timeline for restoration. The performance of online network estimation tools at SLDC and RLDC shall be reviewed in the monthly operational meeting of RPC. Any telemetry related issues impacting the online network estimation tool shall be monitored by RPC for their early resolution."

It is to report that the real-time telemetry availability for states such as Tripura, Mizoram, Manipur, and others is currently in the range of 30-60%. This low availability is significantly impacting the accuracy of state

estimation, which relies heavily on the status of Circuit Breakers (CBs), Isolators, and Analog values to ensure reliable estimates. It is highlighted that the feeble state estimation is a direct consequence of the inadequate real-time telemetry data. The states are therefore strongly urged to prioritize the integrity of their Remote Terminal Units (RTUs) and communication systems to enhance the availability and quality of real-time telemetry data. This improvement is crucial for achieving accurate state estimation and ensuring the stability and reliability of the power system in the region.

As per 29th NETeST meeting, MS NERPC has set a target and timelines for improvement of telemetry for all NER states, the target and timelines are as shown below:

State	*Target Telemetry Percentage (Analog)*	*Timeline to achieve the target*
Assam	*80 %*	*2 Months*
Arunachal Pradesh	*80 %*	*2 Months*
Manipur	*60 %*	*2 Months*
Meghalaya	*70 %*	*2 Months*
Mizoram	*50 %*	*2 Months*
Nagaland	*60 %*	*2 Months*
Tripura	*50 %*	*2 Months*

Deliberation of the sub committee

Assam apprised the forum that the maximum instantaneous telemetry availability has been 82.5% and the average telemetry percentage has improved from 70% to 75%.

Member Secretary, NERPC advised the states to achieve minimum telemetry availability percentage as per the following table by March'2025:

Sl. No.	**State**	**Minimum telemetry percentage**
1	Assam	85%
2	Arunachal Pradesh	85%
3	Manipur	70%

4	Meghalaya	80%
5	Mizoram	60%
6	Nagaland	70%
7	Tripura	80%

The sub committee noted as above.

3.5. Notification of Revised Guidelines for PSDF Fund Disbursement and Request for DPR Revisions (as per Agenda 2.14 of 29th NETeST MoM)

It is pleased to inform the forum that the Ministry of Power (MoP) has issued Revised Guidelines for the disbursement of funds from the Power System Development Fund (PSDF) on 12th March 2024. According to clause 6.2.iv, "Schemes from the States of the North-Eastern region and other hilly States/UTs, including Jammu & Kashmir, Ladakh, Sikkim, Himachal Pradesh, and Uttarakhand, shall be eligible for a grant of up to 100% for the schemes mentioned in para-5.1(a), 5.1(b), 5.1(c), 5.1(d), 5.1(e) & 5.1(f)."

Additionally, as per Point (g) read under Clause 5.1(c) of Annexure III, states can apply for 100% funding for projects related to Communication Schemes for Automated Meter Reading (AMR) and real-time telemetry aimed at achieving 100% grid visibility.

As per 29th NETeST meeting, the forum requested states to revise the DPR of State Reliable Communication scheme for getting fund from PSDF and send it to PSDF by October 2024.

All states are requested to update the status of the DPR via e-mail to NERPC.

3.6. Non reporting of Deemed ISTS stations (as per Agenda 2.15 of 29th NETeST MoM)

Real-time data from deemed ISTS Stations (Stations owned by states) is being regularly observed by NERLDC as these are important stations connecting two different states.

However, following such stations are connected to ISTS but not reporting to NERLDC since very long.

Substation Name	**Connected with**	**Remarks**
132 kV Dharmanagar (Tripura)	132 kV Dullavcherra (Assam)	Data is not reporting due to non-availability of communication link.
132 kV Tipaimukh (Manipur)	132 kV Aizawl (Mizoram-PG)	Data is not reporting due to non-availability of communication link.

Deliberation of the sub committee

The matter has been discussed along with Agenda B 2.5 and B 2.6.

The sub committee noted as above

3.7. Connectivity of 132 kV Roing, Tezu and Namsai on OPGW (as per Agenda 2.16 of 29th NETeST MoM)

Since October 2020, the 132 kV substations at Roing, Tezu, and Namsai have been reporting data over VSAT. It is now requested that ULDC-POWERGRID connect the data and voice communications of these substations over Optical Ground Wire (OPGW), as the necessary OPGW infrastructure is already available along the route Namsai → Tezu → Roing → Chapakhowa → Rupai → Tinsukia → Namrup → Lakwa → Mariani (AS) → Samaguri → Sarusajai → Kahilipara → NERLDC, Guwahati.

Specifically:

The Namsai → Tezu → Roing → Chapakhowa segment falls under ULDC-POWERGRID.

The Chapakhowa → Rupai → Tinsukia → Namrup → Lakwa → Mariani (AS) → Samaguri → Sarusajai → Kahilipara segment is managed by AEGCL.

ULDC-POWERGRID and NERPSIP committed to complete the necessary inter-patching work required at 132 kV Chapakhowa within 15 days of last NETeST (i.e. by 20th September 2024)

ULDC-POWERGRID and NERPSIP are requested to update the status via e-mail to NERPC.

3.8. Adherence to CERC order dated 04th August 2023 for petition 197/MP/2020 (Arunachal Pradesh), 201/MP/2020 (TPTL), 263/MP/2020 (DoP, Nagaland) and 556/MP/2020 (PE&D, Mizoram). (as per Agenda 2.17 of 29th NETeST MoM)

NERLDC would like to draw the forum's attention to the adherence by states to the CERC order dated 04th August 2023, concerning petition 197/MP/2020 (Arunachal Pradesh), 201/MP/2020 (TPTL), 263/MP/2020 (Department of Power, Nagaland), and 556/MP/2020 (Power & Electricity Department, Mizoram).

In 29th NETeST meeting, NERLDC informed that only PE&D, Mizoram has been submitting the monthly progress report while DOP-Arunachal Pradesh, DOP-Nagaland and TPTL (Tripura) has not yet submitted the monthly progress report to NERPC and NERLDC. MS NERPC has further emphasize the need to adhere to CERC order strictly and comply accordingly.

However, DOP-Arunachal Pradesh, DOP-Nagaland and TPTL (Tripura) are yet to submit the progress report.

DOP-Arunachal Pradesh, DOP-Nagaland and TPTL (Tripura) may update the status via e-mail to NERPC.

3.9. Connectivity of NERLDC Guwahati with Sarusajai and Umiam bypassing Kahilipara for its redundancy. (Agenda 3.1 as per MoM of 29th NETeST Meeting)

As per point 3.21 of MoM of 26th TCC/RPC meeting held on 4th and 5th July 2024, RPC and TCC forum approved the following connectivity for NERLDC Guwahati:

- POWERGRID to lay two 24-core fibre optic cables from NERLDC Guwahati to Gantry of Kahilipara. At Gantry, a Joint Box would be installed, facilitating the connection of one cable from NERLDC to the Sarusajai direction and the other cable to the NEHU direction. (2 x 1 KMs): 26th TCC/RPC has approved the project. CTUIL and ***POWERGRID may update the status.***
- POWERGRID to lay 48F-OPGW on 132 kV Sarusajai – Umtru line (Approximately 37 kms): 26th TCC/RPC has approved the project subject to board approval of Meghalaya(MeECL).
  Meghalaya(MeECL) may update the status on board approval.
- The replacement of 12F to 48F OPGW on 132 kV Kahilipara – Umtru - Umiam Stg. III – Umiam Stg. I- Umiam – NEHU line by POWERGRID (Approximately 151 kms): 26th TCC/RPC has approved the project subject to board approval of Meghalaya(MeECL).
  Meghalaya(MeECL) may update the status on board approval.

As per MoM of 26th TCC/RPC meeting, NERPC gave in-principle approval of the project subject to board approval of Meghalaya and sharing of fiber laid under the scheme shall be subject to the outcome of the decision of the CEA Committee on formulating comprehensive guidelines on OPGW sharing.

In 29th NETeST meeting Meghalaya (MeECL) has updated the status of board approval. After deliberation, MS NERPC has informed that matter will be taken up by NERPC.

The matter was deliberated in 27th TCC meeting held on 7th-8th November 2024 and after detailed deliberation, NERPC forum granted in-principle

approval for the redundant fibre path to enhance grid security, with 24 fibres allocated for state use and 24 for ISTS use, subject to CEA guidelines for OPGW sharing. Meghalaya and Assam will provide the board approval accordingly to CTU/NERPC.

Meghalaya and Assam may update the status via e-mail to NERPC.

3.10. Upgradation Activities of SCADA-EMS systems at Regional/State level in North-Eastern Region (Agenda 3.2 as per MoM of 29th NETeST Meeting)

NERLDC would like to inform that all the NER State DPRs had been sent to PSDF committee in a consolidated manner by NERPC on 12th August 2024 and same has been delivered to PSDF on 16th August 2024.

NERLDC and NERPC met PSDF Committee in Delhi on 12th December 2024 subsequent to the 86th TESG meeting held on 22nd October 2024. We are pleased to inform you that PSDF has agreed for funding for SCADA/EMS upgradation as per the quotation received for NER. However, PSDF has requested all states to submit the following:

1. To submit the Board Approval wherever it is an enterprise, if not submitted.
2. To submit State Government approval, if not submitted.
3. Clarity on the funding of Civil part of Backup Control Centre from alternative sources as civil infrastructure work for Backup Control Centre (Backup SLDC) will not be funded through PSDF.
4. BoQ in excel format having two parts bifurcating Main and backup Control centre SCADA/EMS system.
5. Grant disbursement pattern (including the modalities for release of grant for AMC) for the project and submit the same to NLDC.
6. Exclude the Cartridges Cost and Re-location and Commissioning at new location cost from BoQ.

7. Signed copy of point-wise replies to all the observations/deliberations made by the TESG members along with the supporting documents at the earliest.

NERLDC requests all NER SLDCs to actively start the civil infrastructure of Backup SLDC, even though the grant for SCADA/EMS system is approved for Backup SLDC; states should show good progress of civil infrastructure and commits its timely completion. However, if state fails to show reasonable progress prior to pre-bid meeting during GRID-INDIA tendering process, likely to be held in six months, the SCADA/EMS system portion of Backup SLDC will stand to be deleted from project scope.

Deliberation of the sub committee

The forum requested all the stakeholders to submit the Board approvals as applicable and other necessary documents at the earliest to PSDF Secretariat.

The sub committee noted as above.

3.11. Status of State reliable communication scheme (Agenda 3.3 as per MoM of 29th NETeST Meeting)

NERLDC would like to inform the forum that as per Minutes of 23rd Monitoring Committee meeting of PSDF, it was decided to approve the PSDF funds for NER and requested Appriasal committee to ask NER states to put the DPRs accordingly. Using the positive opportunity NERLDC requests all states to submit DPRs in PSDF for approval at the earliet.

State reliable communication scheme is being funded 100% by PSDF as per Point (g) read under Clause 5.1(c) of Annexure III, states can apply for 100% funding for projects related to Communication Schemes for Automated Meter Reading (AMR) and real-time telemetry aimed at achieving 100% grid visibility. As decided in the special meeting held on 09th January 2024, NERLDC has circulated the draft template DPR for "State Reliable Communication Scheme" to all the SLDCs in which entire scope has been divided into 4 parts – Part A (OPGW), Part B (SDH based End Equipment),

Part C (VSAT) & Part D (Remote Terminal Units). It was also decided that in case of any state already submitted DPR under "State Reliable Communication Scheme" head to PSDF Secretariat, then also these additional requirements shall be put in form of new DPR and can be submitted under heading "Additional requirements under State Reliable Communication Scheme for real-time data availability strengthening". The status is tabulated below and states are requested to kindly update further:

Name of State	**Status as per 29th NETeST meeting**	**Current Status as per 30th NETeST**
Arunachal Pradesh	Will be submitted by Oct'24	DoP-Arunchal Pradesh may update the status.
Assam	DPR for 100% funding will be submitted by Nov'24	SLDC Assam/AEGCL may update the status.
Manipur	MSPCL was not present hence no update. may update the status	MSPCL may update the status
Meghalaya	Will be submitted by Oct'24.	MePTCL may update the status.
Mizoram	Will be submitted by Oct'24.	PE&D, Mizoram may update the status.
Nagaland	Already submitted.	DoP, Nagaland may update the status.
Tripura	Will be submitted by Oct'24.	TPTL may update the status.

In 29th NETeST meeting, MS NERPC informed all NER states to prepare the revise DPRs as per new guideline issued for PSDF funding.

All states are requested to update the DPR status via e-mail to NERPC.

3.12. Implementation of Guwahati Islanding Scheme (Agenda 3.4 as per MoM of 29th NETeST Meeting)

In 27th NETeST meeting, AEGCL informed that Detailed Project Report (DPR) for the Guwahati Islanding Scheme has been formally submitted to the Power System Development Fund (PSDF) for review and consideration. SLDC, Assam also informed that DPR for the communication part shall be submitted shortly.

In 28th NETeST meeting, AEGCL informed that DPR for the communication part would be submitted by 3rd week of May'24.

In 29th NETeST meeting, AEGCL informed that the revised DPR has been submitted to PSDF on 06th July 2024.

AEGCL/SLDC, Assam may update the current status via e-mail to NERPC.

3.13. Non-availability of real-time data pertaining to POWERGRID-owned bays installed at AEGCL-owned stations (Agenda 3.5 as per MoM of 29th NETeST Meeting)

It has been observed that the real-time data of POWERGRID-owned bays installed at AEGCL stations are not reporting to NERLDC. These bays have been identified as follows:

Silchar bays installed at Srikona station isolator data since 28th Nov -2022.

Silchar bays installed at Hailakandi.

132 kV BNC HVDC bays at Pavoi S/s.

All these bays are ISTS elements, thus data availability is important for real-time drawl calculation and monitoring of ISTS element.

Thus, POWERGRID is requested to update the status as per the table below:

Sl. No.	Name of Bay	Status as per 29th NETeST	Latest status (as per 30th NETeST meeting)
	Silchar bays installed at Srikona station	ULDC-NERTS informed that they will complete the work by one month (October 2024) Action: POWERGRID may update the status	
	Silchar bays installed at Hailakandi.	ULDC-NERTS informed that they will complete the work by one month (October 2024) Action: POWERGRID may update the status	
	132 kV BNC HVDC bays at Pavoi S/s.	ULDC-NERTS informed that they will complete the work by one month (October 2024) Action: POWERGRID may update the status	

PGCIL may update the status via e-mail to NERPC.

3.14. Restoration of OPGW owned by Manipur (Agenda 3.7 as per MoM of 29th NETeST Meeting)

It has been noticed that seven stations i.e., 132 kV Chandel, 132 kV Churachandpur, 132 kV Hundung, 132 kV Kakching, and 132 kV Kongba of Manipur are not reporting due to outage of 132 kV Churachandpur – Ningthoukhong OPGW link. It was reported that there is a break in the Optical

Ground Wire (OPGW) approximately eight (08) Kilometers from the 132 kV Ningthoukhong Substation. However, the rectification work could not be undertaken as The subjected OPGW installation was done by POWERGRID-ULDC under NER-FO. Incomplete Handing over documents (absence of signatures by POWERGRID executives) was furnished by POWERGRID to SLDC, Manipur on 06th April 2021. SLDC Manipur has requested ULDC-POWERGRID to sign the documents on 11th December 2023. SLDC Manipur has conveyed that proper documentation is essential for addressing the issue. The forum requested POWERGRID furnish complete handing over document.

During 28th NETeST meeting, POWERGRID-ULDC informed that in a meeting with Managing Director, MSPCL, Manipur had requested POWERGRID to complete the entire task. However, the financial aspects of the work were not discussed with MSPCL. Member Secretary, NERPC advised POWERGRID and MSPCL to discuss the issue bilaterally.

During 29th NETeST meeting, ULDC-NERTS informed that all necessary documents has been handed over to SLDC, Manipur in April 2024. However, Manipur has requested ULDC-NERTS to complete this work. ULDC-NERTS assured the forum to complete the work within three months after having discussion internally.

POWERGRID-ULDC and MSPCL may update the status via e-mail to NERPC.

3.15. Establishment of redundant fibre path between NERLDC and NEHU for reliability of power system communication link till RLDC. (As per MoM Point 3.8 of 29th NETeST Meeting)

A. As per MoM of 26th RPC/TCC meeting held on 04th and 05th July following are the update:

- ***From T-25 to NERLDC on 132 kV NEHU-Mawlydep line:*** POWERGRID-ULDC to lay and maintain the underground 48F cable under the ongoing reliable communication scheme out of which 24F

will be connected to NEHU and the balance 24F to be connected with Mawlyndep: 26th TCC/RPC has approved the project.

POWERGRID may update the status via e-mail to NERPC.

- ***Replacement of 12F OPGW with 48F OPGW from NEHU to Khliehriat on 132 kV NEHU-NEIGRIMS-Khliehriat line:*** The Forum approved that the OPGW should be upgraded to 48F by POWERGRID: 26th TCC/RPC has approved the project subject to board approval of Meghalaya (MeECL).

  Meghalaya (MeECL) is requested to intimate the forum about the target date for taking board approval via e-mail to NERPC.

B. As per 29th NETeST MoM:

- ***48F OPGW from NEHU-Mawlyndep-Mustem-Khliehriat:*** MePTCL to propose 48F OPGW on 132 kV NEHU-Mawlyndep- Mustem- Khliehriat line (132 kV NEHU – Khliehriat CKT-II) under the State reliable communication Scheme or other suitable schemes. MePTCL to lay and subsequently maintain the link as well.

MePTCL may update the status via e-mail to NERPC.

- ***From T-23 to NERLDC:*** Communication link from Tower-23 to NERLDC is already part of the Reliable Communication Scheme and is already approved. ULDC – POWERGRID informed that PwD Meghalaya clearance has been obtained for laying 24F UG Cable from Tower 23 of 132 kV NEHU – NEIGRIHMS line to NERLDC.

POWERGRID-ULDC may update the status via e-mail to NERPC.

In 29th NETeST meeting Meghalaya (MeECL) has updated the status of board approval. After deliberation, MS NERPC has informed that matter will be taken up by NERPC.

The matter was deliberated in 27th TCC meeting held on 7th-8th November 2024 and after detailed deliberation, NERPC forum granted in-principle approval for the redundant fibre path to enhance grid security, with 24 fibres allocated for state use and 24 for ISTS use, subject to CEA guidelines for OPGW sharing. Meghalaya and Assam will provide the board approval accordingly to CTU/NERPC.

Meghalaya and Assam may update the status via e-mail to NERPC.

3.16. Status of Fiber-Optic works under different projects (As per MoM Point B.2 of 27th NETeST)

S. No.	Link name	Utilities which may respond	As per 29th NETeST
I. Fiber Optic Expansion Projects			
Meghalaya State Sector			
1	132kV NEHU - NEIGRIMS	POWERGRID-NERTS	--
Central Sector			
2	400kV Bongaigaon (PG) - 220kV Salakati - 220kV BTPS	POWERGRID-NERTS	No response has been obtained from Chinese vendor M/S SDJI. ULDC-NERTS is trying to Partially off load the contract, so that pending work can be assigned to new contractor. Target: October 2024
3	400kV Mirza (Azara) – Byrnihat (Killing)		No response has been obtained from Chinese vendor M/S SDJI. ULDC-NERTS is trying to Partially off load the contract, so that pending work can be assigned to new contractor. Target: October 2024

S. No.	Link name	Utilities which may respond	As per 29th NETeST
4	400kV Silchar – Palatana		Survey going on for unhealthy stretch. Work will commence after availability of materials on site. Target: October 2024

Members may update the status via e-mail to NERPC.

3.17. Status and details of Fiber-Optic projects approved in 17th TCC/RPC meeting (As per MoM point 3.10 of 29th NETeST)

Updates on following schemes are not yet received.

A. Additional Communication Scheme: During the 28th NETeST meeting, forum advised POWERGRID-ULDC the commissioning of links is pending for more than three months for lack of installation of FOTE which could have been avoided.

Status as per 29th NETeST meeting has not been received till date.

Action: POWERGRID-ULDC may update the status via e-mail to NERPC.

B. Reliable Communication Scheme:

a. Replacement of existing fibre: Status as per 29th NETeST meeting has not been received till date.

Action: POWERGRID-ULDC may update the status via e-mail to NERPC.

b. Fibre on new lines: Status as per 29th NETeST meeting has not been received till date.

Action: POWERGRID-ULDC may update the status via e-mail to NERPC.

3.18. Integration of Dikshi HEP real time data and pending Voice communication (Agenda 3.11 as per MoM of 29th NETeST)

As per 27th NETeST meeting, DoP, Arunachal Pradesh assured the forum that the matter shall be resolved by the next NETeST meeting.

As per 28th NETeST meeting, DoP-AP informed that the matter shall be resolved by May-2024.

During 29th NETeST meeting, DOP-Arunachal Pradesh informed that Dikshi HEP is now connected to a dedicated leased line from July'24 onwards and they are in the process of connecting the VOIP phone.

Action: DoP-AP may update the status via e-mail to NERPC.

3.19. Automatic Generation Control (AGC) in Indian Grid (Agenda 3.12 as per MoM of 29th NETeST)

The status as per 28th NETeST is tabulated below

Station Name	Background	Status as per 29th NETeST
AGBPP (Kathalguri)	OEM visits was envisaged as per following – • Some units are of Mitsubishi make which require team from Japan to visit plant. • Other units are of GE-make and BHEL-make	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Doyang	NEEPCO may update the status	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Kopili Stage -2	25 MW	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Kopili	100W	NEEPCO will provide the status update to NERPC via e-mail.

Station Name	Background	Status as per 29th NETeST
		NEEPCO is yet to provide e-mail.
Khandong	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Kameng	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Ranganadi (Panyor)	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Pare	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
RC Nagar	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	NEEPCO will provide the status update to NERPC via e-mail. NEEPCO is yet to provide e-mail.
Palatana	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	OTPC was absent.

Members are requested to update the status via e-mail to NERPC.

3.20. Pending issues of State Utilities of NER (Agenda 3.13 as per MoM of 29th NETeST)

Utility	Pending issues	Remarks as per 29th NETeST
Assam	SAS upgradation related works may be updated.	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
Tripura	Dharmanagar	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
	Ambassa	
Manipur	Chandel, Churachandpur, Rengpang, Tipaimukh, and Yiangangpokpi	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
	Hundung, Yurembam, Kakching, Konga and Ningthoukhong	
	Elangkhangpokpi, Thanlon, 132kV Thoubal, 132 kV Moreh	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
Nagaland	Kiphire	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
Mizoram	Luangmual	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
	Zuangtui	
	Kolasib	
Arunachal Pradesh	VSAT installation and other issues	All the NER States will provide the status update to NERPC via e-mail. Status as per 29th NETeST is yet to be received.
Meghalaya	Non reporting of stations	220 kV Mawngap is now reporting

Members are requested to update the status via e-mail to NERPC. The present status of each utility is attached as Annexure-C 3.20.

3.21. Feasibility to connect Lekhi Substation over Fiber-Optic Network (Agenda 3.14 as per MoM of 29th NETeST Meeting)

During 25th NETeST meeting, POWERGRID informed the forum that SDH equipment has been diverted from Monarchak and the same shall be installed by 15th June, 2023. POWERGRID requested DoP, Arunachal Pradesh to provide space for installation & they have agreed to provide the same. POWERGRID also informed that due to DCPS issue, presently they were using DC convertor. DoP, Arunachal Pradesh agreed to look into the matter.

During 26th NETeST meeting, POWERGRID-ULDC informed the forum that new SDH is proposed under NER Reliable communication scheme. Currently the DC converter of Lekhi S/s is not working due to which Lekhi PDH is not powered up and thus not reporting to SLDC Arunchal Pradesh over fiber network. DoP-AP is requested to update on the status for providing space DCPS. POWERGRID is requested to update on the status for installation of the DCPS.

During 27th NETeST meeting, DoP-AP informed that space for installation of DCPS will be provided.

DC converter of Lekhi is not working due to which Lekhi is not connected over OPGW network. POWERGRID-ULDC is requested to restore the DC converter as an interim measure till the new SDH and DCPS are installed.

During 28th NETeST meeting, POWERGRID informed that they had taken up the matter with vendor M/s Tejas for the supply of DC converter. The work shall be included under the NER reliable communication scheme.

During 29th NETeST meeting, DOP-Arunachal Pradesh informed that the new control room will be ready by December 2024, so the necessary work can be completed by ULDC-NERTS after commissioning of new control room.

Action: POWERGRID-ULDC is requested to update the status via e-mail to NERPC.

****

सत्यमेव जयते

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
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

SPEED POST/FAX
Ph : 0364-2534039
Fax: 0364-2534040
email: nerpc@ymail.com
website: www.nerpc.gov.in

No.: NERPC/SE(O)/2023/

June 07, 2023

To
As per list attached.

Sub: Minutes of the 25th NeTEST Coordination Committee Meeting -reg.

Sir/Madam,

Please find enclosed herewith the minutes of the 25th NETeST Meeting held on 25th May, 2023 at "NERPC Conference Hall" NERPC Complex, Lapalang, Shillong for your kind information and necessary action. The minute is also available on the website of NERPC: www.nerpc.gov.in.

Any commenyts/observation may kindly be communicated to NERPC Secretariat at the earliest.

भवदीय / Yours faithfully,

(एस. एम. आइमोल / S. M. Aimol)
निदेशक / Director

Distribution List:

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APGCL, Bijuli Bhawan. Guwahati – 781 001
3. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
4. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
5. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
6. Director (Transmission), MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Director (Generation), MePGCL, Lumjingshai, Short Round Road, Shillong – 793 001
8. Director (Distribution), MePDCL, Lumjingshai, Short Round Road, Shillong – 793 001
9. Managing Director, TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (EE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
15. Engineer-in-Chief, Department of Power, Govt. of Nagaland, Kohima – 797 001
16. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
17. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
18. ED, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
19. Vice President (Plant), OTPC, Palatana, P.O Udaipur, Gomati Dist., Tripura - 799105
20. ED, PGCIL/NERTS, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
21. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
22. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
23. Dy. COO, CTUIL, "Saudamini", 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
24. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
27. ED, NLDC, Grid-India, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-16
28. Head, Transmission, KMTL, 7th Floor, Fulcrum, Sahar Road, Andheri (E), Mumbai-400099

Copy To:

1. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
2. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
3. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
4. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
5. Head of SLDC, MSPCL, Imphal – 795001
6. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
8. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
9. Head of SLDC, TSECL, Agartala – 799001
10. Chief Engineer (Elect), Loktak HEP, NHPC, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl GM (EED), NTPC Bongaigaon, P.O. Salakati, Kokrajhar- 783369
12. DGM (O&M), OTPC, Palatana, P.O Udaipur, Gomati Dist., Tripura – 799105
13. MD, NETC, 2C, 3rd Floor, D21 Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.

(एस. एम. आइमोल / S. M. Aimol)
निदेशक / Director

to conduct a physical meeting with vendor/OEM and iron out the issues at the earliest.

The Sub-Committee noted as above.

Action: AEGCL, NTPC, POWERGRID, NERLDC & NERPC.

A.4 Periodic Auditing of Communication System:

Regulation 10 of Communication System for inter-state transmission of electricity Regulation, 2017 states "*The RPC Secretariat shall conduct performance audit of communication system annually as per the procedure finalized in the forum of the concerned RPC. Based on the audit report. RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat. An Annual Report on the audit carried out by respective RPCs shall be submitted to the Commission within one month of closing of the financial year*".

Accordingly, Audit plan has been made for FY 2023-24 (List of stations to be audited is attached as **Annexure A.4(a)**). Constituents are requested to nominate an officer for formation of the audit team as and when required.

Deliberation of the sub-Committee:

DD, NERPC informed the forum that communication audit is essential as per CERC regulation and few Sub- stations for audit has been selected (based on its data traffic) and states can also suggest additional names of substation (as per requirement) i.e to be audited. After detailed deliberation, the forum decided that nomination for audit committee from states/ISTS shall be sought as and when required. All the states agreed to the same. As advised by Member Secretary, NERPC the audit format is attached as **Annexure A.4(b)**.

The Sub-Committee noted as above.

Action: All state utilities, ISTS/ISGS Licencee, NERLDC & NERPC.

A.5 Procedure on Outage Planning for Communication System:

Regulation 10 of Technical Standards for Communication System in Power System Operations Regulations, 2020 states, "*Monthly outage shall be planned and got approved by the owner of communication equipment in the concerned regional power committee, as per detailed procedure finalized by the respective regional power committee*".

ANNEXURE A4a

Annexure B 2.1 (i)

Communication Audit Plan-NER

SN	Station Name	Location
1	SLDC Arunachal Pradesh	**Arunachal Pradesh**
2	Pare (NEEPCO)	
3	Ranganadi (NEEPCO)	
4	SLDC Assam	**Assam**
5	Bongaigaon (State)	
6	Bongaigaon (PGCIL)	
7	Salakati (PGCIL)	
8	Rangia (State)	
9	Kathalguri (NEEPCO)	
10	Tinsukia (State)	
11	Mariani (PGCIL)	
12	Silchar (PGCIL)	
13	Badarpur (PGCIL)	
14	SLDC Manipur	**Manipur**
15	Loktak (NHPC)	
16	Imphal (PGCIL)	
17	SLDC Meghalaya	**Meghalaya**
18	NERLDC	
19	Kheliriat (PGCIL)	
20	SLDC Mizoram	**Mizoram**
21	Aizawl (PGCIL)	
22	Melriat (PGCIL)	
23	Lungmual (State)	
24	Zuangtui (State)	
25	SLDC Nagaland	**Nagaland**
26	Doyang (NEEPCO)	
27	Dimapur (PGCIL)	
28	Dimapur (State)	
29	Kohima (State)	
30	New Kohima (KMTL)	
31	SLDC Tripura	**Tripura**
32	Agartala (State)	
33	Kumarghat (PGCIL)	
34	SM Nagar (State)	
35	SM Nagar (Indigrid)	
36	Palatana (OTPC)	

REGIONAL COMMUNICATION AUDIT REPORT			
General Information:			
1	Substation Name		
2	SS Voltage level		
3	Date of commissioning of the substation		
4	Region & State / Auditee		
5	Audit Date		
6	Name of the Utility which owns the SS		
Details of Audit Team Members :			
SL	Name	Designation	Organization
1			
2			
3			
4			
Attached Documents, if any			
SL	Name of the document		Original / Signed / Copy
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Communication Channels and Equipments Audit Format

(A) List of channels in usage for data (64 kbps, 104, PMU, VC, 101) / Voice / Protection circuits / Others :

Sl	Description (64 kbps, 104, PMU, VC, 101) / Voice / Protection circuits / Others)	Source	Destination	Channel Routing	Ownership details of terminal equipment / Links
1					
2					
3					
4					
5					
6					
7					
8					

(B) List of terminal communication equipments :

Sl	Name of Station	Equipment Type (SDH / PDH / Radio / VSAT / EPABX)	Make / Model	Ownership
1				
2				
3				
4				
5				
6				
7				
8				

(C) Communication System Details :

I. SDH Equipment

(1) Card Details :

Slot No	IP Address & Path / Direction Name	Card Details	Place a ✓mark if on usage, else Write as "Spare"	Whether Card is healthy / Faulty ? (H / F)	Cards Redundancy available (Yes / No)	Power Supply Card / Optical Card (Yes / No)	MSP configured ? (Yes / No)	Action Plan for faulty cards	Other Information, if any
1									
2									
3									
And so on									

(2) Whether equipment is time synchronized : Yes / No

If Yes, how is it being done ?

(3) Failures during last Fin. year / since last Audit :

Particulars	Number of failures of Card / Power Supply	Reason for failures	Measures taken for rectification
Card		**(i) (ii) (iii)**	**(i) (ii) (iii)**
Power Supply		**(i) (ii) (iii)**	**(i) (ii) (iii)**

(4) Configuration of the Node :

Name of Equipment	Number of Nodes	Number of directions	Name of Directions	Number of links down, with details	Details of corrective action, if any, taken

(5) Preventive maintenance schedule and its compliance :

Date of Last Preventive maintenance	Maintenance carried out as per schedule ? (Yes / No)	Whether all the defects have been attended ? (Yes / No) Give details

II. PDH Equipment

(1) Card Details :

Slot No	IP Address	Card Details	Place a ✓mark if on usage, else Write as "Spare"	Whether Card is healthy / Faulty ? (H / F)	Cards Redundancy available (Yes / No)	Power Supply Card / Optical Card (Yes / No)	MSP configured ? (Yes / No)	Action Plan for faulty cards	Other Information, if any
1									
2									
3									
And so on									

(2) Whether equipment is time synchronized : Yes / No

If Yes, how is it being done ?

(3) Failures during last Fin. year / since last Audit :

Particulars	Number of failures of Card / Power Supply	Reason for failures	Measures taken for rectification
Card		**(i)** **(ii)** **(iii)**	**(i)** **(ii)** **(iii)**
Power Supply		**(i)** **(ii)** **(iii)**	**(i)** **(ii)** **(iii)**

(4) Configuration of the Node :

Name of Equipment	Number of Nodes	Number of directions	Name of Directions	Number of links down, with details	Details of corrective action, if any, taken

(5) Preventive maintenance schedule and its compliance :

Date of Last Preventive maintenance	Maintenance carried out as per schedule ? (Yes / No)	Whether all the defects have been attended ? (Yes / No) Give details

III. OPGW / Optical Fibre Details

Number of Directions	Name of Direction	No. of Pairs	No. of Fibers used	No. of spare & healthy Fibers	Unarmoured cable laid within PVC/Hume duct pipe ?	Fibre Count in OPGW ? Whether matching with Approach cable to FODP ?	Overall Optical Fibre Path Attenuation (dB/km)	Power Received	Conformation to Compliance of CEA Standards

IV. Healthiness of Auxiliary System :

(1) Details of 2 independent Power Sources :

Source	Commissioning Date	Battery Back up (Hour)	Battery capacity (AH)	Supply Voltage (V)	Healthiness of Battery (Yes / No)	Make of Charger	Charger Capacity (A)	Periodicity of Maintenance Schedule	Date of Last 2 Actual Maintenance carried out	Remarks
1										
2										

(2) Conformation to Compliance of CEA Standards :

V. Healthiness of Earthing of each equipment :

Sl	Equipment	Status on Healthiness of Earthing

VI. Details of Voice communication available between Sub-station and Control Centre :

Sl	Voice communication (Sub-station - Control Centre)	Status on Healthiness of Voice communication	Healthiness of air-conditioning of communication room as per OEM recommendation

VII. PLCC Details :

Number of Panels	Make and Model	Direction	Frequency (Tx & Rx) KHz	Status on Healthiness	Last preventive maintenance		Details of defects, if any, attended	Status of Availability of Spares	Conformation to Compliance of CEA Standards
					Schedule	Actual			

VIII. Radio Communication Details :

Number of Equipments	Make and Model	Status on Healthiness	Last preventive maintenance		Details of defects, if any, attended	Status of Availability of Spares	Conformation to Compliance of CEA Standards
			Schedule	Actual			

IX. Data Retention :
(i) Earliest Date of availability of data : _____
(ii) Historical data availability : ____ days.

X. Control Command Delay :
(i) Time delay in seconds from Control Centre for SCADA : ____ Seconds
(ii) Time delay in seconds from Control Centre for WAMS : ____ Seconds

XI. Wide Band Network :
(i) Absolute channel delay in protection applications : _____ ms
(ii) Channel delay asymmetry in protection applications : _____ ms
(iii) Switching Time delay to alternate path/route during failure of one path : _____ ms

XII. Any other information :

Audit Team Member NERPC | **Audit Team Member Co-Ordinator** | **Audit Team Member PGCIL (Internal / External)** | **Audit Team Member State (Internal / External)**

Annexure

GUIDELINES

ON

AVAILABILITY OF COMMUNICATION SYSTEMS

Prepared in Compliance

To

Central Electricity Regulatory Commission

(Communication System for inter-State transmission of electricity)
Regulations, 2017

January 2024

GUIDELINES ON AVAILABILITY OF COMMUNICATION SYSTEM

1. INTRODUCTION:

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

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

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

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

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

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

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

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

2. DEFINITION:

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

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

3. SCOPE AND APPLICABILITY:

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

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

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

3.4 **Responsibility of CTU and STU:**

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

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

c) CTU (or STU as the case may be) shall submit availability reports of configured channel including the redundant channels in format prescribed by RLDC/RPC, generated from the centralized NMS. The availability report of the call logging facility (with time stamp) may be provided till commissioning of centralized NMS for availability computation.

4. TREATMENT OF COMMUNICATION SYSTEM OUTAGES:

4.1 Outage time of communication system elements (i.e. channels) due to acts of God and force majeure events beyond the control of the communication provider shall be considered as deemed available. However, onus of satisfying the Member Secretary, RPC that element outage was due to aforesaid events shall rest with the communication provider.

4.2 Any outage of duration more than one (01) minute in a time-block shall be considered as not available for the whole time-block. Any outage of duration less than or equal to one (01) minute in a time-block shall be treated as deemed available provided such outages are not more than ten (10) times in a day.

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

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

5. METHODOLOGY FOR COMPUTATION OF AVAILABILITY OF COMMUNICATION SYSTEM:

5.1 Availability of Communication System **(A_{CS})** shall be calculated as under:

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

Where - N is total number of communication channels as specified in 3.4(a) above.

- A_i is Availability of i^{th} Channel which shall be calculated as given in 5.2 below.

5.2 Availability of i^{th} Channel (A_i) shall be arrived as under:

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

Where B_T is Total number of time-blocks in a month

B_{Ni} is the total number of time-blocks, in which i^{th} *channel was not available after considering deemed availability status of 4.1 & 4.2 above.*

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

Where-B_{ANi} is absolute number of time-blocks in which the i^{th} channel was 'not available' on account of any reason.

-B_{Gi} is Number of time-blocks out of B_{ANi}, in which i^{th} *channel was 'not available' on account of act of God as specified in 4.1 above.*

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

Illustrations:

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

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

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

6. Revision of these Guidelines

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

***

Minutes of the Meeting(Virtual mode) held on 09.05.2023 (Tuesday)regarding dual reporting of RTU, PMU, VOIP, AGC etc. applications

A meeting on the subject was held on 09.05.23 at 11:00 AM with participants from CEA, RLDCs, CTUIL, Grid-India, and POWERGRID. List of the participants is enclosed at Annexure-I. 2. At the outset Sr. .DGM (CTU) welcomed the participants and explained the agenda to all the participants. He requested all the participants to contribute their valuable suggestion for agenda to reach at some conclusion.

Agenda: Dual reporting of RTU, PMU, VOIP, AGC etc. applications on 2+2 channel to main RLDC and Backup RLDC

Presently, one data channel and one voice channel are routed for reporting to main RLDC and similarly one data & one Voice channel is reporting at backup RLDC.

It is proposed by GRID INDIA that to increase of the redundancy in the system at least two data channels and two voice channels shall be routed for reporting to main RLDC and another two data & two Voice channels shall report at backup RLDC.

A detailed deliberation in meeting dated 05/04/23 was done among RLDCs, POWERGRID, CEA for evolving a common planning philosophy for all regions.

In the meeting GRID INDIA stated that as per communication regulation 2017/IEGC dual channel reporting for all communication applications from each ISTS station is required for both main and back up RLDCs. This requirement has also been conveyed by ED, NLDC to ED, GA & C vide letter dtd.16.03.2020

It was stated in the meeting that present channel configuration operational at different RLDCs for main and back up CC respectively is as follows:

a) NRLDC:1+1 & 2+1(for few stations)

b) SRLDC:1+1

c) WRLDC:2+1

d) ERLDC:1+1

e) NERLDC:1+1

POWERGRID stated that they are designing the ISTS Communication system with 1+1 channel configuration i.e. one channel for main RLDC and one channel for back up RLDC.

However, CEA recommended as follows: Manual of Communication Planning in Power System Operation clause 4.1.2 states:- “To ensure redundancy with route diversity, each communication channel (working path) planned for the Users shall be provided with alternate channel (protection path) in different routes, i.e., the working path and protection path should be resource disjoint. For last mile connectivity to load dispatch center(s), additional redundancy in different route may be considered. In case of failure of the working path, the protection path shall be available for the required communication services.”

Therefore, dual redundancy may be planned for both main and back-up load dispatch centers.

At present following services are working on ISTS communication network:

- **i.** SCADA
- **ii.** PMU
- **iii.** Tele protection
- **iv.** Telecontrol
- **v.** AGC
- **vi.** Voice
- **vii.** Automated Metering Application
- **viii.** Telemetering
- **ix.** Video conferencing
- **x.** ICCP (between control canters)
- **xi.** PDC
- **xii.** PDC to PDC
- **xiii.** Supervision of communications System
- **xiv.** Video Surveillance
- **xv.** Data Sync between MCC & BCC

The above applications need to be deliberated for dual redundancy requirement.

POWERGRID shall implement this redundancy for both main and backup Regional load dispatch center(s) in all the regions wherever possible with the existing resources in coordination with GRID INDIA.

In case of any additional requirement for implementation of redundancy POWERGRID may update the details region wise i.e. availability of SAS gateway ports, spare ethernet ports in existing FOTE, new FOTE if any etc. . POWERGRID shall quantify these requirements along with tentative costs on Regional basis.

The action to be taken up by TSPs, IPPs, ISTS, ISGS besides POWERGRID also needs to be discussed.

Deliberations: CGM(SRLDC) explained that Main and Backup control centre is old terminology and now Main-I &Main-II control centre terminology is being used and at each control centre one main & one backup channel is required. Grid India(NRLDC) explained that at present data is being transmitted to respective main & Backup RLDCs using 101 protocol through terminal server/DCPC for old RTUs and by using 104 protocol for SAS. Grid India agreed to share this detail in a week time. Further, POWERGRID informed that RTUs are being replaced with SAS (104 PROTOCOL) as soon as their life is completed. POWERGRID shall share the plan for replacement of RTUs communicating on 101 Protocol.

POWERGRID queried that in CEA planning manual, only route redundancy is mentioned and no where port redundancy is stated. Hence it needs to be clarified whether port level redundancy is also required. CEA clarified that path should be resource disjoint and so both path and ports should be resource disjoint. POWERGRID (NR-ULDC), stated that there is constraint of ports for dual redundancy of SCADA data in the RTUs procured under sub-station package and agreed for upgradation of same subject to approval. POWERGRID further clarified that RTUs with sufficient ports for dual redundancy are being planned recently as requested by ED(NLDC) -GRID INDIA vide letter dated 16.03.2020.

At present PMU data is reporting to single location i.e. Main RLDC as per current planning under URTDSM project. Grid India further stated that PMU data is transmitted on dual channel through switch to main RLDC. Grid India require multi ports at PMU for dual redundancy. Further redundant communication between SLDC PDC to RLDC PDC, RLDC PDC to Main/backup NLDC PDC shall also be required.

Tele protection & Telecontrol are operated by TSPs and should be in dual redundancy.

For AGC services dual redundancy is already considered & being implemented by TSPs . Dual channels to Main and Backup NLDC are required for AGC.

For Voice dual redundancy is also required. For the same, exchange to exchange dual redundancy shall be planned. Exchanges are placed at all SLDCs &RLDCs. At present Substation to Exchange link level protection is already available.

For AMR dual redundancy is also required. At present single channel is reporting to RLDC. For video conferencing Grid India is requested to justify the requirement of dual redundancy as per industry practice as mentioned in ‘Manual For Communication Planning’ as suggested by CEA.

For ICCP dual redundancy is required for main RLDC to Backup RLDC, Main RLDC to main SLDC, Main RLDC to backup SLDC, Backup RLDC to Main SLDC, Backup RLDC to backup SLDC as planned under new SCADA system.

For PDC to PDC dual redundancy is also required. CTU requested Grid India to share the architecture of new SCADA,PDC communication, ICCP.

Supervision of communication channels & Video Surveillance are not used by Grid India. However, TSPs/ CTU may plan as per their requirement.

For data sync dual redundancy between MCC and BCC is also required.

ERLDC, Grid India suggested that planning for terminal equipment(SDH/PDH)at dual redundancy is also required. However, it is suggested that dual redundancy of terminal equipment may be planned for critical locations such as AGC, SPOFs(Single point of failures).

As per discussion, following applications are summarised below for dual redundancy up to existing and upcoming control centres of Grid India.

i. SCADA
ii. PMU
iii. AGC
iv. Voice
v. Automated Metering Application
vi. ICCP (between control canters)
vii. PDC to PDC
viii. Data Sync between MCC & BCC

Conclusion

1. Grid India shall share the data for all the RTUs/SAS , their connectivity type(single or dual redundancy) & all other relevant data for all the TSPs(IPPs, ISGS, TBCB,RTM etc.) within a week time.
2. POWERGRID shall analyse the existing system for dual redundancy and implement the dual redundancy with existing resources wherever possible.
3. POWERGRID shall further state the additional requirements of ports/cards/equipment etc. along with cost for implementation of dual redundancy to above mentioned services on priority where dual redundancy cannot be implemented because of resource constraints. Same shall be discussed at respective RPC forum and shall be finally approved in NCT.

Annexure-I

List of participants of the meeting

- **CEA**

1. Sh. Prateek Srivastava, Assistant Director, PCD
2. Sh. Akshay Dubey,
3. Ms. Priyam, Dy. Director, PSPA-I

- **CTUIL**

1. Sh. Shiv Kumar Gupta, Sr.DGM, CTUIL
2. Sh. Tej Prakash Verma, Ch.Mgr., CTUIL
3. Kalpana Shukla,DGM, CTUIL
4. Kaushal Suman, Manager, CTUIL

- **Powergrid**

1. Sh. Ajaya Kumar P, Sr.GM, ULDC
2. Sh. Satish Kr Sahare, GM, ULDC
3. Smt. Shyama Kumari, DGM, GA&C
4. Sh. Kapil Gupta, DGM, GA&C
5. Sh. Mahesh M, Ch. Mgr, ULDC
6. Sh. Narendra Kumar Meena, Ch. Mgr. ULDC
7. Sh. Santanu Rudrapal, Ch. Mgr, ULDC
8. Sh. Vishal Badlas, Mgr, GA&C
9. Sh. Kashif Bakht Muhammad Nabi, Dy. Mgr, ULDC
10. Sh. Ashish Kumar Das, Asst Mgr, ULDC

- **GRID- India**

1. Sh. MK Ramesh, CGM, SRLDC
2. Sh. Harish Kumar Rathour, GM, NLDC
3. Sh. Sanjeev, GM, WRLDC
4. Sh. L. Murlikrishna, Sr. DGM
5. Sh. Ankur Gulati, DGM, NRLDC
6. Sh. Sakal Deep, Engineer, NERLDC
7. Sh. Koti Naveen
8. Sh. Ananthakrishnan
9. Sh. Rakesh
10. Sh. Sudeep M
11. Bijender Singh Chhoer
12. P Doungel

RNOD (Recoded Notes of the discussion) of the virtual meeting held on 27.06.2023 (Tuesday) regarding dual redundancy of RTU, PMU, VOIP, AGC etc.

A meeting on cited subject was held on 27.06.2023 at 10:30 A.M. with the participants from CEA, RLDCs, CTUIL, GRID-India and POWERGRID. The list of the participants is enclosed at Annexure-I. At the outset Sr. GM (CTUIL) welcomed the participants and stated the requirement of two channels each at main and backup control centres, already discussed in the meeting held on 09.05.2023 and confirmed by PCD(CEA) subsequently. In view of this CTU requested the participants to provide their valuable views/suggestions for each application for the said redundancy.

Deliberation:

CTU stated that at present one data channel and one voice channel are routed for reporting to main RLDC and similarly one data & one voice channel is reporting at backup RLDC. However, during the meeting held on 09.05.2023, GRID-India requested for at least two data channels and two voice channels for reporting to each RLDC i.e. main RLDC and backup RLDC, to increase the redundancy in the system.

Further CTU stated to deliberate on all the data and voice applications being used from stations to control centres (CC) and among CCs viz SCADA,PMU, AGC,VOIP etc.. CEA suggested that the redundancy shall be developed in a phased manner and the constraints on the existing communication network shall be explicitly reviewed and taken up accordingly.

Detailed deliberations were held among GRID-INDIA-RLDCs, POWERGRID, CEA, CTU for the same and ISTS communication system was proposed for different services with redundancy:

1. SCADA

2. PMU

3. AGC

4. VOIP

5. Automated Metering Application(AMR)

6. ICCP (Between control centers)

7. PDC to PDC

8. Data sync between MCC & BCC

GRID-INDIA has submitted the data regarding present status of redundancy of these services which is enclosed as Annexure-I. POWERGRID has also submitted the data of utilization of optical fiber network for some links of Eastern region which is enclosed as Annexure-II. CTU again requested POWERGRID to provide requisite data for the implementation of said redundancy scheme.

It was also felt to analyze the enhancement required for the above mentioned 8 services on 2+2 redundancy as discussed below:

1. **SCADA :-** Currently SCADA is reporting through 1+1/2+1/2+2/1+0 (radial) channel in different regions. For 2+2 redundancy of SCADA data, it requires extra ethernet ports at RTU, SAS Gateway & FOTE along with suitable bandwidth in optical fiber network. CTU stated that POWERGRID shall provide data of utilized and spare ethernet ports for existing RTUs, SAS Gateways and FOTE and shall also asses the data for additional requirement of the said redundancy. POWERGRID agreed the same.
2. **PMU :-** POWERGRID stated that presently one port of central sector PMUs is split into two channels at MUX (SDH) level from where onwards one channel reports to NTAMC (PG) and other reports to PDC (RLDC). GRID-India stated that as at present there is no plan of backup PDC, hence PMU data may be sent to PDC at RLDC in 1+1 mode only. Accordingly, one additional channel is required from PMUs to RLDCs. POWERGRID is requested to check availability of additional port on PMU and FOTE along with bandwidth requirement for configuration of additional backup channel to RLDC. POWERGRID agreed the same.
3. **AGC :-** GRID-India-NLDC stated that **c**urrently 2 channels are reporting from generators up to HMI of the station and there after through fibre optic network to NLDC Main Control Centre (MCC). GRID-India explained that a separate RTU is provided to integrate the generator data and route it further through the existing FOTE. This is in addition to existing RTU/SAS Gateway reporting to RLDCs.. As per redundancy requirements of control centre, 2 additional channels for AGC from generator station (in addition to the SCADA data) are required for data reporting to Backup Control Centre (BCC). GRID-INDIA also

stated that AGC signal to generator is being planned from RLDC in future. POWERGRID is requested to check availability of ports on RTU (both SCADA and Generation), SAS Gateway of AGC system and FOTE for implementation of same. POWERGRID agreed the same.

4. **VOIP :-** POWERGRID stated that currently VOIP is communicating through single channel only. GRID-India stated that they require redundancy on Port level and additional port shall be required at VOIP phone, exchange & FOTE. As present VOIP exchange has completed its life, it is suggested that requisite features for VOIP phones & exchange shall be included during system upgradation/ replacement. POWERGRID agreed to provide relevant data for the same.
5. **AMR :-** GRID-India stated that new AMR architecture is in planning phase and they will provide required inputs after looking in architecture.
6. **ICCP :-** GRID-India stated that currently ICCP (Between NLDC, RLDC and SLDC) is working on 2 communication channels for main-to-main control center and 2 communication channels for backup to backup control center only. For redundancy, GRID-India requires 4 extra channels, 2 channels for main RLDC to backup SLDC communication and 2 channels for backup RLDC to main SLDC communication. POWERGRID is requested to provide additional requirements (if any) for implementation of same. POWERGRID agreed the same.
7. **PDC to PDC :-** GRID-India stated that at present '1' channel is provided between PDC(SLDCs) to PDC (RLDC), for redundancy in PDC(SLDCs) to PDC(RLDC) communication additional 1 channel is required as discussed in PMU above.
8. **Data Sync between MCC & BCC :-** GRID-India stated that presently 1 channel is working for data sync between Main Control Center and Backup Control Center i.e. main SLDC to backup SLDC, main RLDC to backup RLDC, main NLDC to backup NLDC, further it is required to provide 1 additional channel for redundancy.

As per above discussion POWERGRID is requested to provide the requisite data for implementation of redundancy of services as discussed above within 21 days. POWERGRID agreed for the same. Meeting ended after vote of thanks by SR.GM(CTU).

List of participants of the meeting

- **CEA**

1. Sh. Prateek Srivastava, Assistant Director, PCD
2. Ms. Priyam, Dy. Director, PSPA-I

- **CTUIL**

1. Sh. H.S. Kaushal, CGM, CTUIL
2. Sh. Shiv Kumar Gupta, Sr.DGM, CTUIL
3. Sh. Tej Prakash Verma, Ch.Mgr., CTUIL
4. Sh. Divesh Kamdar, AET, CTUIL

- **POWERGRID**

1. Sh. Satish Kr Sahare, GM, ULDC
2. Smt. Shyama Kumari, DGM, GA&C
3. Sh. Kapil Gupta, DGM, GA&C
4. Sh. Mangesh Shriram Bansod, DGM, IT
5. Sh. Sundeep Kumar Gupta, Ch. Mgr, GA&C
6. Sh. Narendra Kumar Meena, Ch. Mgr. ULDC
7. Sh. Santanu Rudrapal, Ch. Mgr, ULDC
8. Sh. Vishal Badlas, Mgr, GA&C
9. Sh. Hemanth Kumar, Asst. Mgr, ULDC

- **GRID- India**

1. Sh. Harish Kumar Rathour, GM, NLDC
2. Sh. Aukur Gulati, Ch. Mgr, NRLDC
3. Sh. Sakal Deep, Engineer, NERLDC
4. Sh. Akhil Singhal, NERLDC
5. Sh. P. Doungel, NERLDC
6. Sh. Amba Prasad Tiwari, NERLDC
7. Sh. Mohneesh Rastogi, NLDC
8. Sh. Ganesh, SRLDC
9. Sh. Rakesh, SRLDC
10. Sh. Ashutosh Pagare
11. Sh. Koti Naveen, WRLDC

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

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

CORAM:

Shri Jishnu Barua, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member

Date of Order: 19th January, 2024

In the matter of:

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

Order

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

2. Regulation 7.4, read with Regulation 14.2 of the Communication Regulations requires NLDC to prepare Guidelines on "Interfacing Requirements" in consultation with the stakeholders and submit the same for approval of the Commission.

3. Accordingly, NLDC has submitted the Guidelines on "Interfacing Requirements" after stakeholder consultation for approval of the Commission.

3.4. The communication media being used for data transfer and data rate shall be in accordance with the Central Electricity Authority(Technical Standards for Communication System in Power System Operations) Regulations, 2020.

4. Communication Interface

The Users shall support at least the following facilities and plan for communication interfaces accordingly at the time of implementation:

1. Real time data exchange including AGC/Control signal with Control Centre (Main & Backup).
2. Phasor data exchange
3. Meter data exchange
4. Protection signal transmission (SPS, Direct Tripping and Permissive Tripping Carrier Signal etc.)
5. Voice communication
6. Video Communication

Other requirements, if any, users may include while designing the local communication interface requirement.

The required communication interfaces shall be provided for both sending and receiving ends based upon jurisdiction/ownership. All the interfaces shall be provided with audio-visual status indication to indicate its normal operation as per relevant standards.

Users shall have functionality to support any of the interfaces given below based on requirement of data flow as per CEA/CERC guidelines from their respective end to control centres.

Interfaces are classified as following: -

1. Remote Station Interfaces
2. Control Centre Interfaces
3. Terminal Equipment Interfaces

4.1. Remote Station

"Interfacing Requirements" in respect of terminal equipment, Remote Terminal Unit (RTUs)/ Substation Automation System (SAS), Supervisory Control and Data Acquisition System (SCADA), Phasor Measurement Unit (PMU) /Phasor Data Concentrators (PDC), Automatic Generation Control

(AGC), Station Protection / System Protection Schemes (SPS), Automatic Meter Reading (AMR), Advanced Metering Infrastructure (AMI), etc. and for data communication is decided based on communication protocol used for transfer of data between user and respective control centres through dedicated and redundant communication channel with route diversity.

Remote end equipment like RTUs, PMUs, SAS, Metering Gateways, Meter Data Collection Unit, PLCs for AGC etc. shall report through communication protocol which is supported at the reporting Control Centre.

While designing the interface requirement of the remote locations, all the interfaces required for data (power system parameter, meter data, AGC/Control Signal), voice, video, protection signal shall be considered and shall be compatible with respective control centre as well as intervening Communication System equipment.

A typical General Arrangement drawing for a Remote Station is enclosed as ***Annexure-III***.

The interfaces shall be designed to operate under single contingency failure condition. Equipment should support interfaces with multiple ports, cards, gateways etc. and configured in redundant mode so that failure of single hardware element, i.e. communication port, card, gateway etc. of the users shall not lead to failure of data communication. Communication system shall be designed as per planning criterion to be notified by CEA.

Availability of communication links shall be maintained as per the CERC Communication Regulations, 2017. Further, the communication channel provided/configured for the real time data communication shall be made error free and shall not lead to intermittency in real time data at respective Control Centre.

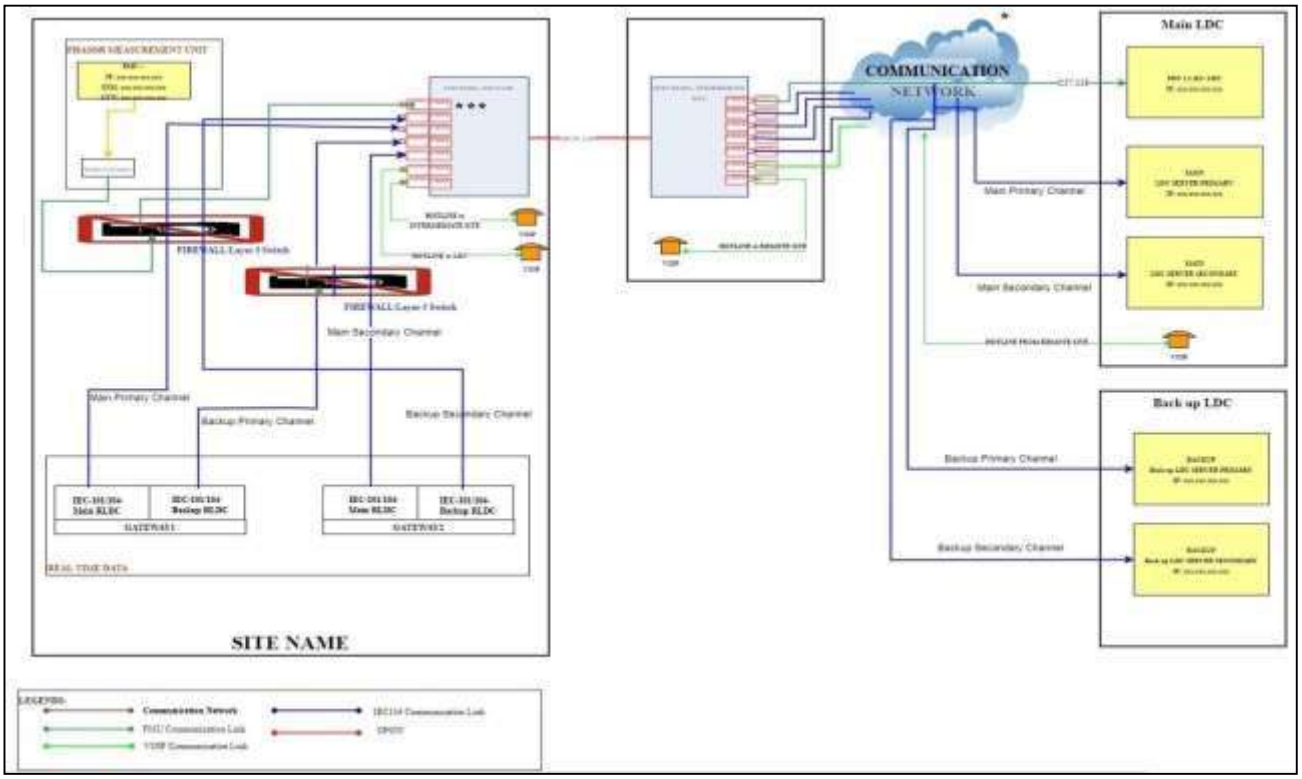
4.1.1. Remote Terminal Unit (RTU)/Substation Automation System (SAS)/PLCs

"Remote Terminal Units" (RTU) / Substation Automation System (SAS) is the device suitable for measuring, recording and storing the consumption of electricity or any other quantity related with electrical system and status of the equipment in real time basis and exchanging such information with the data acquisition system for display and control.

The RTU/SAS System /device should communicate with Control Centre front end system in either

ANNEXURE-III

Typical Remote Station General Arrangement Diagram having IEC-101/104 RTU



Annexure-III

Annexure B 2.3 iii

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

सेवा में / To,

Chief Operating Officer, CTUIL,
Saudamini Plot, Gurgaon

Subject: **Requirement of Dual redundancy of communication services – regd**

Reference: CTU email dated 07.06.2024

CTU vide above mentioned reference has forwarded SRPC's email seeking clarifications in respect of requirement of dual redundancy of communication services for the existing stations (TBCB/RTM).

1.1. In this regard, it may be noted that ensuring redundancy with route diversity is the requirement stipulated in CEA's Manual of Communication Planning in Power System Operation. Further, it was proposed by GRID INDIA that to ensure redundancy with route diversity, at least two data channels and two voice channels shall be routed for reporting to main RLDC and another two data & two Voice channels shall report at backup RLDC.

1.2. Also, with issuance of Guidelines on "Interface Requirements" under the CERC (Communication System for inter-State transmission of Electricity) Regulations, 2017, it has been made amply clear that suitable redundancy at port, card and gateway level needs to be ensured to avoid any single point of failure which may lead to interruption in real-time grid operation.

1.3. CTUIL has already convened meetings amongst POWERGRID, POSOCO, CTUIL and CEA (PCD) on 09.05.2023 and 27.06.2023, for examining the availability of two channels each from the ISTS stations to Main & Back-up Control Centers and to deliberate on the need for the same. Various applications of data, phasor and voice were deliberated during these meetings and requirement of the dual redundancy for different communication services used for ISTS was agreed as below:

i. SCADA
ii. PMU
iii. AGC

iv. Voice
v. Automated Metering Application
vi. ICCP (between control canters)
vii. PDC to PDC
viii. Data Sync between MCC & BCC

1.4. This called for modifications in the existing ISTS infrastructure, besides inclusion of the same in the scope of the upcoming TBCB/ RTM schemes.

1.5. The technical inputs for RfP of the upcoming TBCB/RTM schemes have been updated based on decision taken in meeting convened by PCD, CEA on 28.06.2023, to ensure the compliance of dual redundancy.

1.6. For the existing system, CTUIL, Powergrid and Grid India were requested to coordinate in identifying the immediate measures/upgradations to be undertaken to ensure the dual channel reporting, for the identified communication applications, from each ISTS station to main and back up RLDCs.

भवदीय
Signed by Suman Kumar Maharana
Date: 22-07-2024 14:20:59

(एस.के.महाराणा / **S. K. Maharana**)
मुख्य अभियन्ता /**Chief Engineer (PSCD)**

Copy to:

1. Member Secretary, SRPC

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कारपोरेशन ऑफ इण्डिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उद्यम)
CENTRAL TRANSMISSION UTILITY OF INDIA LTD.
(A wholly Owned Subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref: C/CTU/COMM **Date:** 11/09/2024

To,
As per distribution list

Sub: Regarding RPCs view on the agenda to be put up in upcoming 15th NPC meeting.

Dear Sir/Madam,

This is with reference to the agenda sent by CTUIL for the upcoming 15th NPC meeting (Agenda attached at ***Annexure-I***). NPC after reviewing the agenda suggested CTU to seek the views of RPCs on the following two agenda:

A.3. Methodology for replacement of old ISTS communication elements e.g. OPGW and FOTE who have lived their useful life as per CERC tariff regulation.

A.4. Dual reporting of ISGS/RE Remote stations to RLDC Main and Backup Control centers.

In view of the above, RPCs are requested to give their valuable views/comments/suggestions within fortnight in order to take up the same for the deliberation in the subject NPC meeting.

Thanking you,

Yours faithfully,

(H.S. Kaushal)
Sr. GM (CTUIL)

List of Addresses:

1.	Member Secretary, Northern Regional Power Committee 18-A, Qutab Institutional Area, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110 016	2.	Member Secretary, Southern Regional Power Committee 29, Race Course Cross Road Bangalore – 560 009
3.	Member Secretary, Western Regional Power Committee MIDC area, Marol, Andheri East , Mumbai -400093	4.	Member Secretary, Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata-700033
5.	Member Secretary, North Eastern Regional Power Committee (NERPC) Meghalaya State Housing Finance Co-operative Society Ltd. Building Nongrim Hills, Shillong, Meghalaya – 793003		

Minutes for 6th Meeting for Planning of Communication system for Inter-State Transmission system (ISTS) of North Eastern Region held in virtual mode (MS-Teams) on 23rd Aug 2024.

The Meeting started with opening remarks from Sr. DGM (CTU) and brief introduction of participants. He welcomed all the participants in the 6th communication planning meeting of North-Eastern region. He further added that CTUIL is carrying out ISTS communication system planning as per various associated CEA guidelines and CERC 2017 regulations.
List of participants is attached at **Annexure II.**

A. New Agenda Items

1. Missing link OPGW in 132 kV Karong-Kohima line: By NERLDC

NERPSIP-Manipur has laid OPGW from Karong (in Manipur) up to Mao (the border of Manipur and Nagaland). However, there is currently no project planned to extend the OPGW from Mao to Kohima, which is necessary to complete the link from Karong to Kohima. This line is an ISTS connection between the two states. The OPGW connectivity will enhance the reliability and redundancy of the power systems in both Manipur and Nagaland, as well as for the entire Northeastern Region (NER). The implementation of OPGW from Mao to Kohima should be discussed in the forum.

Members may deliberate.

Deliberation:

NERLDC stated that in 132kV Karong-Kohima line, NERPSIP-Manipur has laid OPGW from Karong (in Manipur) up to Mao (the border of Manipur and Nagaland).OPGW connectivity may be planned in the Nagaland portion of this line so that data of this ISTS line will report to NERLDC for assessing the drawl and demand of power.

CTU stated that in the 32nd CMETS meeting of NER region held on 26.06.2024,DoP Nagaland has agreed to install OPGW and associated equipment in the Nagaland portion.

The forum referred this agenda to the upcoming NETeST meeting so as to confirm the same and its completion timeline from DoP Nagaland.

2. PK Bari(state)- Dullavcherra - Dharamnagar OPGW connectivity:By NERLDC

The forum would like to bring attention to the fact that Dharmanagar and Dullavcherra are state drawal points for Tripura and Assam, respectively. These stations have been deprived of OPGW connectivity for a long time, resulting in their data not being reported to SLDCs and NERLDC. Since these points are connected via the ISTS element 132 kV Dullavcherra - Dharmanagar line, their monitoring is imperative for NERLDC. Therefore, the forum requests a discussion on laying OPGW on the PKBari (state) - Dullavcherra - Dharmanagar section to connect Dharmanagar and Dullavcherra with the ULDC Network.

Members may deliberate.

Deliberation:

NERLDC described the agenda and stated that OPGW connectivity for the ISTS links mentioned in agenda is crucial for grid parameter monitoring of the concerned states.

CTU stated that the ISTS links mentioned in agenda have the ownership of states so states have the first right to lay OPGW. However, if the states do not agree then it may be considered to lay OPGW in ISTS schemes.

Tripura stated that for the Dharamnagar to Dullavcherra line, Tripura has submitted a proposal to CEA for OPGW laying along with reconductoring of the line in their section. But, this is in proposal state only and hence it may be considered to lay OPGW in ISTS scheme.

NERLDC/Tripura/Assam stated that these being important ISTS lines, OPGW laying may be done in ISTS scheme rather than by states.

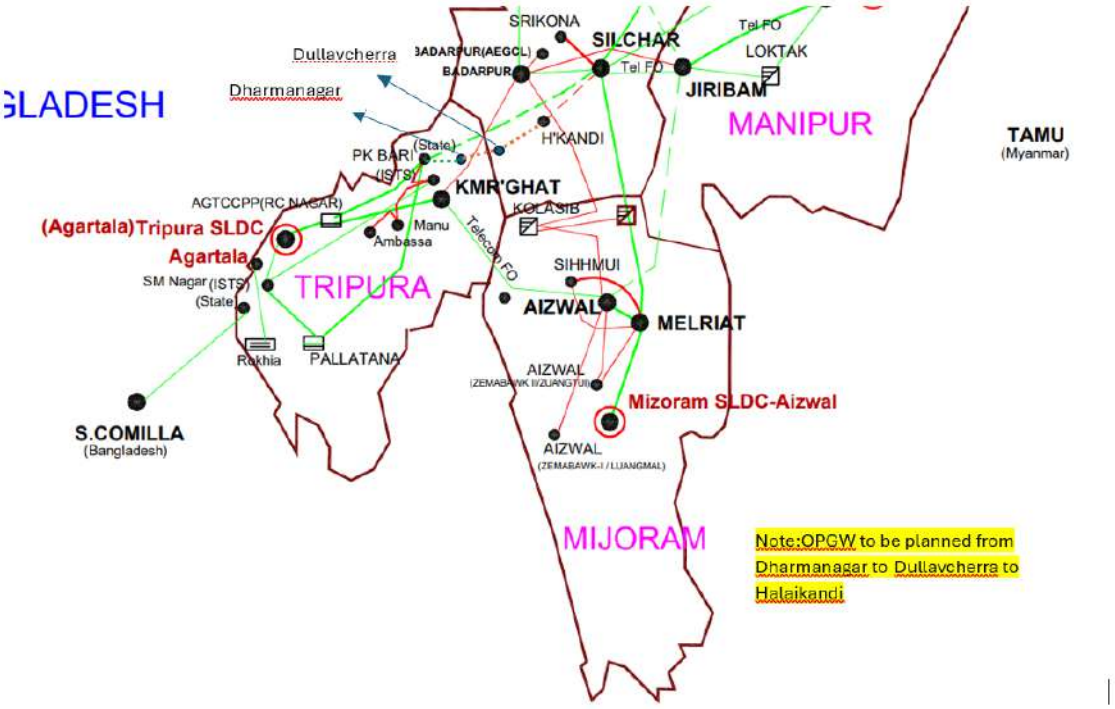
CTU asked if the OPGW connectivity as proposed in the agenda can be included in NERPSIP scheme. NERLDC stated that NERPSIP scheme is on the verge of closing and as such no quantity amendment is possible.

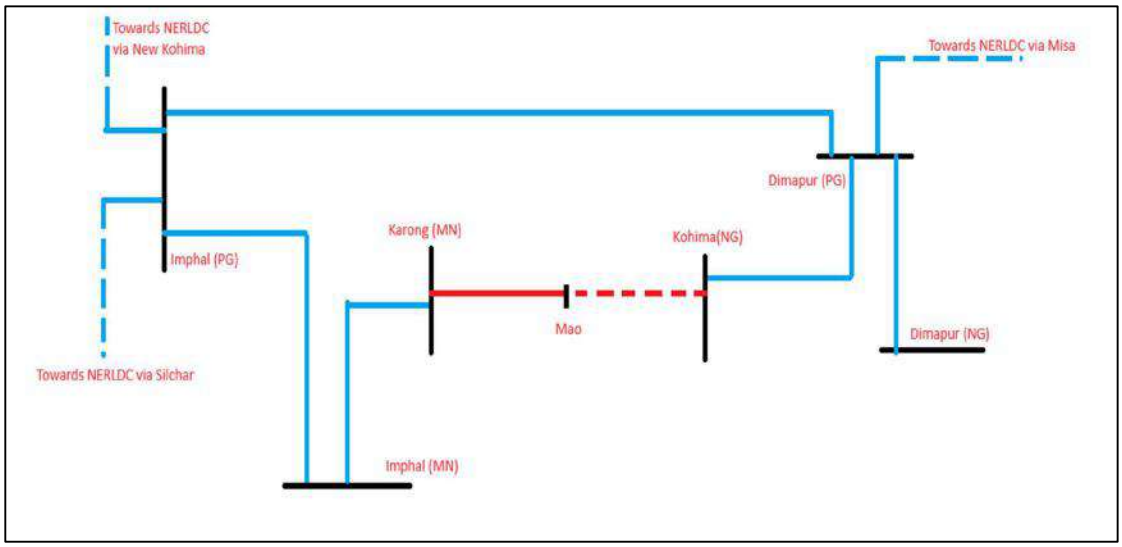
Tripura stated that from P K Bari(state)-Dharamnagar(35km) OPGW laying is done in NERPSIP scheme but equipment commissioning is pending.

POWERGRID stated that from Halaikandi-Silchar, OPGW is laid but equipment commissioning is pending.

It was agreed in the forum that OPGW laying from Dharamnagar- Dullavcherra(37km) and Dullavcherra- Halaikandi(35km) may be planned either in ISTS scheme or alternatively, PGCIL may include this portion under any existing OPGW scheme of NER, so as to connect these stations on OPGW and ISTS OPGW connectivity is also strengthened in NER.

CTU requested Tripura/Assam to confirm the line length, line ownership, equipment/interface requirement at either end of the lines Dharamnagar-Dullavcherra and Dullavcherra- Halaikandi (Assam line) for preparation of the scheme. Tripura/Assam agreed with the same.





Deliberation of the sub-committee:

Nagaland informed the forum that DOP-Nagaland has sought funding from State Development Authority (Nagaland) for the OPGW link between Mao to Kohima, which is unlikely to get approval. MS, NERPC opined that in case of nonavailability of State fund, DOP-Nagaland can prepare a DPR and submit to PSDF under State Reliable Communication Scheme or any other suitable scheme for 100% funding from PSDF. The forum requested Nagaland to submit the DPR within two months.

The sub-committee noted as above.

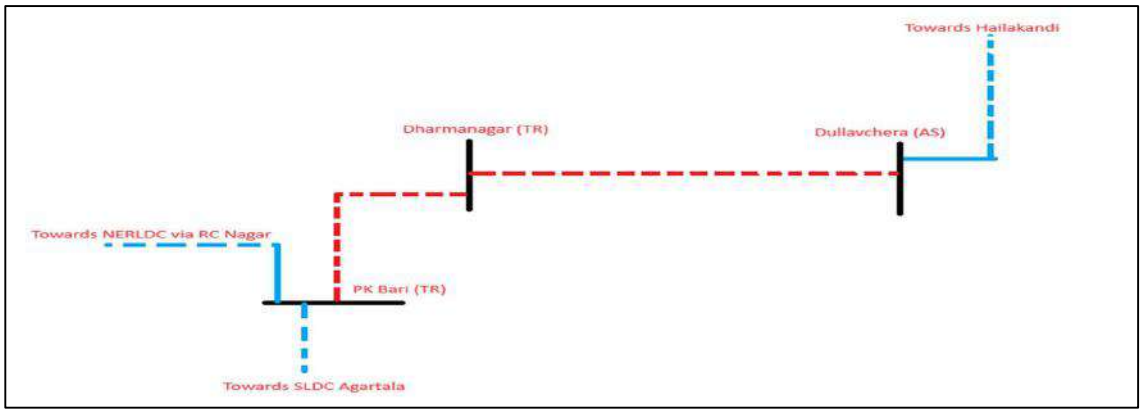
2.11. Dharmanagar-Dullavcherra OPGW connectivity.

We would like to bring attention to the fact that Dharmanagar and Dullavcherra are state drawl points for Tripura and Assam, respectively. These stations have been deprived of OPGW connectivity for a long time, resulting in their data not being reported to SLDCs and NERLDC. Since these points are connected via the ISTS element 132 kV Dullavcherra - Dharmanagar line, their monitoring is imperative for NERLDC. Therefore, the forum requests a discussion on laying OPGW on the Dharmanagar - Dullavcherra - Hailakandi section to connect Dharmanagar and Dullavcherra with the ULDC Network.

NERLDC had put up this agenda in the 6th Communication Planning Meeting (CPM) of CTU for NER Region held in 23-08-2024. During the deliberation, Tripura official has confirmed that in the P K Bari (TR) to Dharmanagar (TR) portion, OPGW has already been installed under NERPSIP, but FOTE installation is pending. Assam and Tripura officials requested to implement OPGW in the Dharmanagar to Dullavcherra to Hailakandi portion [(37+35) km ~ 72 km length] for better data availability. Finally, CTU has agreed to initiate a fresh proposal to implement OPGW in the Dharmanagar to Dullavcherra to Hailakandi portion. Alternately, CTU has asked PGCIL to include this portion under any existing OPGW scheme.

NERPSIP is requested to intimate the forum the target date of completion of FOTE installation in the P K Bari (TR) to Dharmanagar (TR) portion.

PGCIL is requested to intimate the forum about the possibility of inclusion of the Dharmanagar to Dullavcherra to Hailakandi portion under any on-going OPGW projects.



Deliberation of the sub-committee:

NERLDC updated the discussion of 6th CPM to the forum where it was agreed for OPGW laying from Dharamnagar- Dullavcherra(37km) and Dullavcherra-Halaikandi(35km) will be planned either in ISTS scheme or alternatively, PGCIL was requested to include this portion under any existing OPGW scheme of NER, so as to connect these stations on OPGW and ISTS OPGW connectivity is also strengthened in NER.

However, ULDC- NERTS (PGCIL) has informed that no communication has been received from CTU and once they receive the communication from CTU, ULDC will take up with their higher management accordingly. NERLDC has assured to share the minutes of 6th CPM with ULDC-NERTS(PGCIL), as and when issued by CTU.

For the OPGW section P K Bari – Dharmanagar (under NERPSIP), TSECL informed that OPGW is laid and FOTE has been commissioned in P K Bari side. FOTE is yet to be commissioned in Dharmanagar side. NERPSIP-Tripura informed the forum that the FOTE commissioning shall be completed within one month i.e. by Sep'24. NERLDC requested NERPSIP to integrate the data of 132 kV Dharmanagar at the earliest.

The sub-committee noted as above.

2.12. Connectivity of OPGW for 132 kV Kumarghat - PK bari for redundancy of Communication System of Tripura.

On 07/07/2024, at 1900 hrs, a technical issue at RC Nagar has led to the failure of the 132 kV RC Nagar-Kumarghat link. As a result, the VoIP, PMU, and RTU services of 400 kV SM Nagar, 400 kV PK Bari, Palatana, and RC Nagar were not available at NERLDC. The outage lasted for over 20 hours, with restoration completed by 16:00 hrs on 08/07/2024. To improve connectivity, it is requested to operationalize OPGW on the 132 kV Kumarghat-PK Bari line.

NERLDC had put up this agenda in the 6th Communication Planning Meeting (CPM) of CTU for NER Region held in 23-08-2024. During the deliberation, Tripura official has confirmed that in the Kumarghat(PG) to P K Bari (TR) portion, OPGW and FOTE have already been installed under NERPSIP, but inter-patching is yet to be done.

This link can be connected further to RC Nagar via the existing OPGW (owned by Indigrid) on the 132 kV RC Nagar (NO) - PK Bari (TR) line.

Annexure B 2.10

GRID CONTROLLER OF INDIA LIMITED
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
Formerly known as Power System Operation Corporation Limited (POSOCO)
(A Government of India Enterprise)
North Eastern Regional Load Despatch Centre (NERLDC)
PO Rynjah, Lapalang, Shillong-793006 (Meghalaya)
Tel.: (0364) 2537427, 2537486 Fax: (0364) 2537470

Ref No: NERLDC/SL/SCADA/F/050/ **दिनांक/Date:06.01.2025**

सेवा में/To (Through e-mail)

1. Dy. General Manager (MRT), AEGCL, Narengi,Guwahati-781026, Assam.
2. Senior General Manager (Project/ULDC), NERTS, POWERGRID, Lapalang Shillong.
3. Executive Engineer (SM), NEHU S/S, MePTCL, NEHU Campus, Umjarain, Shillong-793022
4. Dy. General Manager, SLDC, TSECL,79 Tilla S/S, Agartala-799006
5. Executive Engineer (SLDC), Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111.
6. General Manager (Trans/SLDC), MSPC Ltd, Keishampat, Imphal-795001 Manipur.
7. Superintending Engineer (SLDC), P&ED, Tuikhuahtlang, Aizawl-796001
8. Executive Engineer (SLDC), Dept. of Power, Govt. of Nagaland, Full Nagarjan, Dimapur.
9. Sr. Manager (Elect) Loktak HEP, NHPC, Vidyut Vihar, Komkeirap, Manipur-795124.
10. Manager (Elect), OTPC Ltd, Udaipur, Kakraban Road, South Tripura-799116
11. Sr. Manager (Elect) O/o E.D (O&M), NEEPCO Ltd, Lower New Colony, Shillong-793001
12. AGM (O&M), NTPC Ltd, P.O SALAKATI, Dist.: KOKRAJHAR, Assam-783369.
13. Dy. General Manager (Upper Assam T & C circle), AEGCL, Kadamoni, Dibrugarh-786612, Assam.
14. Vice President, Asset Management, STERLITE Power, Bhopal-462020.
15. CEO, KMTL, Chandan Nagar, Beltola, Guwahati-781028.

विषय/Sub: सप्ताह (30.12.2024-06.01.2025) के लिए डेटा/वॉयस संचार लिंक और एनालॉग/डिजिटल स्थिति के प्रदर्शन के साथ साप्ताहिक टेलीमेट्री स्थिति/ Weekly Telemetry status with performance of Data/Voice Communication links and Analog/Digital Status for the week (30.12.2024-06.01.2025).

महोदया / महोदय / Madam/Sir,

कृपया अपनी जानकारी और आवश्यक कार्रवाई के लिए विषय वस्तु पर रिपोर्ट संलग्न प्राप्त करें / Please find enclosed herewith the report on the subject matter for your kind information and necessary action.

Encl: as above.

Yours Sincerely,

Palash Jyoti Borah

Digitally signed by Palash Jyoti Borah
Date: 2025.01.07 18:03:46 +05'30'

पलाश ज्योति बोराह/**Palash Jyoti Borah**
प्रबंधक (एस एल)(/ Manager (SL)

प्रति /CC (through email for kind information):

1. Member Secretary, NERPC, Adj. POWERGRID Complex, Lapalang, Shillong-793006.
2. Executive Director, NERTS, POWERGRID, Lapalang, Shillong-793006.
3. Superintending Engineer (SLDC) MePTCL NEHU S/S, Umjarain, Shillong-793022.
4. Engineer in Chief (Power), Dept. of P&E, Govt. of Mizoram, Aizawl-796001.
5. Chief Engineer (West), Dept. Of Power, Govt. of Ar. Pradesh, Itanagar-791111.
6. Chief Engineer (Power), Dept. Of Power, Govt. of Nagaland, Kohima-797001.
7. General Manager (Plant), OTPC Ltd, Udaipur, Kakraban Road, South Tripura-799116.
8. Addl. General Manager, (C& SO), Banamalipur, Agartala-799001.
9. Chief. General Manager (SLDC), AEGCL, Kahilipara, Guwahati-781019.Assam.
10. Executive Director, NERLDC, GRID-INDIA, Shillong-793006.

ULDC Scheme; Summary sheet (Week ending on 06.01.2025)

A. Urgent/Important Issues of North Eastern Region :

-NAN-

B. Status of upcoming projects

Name of new element	Owner	Rating	Expected date of commissioning	Status of voice communication and telemetry data
Nil				

C. Voice communication Status / Failure

a. **Voice Communication**: ULDC phones are not working at the following location.

1. BgTPP (Unit - 1): 23640036
2. Doyang: 23640219
3. Palatana_OTPC: 23640032

D. Kind attention :

Sl No.	संघटक / Utilities	Total No.of RTU	No. of RTU reporting last week	No.of RTU reporting	Other remarks
1.	एन ई आर टी एस, पावर ग्रिड/ NERTS, POWERGRID	23	22	22	• Only one Channel is working/established for Kopili Extension. **Note:** Refer ***Annexure-I*** for details
2.	नीपको/NEEPCO	09	07	07	• Only one communication channel of voice and data is working/established for Kopili, Ranganadi. • Dedicated Standby data Channel yet to be established for Pare HEP. • Data of Khandong (NEEPCO) is not reporting after flooding incident. **Note:** Refer ***Annexure-I*** for details
3.	एनटीपीसी/NTPC	01	01	01	**Note:** Refer ***Annexure-I*** for details
4.	एनएचपीसी/NHPC	01	01	01	**Note:** Refer ***Annexure-I*** for details
5.	ओ टी पी सी/OTPC	01	01	01	**Note:** Refer ***Annexure-I*** for details
6.	के एम टी एल/ KMTL	01	01	01	**Note:** Refer ***Annexure-I*** for details
7.	स्टरलाइट/STERLITE	02	01	01	**Note:** Refer ***Annexure-I*** for details
8.	असम/ASSAM	87	70	77	**Note:** Refer ***Annexure-II*** for details
9.	मेघालय/MEGHALAYA	28	28	28	• Digital Input status in majority of the stations not telemetered. • Tap position status in majority of the stations not telemetered. • Redundant communication path not available in majority of the stations. **Note:** Refer ***Annexure-III*** for details

Sl No.	संघटक / Utilities	Total No.of RTU	No. of RTU reporting last week	No.of RTU reporting	Other remarks
10.	त्रिपुरा/TRIPURA	27	10	10	• Data of majority of the stations not available. • Non availability of communication in several stations resulting in non-reporting of RTU. **Note:** Refer ***Annexure-IV*** for details
11.	मणिपुर/MANIPUR	17	02	03	**Note:** Refer ***Annexure-V*** for details
12.	मिज़ोरम/MIZORAM	11	04	03	• RTUs at the following grid connected stations are not yet installed: i) 132kV Melriat (State). ii) 132kV Bairabi. iii) 132kV Vankal. iv) Serlui HEP (3x4 MW) **Note:** Refer ***Annexure-VI*** for details
13.	नागालैंड'/NAGALAND	17	05	06	• Multiple RTUs are not reporting due to non-availability of communication system. • RTUs at the following grid connected stations are not yet installed: i) 132kV Meluri. ii) 66kV Nagnimora. iii) 66kV Tizit. **Note:** Refer ***Annexure-VII*** for details
14.	अरुणाचल प्रदेश/ARUNACHAL PRADESH	18	07	07	• Multiple RTUs are not reporting due to non-availability of communication. • Installation and integration activities of VSAT at 132kV Daparizo Station is pending. **Note:** Refer ***Annexure-VIII*** for details

All Constituents (POWERGRID-NERTS/ NEEPCO/ NTPC/ NHPC/ OTPC/ KMTL/ STERLITE/ MePTCL/ AEGCL/ TSECL/ MSPCL/ P&ED Mizoram/ DoP-Nagaland/ DoP-Arunachal Pradesh) may please see relevant annexures enclosed.

Palash Jyoti Borah
Digitally signed by Palash Jyoti Borah
Date: 2025.01.07 18:04:28 +05'30'

Prepared By:
शक्ति मयंक सिंह / Shakti Mayank Singh
अभियंता (एस एल)/Engineer(SL)

Reviewed By:
पलाश ज्योति बोराह**/Palash Jyoti Borah**
प्रबंधक (एस एल/(Manager)SL)

ANNEXURE-I

अनैलॉग और डिजिटल स्टेटस आई एस ज़ी एस / आई एस टी एस के / ANALOG AND DIGITAL STATUS OF ISGS/ISTS (as dated 06.01.2025,)

RTUs of ISGS/ISTS:

Sl. No.	आर टी यू / RTU	स्वामित्व / OWNER	Time	अनैलॉग/ ANALOG	डिजिटल / DIGITAL
1.	**AIZAWL/**आइज़ोल	PG	11:15	All analog data are available.	Following digital data not available: • Master trip relay 86A/B of 20 MVAR Reactor.
2.	**BADARPUR/**बदरपुर	PG	11:16	Following analog data not available: • Ambient Temp & Relative Humidity.	All digital data are available.
3.	**BALIPARA/**बालीपारा	PG	11:18	Following analog data not available: • Tap position of 220/132 kV 160 MVA ICT.	Following digital data not available: • CBs and Isolators Bongaigaon-3 & 4 are suspected. • CB of BNC1 & MISA1 is showing in between status. • Main CB ICT 2(400/220 kV) HV side showing in between status.
4.	**BONGAIGAON /**बोंगाईगांव	PG	11:20	Following analog data not available: • Tap position of all ICTs.	Following digital data not available: • Isolator 80 MVAR BR-4 showing suspected. • Isolator of ALIPURDUAR 1. • Tie isolator of ALIPURDUAR 2.
5.	**BGTPP (BTPS)/**बीटीपीएस	NTPC	11:22	Following analog data not available: • 400 KV Bus-3 HZ.	Following digital data not available: • Master trip relay 86A/B of Unit-1.
6.	**BISWANATH CHARIALI (HVDC)/**बिस्वानाथ चरियाली	PG	11:24	Following analog data not available: • Tap Position of Pole 1 & 2 Converter Transformer. • Pole 1 & 2 fang (DEG) showing suspect.	Following digital data not available: • Pole-1 & 2 main line isolator. • Master Relay 86A/86B BNC line 1 and 2. • Master Trip Relay 86A/86B Ranganadi 1 & 2, Balipara 1, 2, 3 & 4 Line. • Main CB Subansiri-2.
7.	**DIMAPUR/**दीमापुर	PG	11:25	All analog data are available.	All digital data are available.
8.	**DOYANG/**दोयांग	NEEPCO	11:26	Following analog data not available: • Tap position of ICT-1.	Following digital data not available:

Sl. No.	आर टी यू / RTU	स्वामित्व / OWNER	Time	अनैलॉग/ ANALOG	डिजिटल / DIGITAL
					• Master trip relay 86A/86B is suspected of all bays & Generating Unit. • RGMO and FGMO of all Generating Unit.
9.	**HAFLONG/**हाफलोंग	PG	11:26	All analog data are available.	All digital data are available.
10.	**IMPHAL/**इम्फ़ाल	PG	11:29	Following analog data not available: • 132kV bus 3 Hz & kV.	Following digital data not available: • ICT-2 (400/132 kV) HV and LV side Isolators. • ICT-2 (400/132 kV)LV side Isolators. • Lokta_NH Bus-1 Isolator. • Thoubal-1 Main Isolator.
11.	**ITANAGAR/**इटानगर	PG	11:30	All analog data are available.	Following digital data not available: • Master trip relay 86A or 86B is suspected for 132kV Lekhi Line. • Master trip relay 86A or 86B is suspected for Load side of 132/33 kV ICT-1.
12.	**JIRIBAM/**जिरीबाम	PG	11:31	All analog data are available.	All digital data are available.
13.	**KUMARGHAT /**कुमारघाट	PG	11:32	Following analog data not available: • Tap position of ICT-1. • 132/33 kV ICT-1 LV side MW and MVAR.	All digital data are available.
14.	**KHLEIHRIAT/** ख्लीहरियट	PG	11:32	All analog data are available.	All digital data are available.
15.	**KHANDONG/** खांडोंग	NEEPCO	11:34	Following analog data not available: • BUS -1 HZ • UNIT-1 & UNIT-2 All Analog Value. • KOPILI-1 & KHLEIRIAT-1 LINE MW & MVAR.	Following digital data not available: • Unit-1 & Unit-2 Bays All Digital Value. • Bus Coupler Bays All Digital Value. • Master trip relay 86A or 86B is suspected for Kopili-1 & Kopili 2 Line. • Master trip relay 86A or 86B is suspected of UNIT-1 & 2. RGMO & FGMO status suspected UNIT-1 & 2.
16. `	**KOPILI/**कोपिली	NEEPCO/PG	11:35	All analog data are available.	Following digital data not available:

Sl. No.	आर टी यू / RTU	स्वामित्व / OWNER	Time	अनैलॉग/ ANALOG	डिजिटल / DIGITAL
					• Master trip relay 86A/B of all Units showing suspected. • RGMO status suspected of all UNITs.
17.	**KATHALGURI** /कठलगुरी	NEEPCO	11:36	Following analog data not available: • Tap position of all ICT-1 and ICT-2.	All digital data are available.
18.	**LOKTAK**/लोकटक	NHPC	11:38	All analog data are available.	Following digital data not available: • ICT-1 HV side CB (showing in between status). • Imphal (PG) line Bus -2 isolator. • 89 L isolator of Jiribam (PG) line. • RGMO status suspected of all UNITs.
19.	**MARIANI**/मरियानी	PG	11:39	All analog data are available.	All digital data are reporting.
20.	**MISA**/मिसा	PG	11:41	Following analog data are not available: • Tap position of all ICTs.	Following digital data not available: • Silchar(PG) -2 line Reactor CB showing In Between Status.
21.	**MELRIAT**/मेलरियट	PG	11:41	All analog data are available.	All digital data are available.
22.	**MOKOKCHUNG**/मोकोकचुंग	PG	11:42	All analog data are available.	All digital data are available.
23.	**NAMSAI**/नमसाई	PG	11:42	All analog data are not available.	All digital data are not available.
24.	**PALATANA**/पलाटना	OTPC	11:44	All analog data are available.	Following digital data not available: • RGMO of GT Generator 1 & 2. • SPS-2 & 3 HSR off.
25.	**PARE**/पारे	NEEPCO	11:45	Following analog data not available: • Tap position of ICT-1.	Following digital data not available: • RGMO & FGMO status of UNIT-1&2 .
26.	**PANYOR (RANGANADI)** /पनयोर (रंगानदी)	NEEPCO	11:46	Following analog data not available: • Tap position of all ICTs. • 400 KV Bus-1 HZ.	Following digital data not available: • Line Isolator data of 400kV 80MVAR BR. • RGMO & FGMO status of UNIT-1, 2&3 .
27.	**RC NAGAR (AGTCCPP)**/ आर सी नगर	NEEPCO	11:48	Following analog data not available:	Following digital data not available:

Sl. No.	आर टी यू / RTU	स्वामित्व / OWNER	Time	अनैलॉग/ ANALOG	डिजिटल / DIGITAL
	(एजीटीसीसीपीपी)			• Tap position of all ICTs. • Unit-2 LV side MW & MVAR. • Bus-1 HZ & Kv.	• 89 L for 132kV Agartala - 1, 132kV Agartala-2, 132kV Kumarghat line Isolator is showing incorrect position. • Isolator data of HV side of ICT-1 & 2.
28.	**ROING** / रोइंग	PG	11:48	Following analog data not available: • Tap position of all ICTs.	All digital data are available.
29.	**SALAKATI**/सालाकाटी	PG	11:49	Following analog data not available: • Tap position of 220/132 kV ICT-3.	All digital data are available.
30.	**SILCHAR**/सिलचर	PG	11:51	Following analog data not available: • Tap position of 400/132 kV ICT-1.	Following digital data not available: • Master trip relay 86A or 86B of 400kV Melriat line-1. • Master trip relay ICT-3 (400/132 kV) and Master trip relay of ICT-1 &2 (400/132 kV) showing incorrect value.
31.	**TEZU**/तेज़ू	PG	11:52	Following analog data not available: • 132 kV Hailapani load line MW and MVar.	Following digital data not available: • Hailapani loads Bay's all digital data. • Master trip relay of Roing & Hailapani showing incorrect value.
32.	**ZIRO**/ज़ीरो	PG	11:52	All analog data are available.	All digital data are available.
33.	**KAMENG**/कामेंग	NEEPCO	11:53	Following analog data not available • 400kV Transfer Bus Hz.	Following digital data not available: • RGMO & FGMO status suspected of UNIT-2,3&4, and RGMO of unit-1.
34.	**NEW KOHIMA**/न्यू कोहिमा	KMTL	11:54	All analog data are available.	All digital data are available.
35.	**PK BARI**/पी के बारी	STERLITE	11:56	All analog data are available.	All digital data are available.
36.	**SURAJMANI NAGAR**/सूरजमनी नगर	STERLITE	11:58	All analog data are available.	Following digital data not available: • Suraj_ST B/R-1 & 2 SPS OFF. • Master trip relay 86A or 86B of 400kV Palatana

Sl. No.	आर टी यू / RTU	स्वामित्व / OWNER	Time	अनैलॉग/ ANALOG	डिजिटल / DIGITAL
					line-1 & 2, Budhjunagar & Surajmani Nagar.

Kind Attn: POWERGRID/NEEPCO/NHPC/KMTL/STERLITE/OTPC/NTPC/NEEPCO:

- Due to technical constraint, tap position status of Generating unit transformer is excluded.
- ***Changes from last week are highlighted in red color*.**

ANNEXURE-II

अनैलॉग और डिजिटल स्टेटस असम राज्य के स्टेशन का / ANALOG AND DIGITAL DATA STATUS OF ASSAM STATE --Status checked on (on 06.01.2025)

Sl. No.	आर टी यू स्टेशन / RTU STATION	TIME	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	**Agia/**अगिया	11:24	Following analog data are not available: • Tap position of all ICTs. • 132 kV Main Bus kV and Hz. • HATSINGIMARI-2-line MW & MVAR.	Following digital data are not available: • 132 kV Bus Coupler Bay all digital data. • 220/132 kV ICT-2 LV side bay isolator data. • Main bus & line isolator of 132 kV Mendipather line. • Transfer bus isolator of 132 kV NANGLABIBRA line. • HATSINGIMARI-2-line Bay all digital data. • 220/132 kV ICT-3 LV side isolator data.
2.	**AIIMS/**एम्स	11:25	All analog data are available.	Following digital data are not available: • Main CB of Kahel_AS and AMNGN_AS.
3.	**Amingaon/**अमीन गाँव	11:28	Following analog data are not available: • Tap position of all EDB_T1 • 132 kV Bus-2 Hz. • 220 kV Bus-2 Hz.	All digital data are available.
4.	**APM/**ए पी एम	11:28	All Analog data are reporting.	All digital data are reporting.
5.	**Azara/**अजारा	11:28	Following analog data are not available. • MVAR of Mirza line 1.	Following digital data are not available: • All digital data of Mirza line-1 is suspect.
6.	**Mirza/**मिर्ज़ा	11:31	Following analog data are not available: • All ICTs Tap position.	Following digital data are not available: • 400KV Bongaigaon line Bus-1& Line isolator.

7.	**Badarpur (Panchgram)/**बदरपुर	11:32	Following analog data are not reporting: • Tap position of all ICTs.	All digital data are reporting.
8.	**Barpeta/**बरपेटा	11:32	Following analog data are not reporting: • Tap position of all ICTs. • MAIN Bus KV.	Following digital data are not available: • All ICT's LV side data.
9.	**Behiating/**बेहियाटिंग	11:34	Following analog data are not available: • Tap position of 132/33 kV ICT-2.	All digital data are reporting.
10.	**Biswanath chariali/**बिस्वानाथ चरियाली	11:35	Following analog data are not available: • Bus-1 KV and Hz. • Tap position of ICT-1,	Following digital data are not available: • All digital data of BNCHV-1 & 2 line are suspect. • ICT 1 & 2 HV side main CB.
11.	**Bokajan/**बोकाजन	11:37	Following analog data are not available. • Tap Positions of ICT-1 & 2 are showing negative data.	All digital data are suspect.
12.	**Bokakhat/**बोकाखाट	11:37	Following analog data are not available: • Tap position of ICT-1 & ICT-2 are showing suspect data.	Following digital data are not available: • Bus Coupler Bay digital data are suspect. • Tie isolator(D_02_T) of ICT-1 side.
13.	**Boko/**बोको	11:38	Following analog data are not available: • Tap position of all ICTs.	Following digital data are not available. • Bus isolator(D_02_B1) of 132KV side is showing wrong data.
14.	**Bongaigaon/**बोंगाईगाँव	11:42	Following analog data are not available: • Tap position of ICT-1(220/132kv, 160 MVA). • Tap position of ICT-1(132/33KV, 16 MVA).	Following digital data are not available: • Bus Coupler Bay digital data of Bus-3 D_13_B3 are suspect
15.	**Bordubi/**बोरदुबी	11:42	Following analog data are not available: • ICT-2 Tap position.	Following digital data are not available: • Tie isolator (D_04_T) of ICT-2 side.
16.	**Bornagar/**बोरनगर	11:43	Following analog data are not available: • Tap position of ICT-3 . • 33kV Mvar capacitor 2 is suspect. • ICT-3 MW & MVAR of both sides.	Following digital data are not available: • ICT-3 all bay digital data. • Nathk_AS & Dhali_AS Tie isolator. • Capacitor 2 all bay digital data.
17.	**Chandrapur/**चंद्रपुर	11:44	Following analog data are not available: • Tap position of ICT-1.	All digital data are reporting.

18.	**Chapakhowa/**चपाखोवा	11:45	Following analog data are not available: • Tap position of al ICTs. • MVAR of all lines. • ICT 1 & 2 LV & HV sides MW & MVAR. • Main bus HZ & KV.	All digital data are not available.
19.	**Depota (Tezpur)/**दीपोता (तेज़पुर)	11:46	Following analog data are not available: • Tap position of ICT-1 & 3 (132/33 kV) • Main Bus-2 KV & HZ.	Following digital data are not available: • Bus sectionalizer isolator. • All ICT's HV side isolators are showing wrong data. • DEKHI_AS line Main bus 2 isolator. • GHORA_AS line Main bus 2 isolator.
20.	**Dhaligaon/**ढाली गाँव	11:47	Following analog data not available: • Tap position of ICT-1 & 3 (132/33 kV)	Following digital data are not available: • Isolator(B_03_L) of ICT-3 LV side. • Isolator D_01_B1 showing suspected.
21.	**Dhemaji/**धेमाजी	11:48	Following analog data not available: • ICT-3 (132/33KV) Tap position is suspect.	Most of the digital data are not available.
22.	**Dibrugarh/**डिब्रुगढ़	11:49	Following analog data not available: • ICT-1 (132/33KV) Tap position is showing negative value.	Following CBs data are not available: • TINSU_AS line isolator. • LV side of ICT-2 • LV side of ICT-1 Isolator B_01_L
23.	**Diphu/**दिफू	11:52	Following analog data not available: • ICTs (132/33KV) Tap position is suspect.	Following digital data are not available: • Bus coupler bay • ICT-2 LV side CB • ICT-1 LV side CB and HV side isolator. • LANKA_AS line isolator.
24.	**Dispur/**दिसपुर	11:53	All analog data are available.	All digital data are available.
25.	**Dhekiajuli/**ढेकियाजुली	11:54	Following analog data not available: • Tap position of all ICTs. • Main Bus-2 KV.	All digital data are available.
26.	**Dullavchera/**दुल्लव्चेरा	11:56	Following analog data not available: • Tap position of ICT-2.	Following digital data are not available: • ICT-2 LV side.
27.	**Gauripur/**गौरीपुर	11:58	All analog data are available.	All digital data are available.
28.	**Gohpur/**गोहपुर	12:01	Following analog data not available: • Tap position of all ICTs are showing negative value.	Following digital data are not available: • ICT-2 HV side isolator. • BNC (PG) isolator-1. • North Lakhimpur-1 isolator.

29.	**Ghoramari/**घोरा मारी	12:03	Following analog data are not available: • MVAR and MW of ICT-1 and 2 LV side. • Tap position of all ICTs	Following digital data are not available: • ICT-2 HV side bay main bus isolator. • Isolator D_L1_L and D_L2_B1 showing suspected • ICT-2 LV side isolator.
30.	**Golaghat/**गोलाघाट	12:04	Following analog data are not available: • Tap position of all ICTs.	Following digital data are not available: • All isolator status for 132kV Mariani, 132kV Sarupathar. • ICT 1&2 HV side isolator.
31.	**Gossaigaon/**गोसाईगाँव	12:05	Following analog data are not available: • Tap position of ICT-1 • MVAR of Capacitor.	Following digital data are not available: • CB & isolator of Capacitor.
32.	**Haflong/**हाफलोंग	12:05	Following analog data are not available: • Tap position of all ICTs.	All digital data are available.
33.	**Hailakandi/**हैलाकांडी	12:06	All analog data are not available except MW of all the lines.	All digital data are not available.
34.	**Jagiroad/**जागीरोड	12:06	All analog data are available.	Following digital data are not available: • 132KV bus coupler Isolator. • HV side of ICT-2. • HPC(load) line isolator.
35.	**Jawharnagar/**जवाहरनगर	12:07	Following analog data are not available: • Tap position of all ICTs. • ICT 1 & ICT 2 LV side MW & MVar.	Following digital data are not available: • 220KV coupler bus CB and Isolator
36.	**Jorhat (Garmur)/**जोरहाट	12:08	Following analog data are not available: • Tap position of ICT-2 & ICT-3 is showing negative data.	All digital data are reporting.
37.	**Jorhat (West)/**जोरहाट (पश्चिम)	12:08	Following analog data are not available: • Tap position of ICT-2.	All digital data are available.
38.	**Kahelipara** (काहिलीपारा)	12:12	Following analog data are not available: • Tap position of all ICTs.	Most of the digital data are not available.
39.	कमलपुर/**Kamalpur**	12:15	Following analog data are not available: • MVAR data of all feeders except Rangia-1 & 2 feeders • MW & MVAR data of all ICTs both sides. • Bus-1 kV and Hz • Tap position of all ICTs.	Following digital data not available: • All ICTs LV side CB & Isolator.

40.	उत्तर लखीमपुर/ **North Lakhimpur**	12:16	Following analog data are not available • Tap position of ICT-2 is showing negative.	Following digital data not available: • Dhemaji main isolator 1.
41.	लकवा/ **Lakwa**	12:18	Following analog data are not available: • Tap position of Unit-5, Unit-6, Unit-7, Unit-8. • (132/11)KV all ICT's Tap position. • 132/33KV ICT-1 and ICT-2 showing negative. • Unit 7 MW and MVAR.	Most of the digital data are not available.
42.	कार्बी लंगपी / **Karbi Langpi**	12:20	Following analog data are not available: • Tap position of ICT-1. • MW & MVAR of UNIT-2 on both side LV & HV.	Following digital data not available: • 220KV coupler bus CB and Isolator
43.	करीमगंज / **Karimganj**	12:22	Following analog data are not available: • All ICTs Tap position.	All digital data are available except 132 kV bus coupler isolator B_BC_B3.
44.	लंका/ **Lanka**	12:25	Following analog data are not available: • All ICTs Tap position. • Bus-1 kV and Hz • ICT-1 & 2 LV side MW and MVAR.	Following digital data are not available: • 132kv Coupler Bus Bay CB and Isolator. • ICT-1 & 2 LV side CB and Isolator. • ICT-2 HV side Isolator.
45.	माजुली / **Majuli**	12:26	Following analog data are not available: • Tap position of ICT-1.	Following digital data are not available: • ICT-1 HV side tie isolator.
46.	मार्घेरिता/ **Margherita**	12:28	Following analog data are not available: • Tap position of ICT-1 & ICT-2.	All digital data are suspect.
47.	मरियानी/ **Mariani**	12:33	Following analog data are not available: • All ICTs Tap position of 132/33KV • NTPS & SAMAGURI Line All Analog Data. • LONGNAK Line MW & MVAR. • All ICTs Tap position of 220/132KV are showing negative data.	Following digital data are not available: • LV & HV side Bays of ICT-1 & ICT-2 (220/132) KV all digital data are inaccurate. • JORHAT-1-line bay bus 1 isolator. • JORHAT-2-line bay bus 2 isolator. • 220 KV bus reactor -2 bay bus 1 isolator. • 220 KV bus coupler bay bus 1 isolator. • Reactor_R1_BR_CB showing in between status.
48.	मोरान / **Moran**	12:34	Following analog data are not available	Following digital data are not available:

			• Tap position of ICT's are showing negative data.	• Lakwa main isolator-1.
49.	मिन्तृयांग 1 / **Myntriang I**	12:36	All the analog data are not available except MYNT2 MW.	All digital data are not available.
50.	मिन्तृयांग 2/ **Myntriang II**	12:38	Following analog data are not available • 33kV bus 1 & 2 Hz.	Following digital data are not available: • Myntriang-1 main isolator-1.
51.	खलोईगाँव/ **Khaloigaon**	12:40	Following analog data are not available: • All ICTs Tap position. • ICT-2 LV side MW and MVar. • MVAR Samaguri-2	Following digital data are not available: • 132 KV coupler (05) CB and Isolator.
52.	नलबारी / **Nalbari**	12:42	Following analog data are not available: • All ICTs Tap position. • All ICTs LV side MW & MVAR. • Station Total Load.	Following digital data are not available: • All ICT's LV side bay digital data.
53.	एनटीपीएस (नामरुप) / **NTPS (Namrup)**	12:45	Following analog data are not available: • Tap position of all ICTs. • 132/33 kV T2 MW. • Generator-6 HV side MW & MVar. • 220kV transfer bus Hz.	Following CBs data not available: • Unit 2, 3, 6 (HV side) CB showing in between status. • 132/33 kV T2 HV side Bay all digital data.
54.	नारंगी / **Narangi**	12:47	Following analog data are not available: • BUS-1 KV & HZ. • ICT-2 LV & HV side MW& MVAR. • ICT-2 Tap position.	Following digital data are not available. • ICT-2 HV side bay all digital data. • SONAPUR line isolator. • KAHEL_AS line isolator.
55.	नाज़िरा / **Nazira**	12:50	All the analog data are not available except MW of all lines.	All digital data are not available.
56.	पैलापूल / **Pailapool**	12:53	Following analog data are not available: • JIRIBAM line MVAR. • ICT-1 LV & HV side MW & MVAR. • ICT-1 tap position. • ICT-2 LV side MW & MVAR.	Some digital data are not available.
57.	रंगिया / **Rangia**	12:55	Following analog data are not available: • Tap position of ICT-2.	Following digital data are not available. • ICT 2 HV side bay all digital data. • MTNGA bay all isolator data.
58.	रंगीया 220 केवी/ **Rangia 220 kV**	12:57	Following analog data are not available: • 220 kV Bongaigaon–2 line MVAR. • Tap position of all ICTs.	Following digital data are not available. • ICT 1 HV & LV side all isolator data. • ICT 2 HV side all isolator data.

			• ICT-1 & ICT-2 HV side MW & MVAR. • RANGIA_AS MVAR. • 132kVB bus1 kV & Hz.	• Bongaigaon-1 main isolator. • Amingaon-1 main CB.
59.	रौता / **Rowta**	12:58	Following analog data are not available: • Tap Position of ICT-1(132-33KV) is showing negative status.	Following digital data are not available. • DHEKI_AS Line Bypass isolator.
60.	रुपाई / **Rupai**	12:59	All analog data are available except MVAR of RUPAI_AS.	All digital data are reporting.
61.	समागुरी / **Samaguri**	12:59	Following analog data are not available: • Tap position of all ICTs. • ICT-2 & 3 (220/132) kV both sides HV & LV MW and MVAR. • ICT- 4 (132/33) kV LV and HV MW and MVAR.	Most of the digital data are not reporting
62.	सरुपाथर / **Sarupathar**	13:02	Following analog data are not available: • Tap position of T1 & T2. • LV side of T1 & T2 MVar & MW	ALL digital data are available.
63.	सरूसजाइ / **Sarusajai**	13:03	Following analog data are not available: • Tap position of ICT-1 & 4 (220/132kV). • Tap position of all ICT-1, 2 &3(132/33KV) are suspect. .	Some digital data are suspect.
64.	सिबसागर / **Sibsagar**	13:04	All analog data are not available except MW of NAZIR_AS.	All digital data are not reporting.
65.	सीपाझार / **Sipajhar**	13:05	Following analog data are not available: • Tap position of all ICTs	All digital data are reporting.
66.	शिशुग्राम/ **Sishugram**	13:05	Following analog data are not available: • Tap position of ICT-3 is showing negative value.	Most of the digital data are not available.
67.	सोनाबिल / **Sonabil**	13:06	Following analog data are not available: • Tap position of all ICTs.	All digital data are reporting.
68.	सोनारी / **Sonari**	13:06	All analog data are not available except MW of Lakwa & Namrup.	All digital data are not reporting.
69.	सिलचर / **Silchar**	13:08	Following analog data are not available: • Tap position of all ICT-2 is showing negative value.	Following digital data are not available: • SILCHAR_PG 1 & -2 line bay isolator.
70.	टंगला / **Tangla**	13:10	Following analog data are not available: • Tap position of ICT-1 is suspect.	All digital data are available.

71.	टीओक / **Teok**	13:10	Following analog data are not available: • Tap position of ICT-2.	All digital data are available.
72.	तेज़पुर / **Tezpur**	13:12	All analog data are available.	Following digital data are not available: • SONABIL-2 line bay isolator.
73.	तिनसुकिया/ **Tinsukia**	13:13	Following analog data are not available: • Tap status of all 220/132 kV ICTs. • Tap status of 132/33 kV ICT-2. • MVAR data of BEHIATING-2 & 1 line.	Following digital data are not available: • BEHIATING-2 & 1 line bay all data. • 220 kv bus coupler bay all data.
74.	उमरंगशु/ **Umrangsho**	13:14	Following analog data are not available: • Tap position of all ICTs.	Following digital data are not available: • ICT-1 & 2 LV side isolator.
75.	बिलसीपारा/ **Bilasipara**	13:16	Following analog data are not available: • 132KV bus 1 kV & Hz.	Following digital data are not available: • Bus Coupler Bay all digital data.
76.	कामाख्या/ **Kamakhya**	13:18	All analog data are not available except MW of Sarusajai & Sishugram.	All digital data are not reporting.
77.	कोकराझार /**Kokrajhar**	13:18	All analog data are available	All digital data are reporting.
78.	मटिया / **Matia**	13:20	All analog data are not available.	All digital data are reporting.
79.	एनआरपीपी (नामरुप) / **NRPP (Namrup)**	13:20	Following analog data are not available: • GTG MW.	All digital data are reporting.
80.	सोनापुर / **Sonapur**	13:21	Following analog data are not available. • Tap Position of all ICTs. • Narangi MVAR.	Following digital data not available: • NARANGI line bays all isolator.
81.	रौता सोलर प्लांट / **Rowta (Azure Solar Plant)**	13:21	All Analog data are not reporting	All digital data are not reporting.
82.	समागुरी सोलर प्लांट / **Samaguri (Azure solar plant)**	13:22	All Analog data are not reporting.	All digital data are not reporting.
83.	बोको सोलर प्लांट / **BOKO (Azure solar plant)**	13:23	Analog data are not reporting.	All digital data are not reporting.
84.	पैलापूल सोलर प्लांट / **Pailapool (Azure solar plant)**	13:24	Following analog data are not available: • Tap status of all ICTs. • 33kV side Bus hz.	Following digital data not available: • All Transformer HV side CB showing in between status. • Inverter 3 & 6 Digital Data.
85.	पतंजलि सोलर प्लांट / **Patanjali**	13:25	All Analog data are not reporting.	All digital data are not reporting the accurate value.

	(RE Solar)			
86.	जैकसन सोलर प्लांट / **Jackson (RE Solar)**	13:26	All analog data are not reporting.	All digital data are not reporting.
87.	महेश्वरी सोलर प्लांट / **Maheswari (RE Solar)**	13:27	All Analog data are reporting except ICT's Tap position is suspect.	Following digital data not available: • Inverter 01 off.
88.	**Suryatap**	13:27	All analog data are not reporting.	All digital data are not reporting.
89.	**Star Cement SNPR**	13:28	Following analog data are not available: • ICT Tap position • Bus kV	All digital data are not reporting.
90.	**Umrangsho**	13:29	Following analog data are not available: • Tap position of all ICTs.	Following digital data not available: • ICT 1 & 2 LV side isolator.

❖ ***Changes from last week are highlighted in red color.***

ANNEXURE-III

अनैलॉग और डिजिटल स्टेटस मेघालय राज्य के स्टेशन का / **ANALOG AND DIGITAL DATA STATUS OF MEGHALAYA STATE**

Status checked on (06.01.2025)

Sl. No.	आर टी यू स्टेशन / RTU STATION	TIME	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	अंपाती / **AMPATI**	12:55	Following analog data are not available: • Tap position of all ICTs. • 132 kV Main Bus & Transfer Bus Hz & Kv. • MW & MVAR of GANOL line.	All digital data are not reporting.
2.	अमृत / **AMRIT**	12:56	Following analog data are not available: • Tap position of ICT-1. • 132 kV Main Bus Hz	All digital data are not reporting.
3.	चेरापुंजी / **CHERA_ME**	12:56	Following analog data are not available: • Tap position of ICT-1. • 132 kV Main Bus Kv and Hz.	All Isolator data are not reporting.
4.	एपिप 1 / **EPIP1**	12:59	Following analog data are not available: • Tap position of all ICT. • Capacitor Bank (25 MVAR) MVAR.	Following digital data are not available. • ICT-1 HV side isolator. • Capacitor Bank all digital data. • Shyam cement(Load) CB showing in Between status. • Pioneer(Load) CB showing in Between status. • EPIP-2 CKT-1 & 2 CB.
5.	एपिप 2 / **EPIP2**	13:03	Following analog data are not available: • Tap position of all ICT. • Capacitor Bank (25 MVAR) MVAR.	Following digital data are not available. • ICT-1 HV side isolator. • Capacitor Bank all digital data. • Umtru-1 & 2 all isolator.

				• EPIP-1 CKT-2 isolator. • New Umtru and Killing-1 line isolator.
6.	गानोल / **GANOL**	13:04	All analog data are available.	All digital data are available.
7.	आईआईएम / **IIM**	13:05	Following analog data are not available: • Tap position of ICT-1. • Main Bus KV & HZ.	Following digital data are not available. • ICT-1 HV side isolator. • NEIGRIHMS CB showing in Between status.
8.	ख्लेहरियत / **KHIEHRIAT**	13:05	Following analog data are not available: • Tap position of all ICTs.	Almost all the digital data are not available.
9.	किल्लिंग / **KILLING**	13:07	Following analog data are not available: • Tap position of all ICTs. • 220 kV Transfer Bus-1 kV and Hz. • 400 kV Silchar line reactor MVar. • ICT-2 & ICT-1(220/132kV) MVAR HV side. • 132 kV Transfer Bu KV & Hz. • 400 kV Bus-2 kV and Hz.	Almost all the digital data are not available.
10.	लेस्का / **LESKA**	13:08	Following analog data are not available: • Tap position of ICT-1. • 132kV Main Bus Hz & kV.	Following digital data are not available: • Mynkre-2 main isolator. • Isolator D_04_B1 not reporting.
11.	लुम्श्नोंग / **LUMSHNONG**	13:09	All analog data are available.	Isolator status of all bays is suspect.
12.	मावलाई / **MAWLAI**	13:10	Following analog data are not available: • Tap position of all ICTs. • MVAR of Capacitor bank	Most of the digital data are not available.
13.	मञ्ङाप / **MAWNGAP**	13:12	Following analog data are not available: • Tap position of all ICTs. • MVAR & MW of MAW22-Line 1 & line 2.	Following digital data are not available. • Isolator status of all bays is suspect. • Maw22- Line 1 & 2 main CB.
14.	मेंडिपाथर / **MENDIPATHAR**	13:13	Following analog data are not available: • Tap position of all ICTs. • Main Bus kV and Hz.	Most of the digital data are not available.
15.	मूस टेम / **MUSTEM**	13:13	Following analog data are not available: • Tap position of all ICTs.	Most of the digital data are not available.
16.	मव्ल्यंडेप / **Mawlyndep**	13:15	Following analog data are not available: • Tap position of all ICTs.	Following digital data are not available: • CB status of D_01 & D_05. • Isolator status of D_02_L & D_05_B2
17.	नंगलबिबरा / **NANGALBIBRA**	13:17	Following analog data are not available: • Tap position of all ICT-1. • ICT-1 LV & HV side MW. • 132KV main Bus KV & Hz.	Following digital data are not available. • ICT-1 HV side CB & isolator. • Agia_AS Main Isolator.
18.	नेहू / **NEHU**	13:19	Following analog data are not available: • Tap position of all ICTs.	Most of the digital data are not available.
19.	नि ग्रीम्स / **NEIGRIHMS**	13:20	Following analog data are not available: • Tap position of ICT-1 and 2	Isolator status of all bays is suspect.
20.	नोंग्सटोन / **NONGSTOIN**	13:21	Following analog data are not available: • Tap position of ICT-1 is being replaced.	All CBs and isolator status data are not available.

			• 132 kV Main Bus KV and Hz.	
21.	रोंग्खोन / **RONGKHON**	13:23	Following analog data are not available: • Tap position of all ICTs.. • 132 kV Main Bus KV and Hz.	Most of the digital data are not available.
22.	ऊमीयम / **UMIAM_ME**	13:24	Following analog data are not available: • Tap position of all ICTs are replaced.	Following digital data not available: • Line side isolator for RNB load and Umiam_ME, Line side isolator for NEHU, and Bus side isolators for ICTs.
23.	ऊमीयम 1 / **UMIAM 1**	13:25	All analog data are available.	Following digital data not available: • Most of the isolator's data are being replaced and suspect. • D_03, D_42 & D_49 CB is showing BETWEEN status.
24.	ऊमीयम 2 / **UMIAM 2**	13:26	Following analog data are not available: • 132kV Main Bus KV .	Following digital data not available: • Umiam-1 main bay isolator.
25.	ऊमीयम 3 / **UMIAM 3**	13:27	Following analog data are not available: • Tap position of ICT-1.	Following digital data not available: • Most of the isolator's data are being replaced and suspect.
26.	ऊमीयम 4 / **UMIAM 4**	13:28	All analog data are available.	Most of the digital data are shown in between and suspect.
27.	उमत्रु / **UMTRU**	13:29	Following analog data are not available: • MW & MVAR data of Sarusajai-1 feeder.	Most of the digital data are shown in between and suspect.
28.	न्यू उमत्रु / **NEW UMTRU**	13:30	All analog data are available.	Most of the digital data are not available.
29.	**GOLDSTONE**	13:30	All analog data are available.	Following digital data are not available: • Unit-1 HV side Isolator

- ***Changes from last week is highlighted in red color.***

ANNEXURE-IV

अनैलॉग और डिजिटल स्टेटस त्रिपुरा राज्य के स्टेशन का / **ANALOG AND DIGITAL DATA STATUS OF TRIPURA STATE**

Status checked on (06.01.2025)

Sl. No.	आर टी यू स्टेशन / RTU STATION	Time	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	अगरतला / **AGARTALA**	12:34	Following analog data not available: • Tap position of all ICTs. • MW &MVAR of all ICTs on both side except ICT-3.	Most of the digital data are not reporting.
2.	अमर पुर / **AMARPUR**	12:35	All analog data not available.	All digital data are not available.
3.	अंबस्सा / **AMBASSA**	12:35	All analog data not available.	All digital data not available.
4.	बदरघाट / **BADARGHAT**	12:36	Following analog data not available: • Tap position of all ICTs. • Rokhia line MW and MVar. • 66/33 kV ICT-1 MW and MVar on both sides. • 33 kV Bus-1 kV.	Most of the digital data are not reporting.
5.	बरमुरा / **BARMURA**	12:37	Following analog data not available: • Tap position of all ICTs. • MW of GT-1 132/11 kV on both LV & HV sides. • MW of GT-1 66/11 kV on both LV & HV sides. • ICT-1 (132/66kV) HV side MVAR.	All digital data not available.

			• ICT-1 (66/11kV) HV side MW & MVAR.	
6.	बेलोनिया / **BELONIA**	12:38	All analog data not available.	All digital data not available.
7.	बोगफा / **BOGAFA**	12:38	All analog data not available.	All digital data not available.
8.	बोक्सानगर / **BOXANAGAR**	12:38	All analog data not available.	All digital data not available.
9.	बुद्ध्जंगनगर / **BUDHJUNG NAGAR**	12:39	Following analog data not available: • Tap position of all ICTs. • MW and MVAR data of ICT-2 both sides.	Most of the digital data not available.
10.	ढालबिल / **DHALABILL**	12:40	Following analog data not available: • Tap position of all ICTs. • ICT-1 HV & LV side MW and MVar.	Following digital data not available: • ICT-2 HV side CB • Gamatilla line CB & main bus isolator. • Bus Coupler Bay all isolators. • ICT-2 & 1 HV side main Bus isolator. • Kamalpur main isolator.
11.	धरमनगर / **DHARMA NAGAR**	12:40	All analog data not available.	All digital data not available.
12.	गमाइतिल्ला / **GAMAITILA**	12:41	All analog data not available.	All digital data not available.
13	गोकुलनगर/**GO KULNAGAR**		All analog data not available.	All digital data not available.
14.	गौरनगर / **GOURNAGAR**	12:41	All analog data not available.	All digital data not available.
15.	गुमटी / **GUMTI**	12:41	All analog data not available.	All digital data not available.
16.	जिरनिया / **JIRANIA**	12:42	All analog data not available.	All digital data not available.
17.	कमलपुर / **KAMALPUR**	12:42	All analog data not available.	All digital data not available.
18.	मोहनपुर / **MOHANPUR**	12:43	Following analog data not available • Tap position of all ICTs. • Dhalabill line MW & MVAR. • ICT-2 HV & LV side MW & MVAR.	Following digital data not available: • ICT-2 HV side bay all digital data. • Dhalabill line bay all digital data.
19.	मोनारचक / **MONARCHAK**	12:44	Following analog data not available • Surajmaninagar line 1 and 2 MW and MVAR.	All digital data of SM Nagar line 1 and 2 bay not available.
20.	ओमपी / **OMPI**	12:44	All analog data are not available.	All digital data not available.
21.	पी के बारी / **PK BARI**	12:45	Following analog data not available • Tap position of all ICTs.	Following digital data not available: • ICT-1 HV side isolator. • Dharmanagar Main isolator. • Gournagar Main isolator.

22.	रबीन्द्र नगर / **RABINDRNAGAR**	12:47	Following analog data not available • Monarchak 1& 2 MW and MVAR. • Belonia-1 MW and MVAR. • Tap position of all ICTs. • Belonia & Rokhia MW and MVAR. • 66kv line HZ and MW. • 132 kV HZ.	Following digital data not available: • All digital data of monarchak-1, belonia-1, rokhia and belonia. • 132 kV Main bus D_1_BS showing suspect. • All digital data ICT-2.
23.	रोखिया / **ROKHIA**	12:48	Most of the analog data not available.	All digital data not available.
24.	सबरूम / **SABROOM**	12:48	All analog data not available.	All digital data not available.
25.	सतचंद / **SATCHAND**	12:49	All analog data not available.	All digital data not available.
26.	सुरजमानी नगर / **SURAJMANI NAGAR**	12:50	All analog data not available.	All digital data not available.
27.	उदयपुर / **UDAIPUR**	12:53	Following analog data not available • Tap position of all ICTs. • ICT-2 (132/66 kV) MVAR. • ICT-1&2 (132/11 kV) MW & MVAR. • 66KV Line Hz. • Gokulnagar MW & MVAR.	Most of the digital data not available.

❖ ***Changes from last week is highlighted in red color.***

ANNEXURE-V

अनैलॉग और डिजिटल स्टेटस मणिपुर राज्य के स्टेशन का / **ANALOG AND DIGITAL DATA STATUS OF MANIPUR STATE (Status checked on (06.01.2025))**

Sl. No.	आर टी यू स्टेशन / RTU STATION	Time	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	चंदेल / **CHANDEL**	12:25	All analog data are not available.	All digital data are not available.
2.	चूरचंदपुर / **CHURACHANDPUR**	12:25	All analog data are not available.	All digital data are not available.
3	एलान कांग पोकपी / **ELANGKANGPOKPI**	12:26	All analog data are not available.	All digital data are not available.
4.	हुंडूंग / **HUNDUNG**	12:26	All analog data are not available.	All digital data are not available.
5.	इम्फ़ाल / **IMPHAL**	12:27	Following analog data not available: • Tap position of all ICTs. • Karong line 1 MW & MVAR. • Yiangangpokpi line 2 MW & MVAR.	Following digital data not available: • Isolator D_01_L showing replaced.
6.	जिरीबाम / **JIRIBAM**	12:27	Following analog data not available: • Tap position of ICT.	Following digital data not available: • Bus coupler CB is showing in between status.
7.	काकचिंग / **KAKCHING**	12:27	All analog data are not available.	All digital data are not available.
8.	करोंग / **KARONG**	12:28	All analog data are not available.	All digital data are not available.
9.	कोंग्बा / **KONGBA**	12:28	All analog data are not available.	All digital data are not availables.
10.	मोरेह / **MOREH**	12:28	All analog data are not available.	All digital data are not available.
11.	निंग थौ खोंग / **NINGTHOUKHONG**	12:30	Following analog data not available: • Tap position of ICT 2&3. • ICT-3 MW & MVAR both sides.	Following digital data not available: • 132kV Imphal-1 line Isolator. • Ict -1 & Ict-2 Hv Side Bay Isolator. • Isolator of Imphal 2 & 3.
12.	रेंग पाँग / **RENGPANG**	12:30	All analog data are not available.	All digital data are not available.
13.	थान लोन / **THANLON**	12:30	All analog data are not available.	All digital data are not available.
14.	400केवी थौबल / **400 kV THOUBAL**	12:30	All analog data are not available.	All digital data are available.

15.	थौबल ओल्ड / **THOUBAL OLD**	12:31	All analog data are not available.	All digital data are not available.
16.	तिपाइमुख / **TIPAIMUK H**	12:31	All analog data are not available.	All digital data are not available.
17.	यियांग कांग पोकपी / **YIANGANG POKPI**	12:31	All analog data are not available	All digital data are not available.

❖ ***Changes from last week is highlighted in red color.***

ANNEXURE-VI

अनैलॉग और डिजिटल स्टेटस मिज़ोरम राज्य के स्टेशन का / ANALOG AND DIGITAL DATA STATUS OF MIZORAM STATE

Status checked on (06.01.2025)

Sl. No.	आर टी यू स्टेशन / RTU STATION	Time	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	चंफई / **CHAMPHAI**	12:17	All analog data are not available.	All digital data are not available.
2.	इंडूर / **INDOOR**	12:18	Following analog data not available: • Tap position of all ICTs. • 33 kV Main Bus 1 & 2 kV & Hz. • Zuangtui line-2 MW & MVAR. • ICT-1 HV side MW & MVAR.	Following digital data not available: • Zuangtui line 1 CB. • Bus sectionalizer CB (between Main Bus 1 & Main Bus 2) showing in between status.
3.	खव्ज़ वाल / **KHAWZAWL**	12:18	All analog data are not available.	All digital data are not available.
4.	लुंग लेई / **LUNGLEI**	12:19	All analog data are not available.	All digital data are not available.
5.	लुंग मुयल/ **LUANGMUAL**	12:19	All analog data are not available.	All digital data are not available.
6.	सेरचिप / **SERCHHIP**	12:19	All analog data are not available.	All digital data are not available.
7.	साइतुयाल / **SAITUAL**	12:20	All analog data are not available.	All digital data are not available.
8.	सिहहमुई / **SIHHMUI**	12:21	Following analog data not available: • Tap position of ICT1. • All bus kV & Hz. • LV & HV side of an ICT1.	Most of the digital data are not available.
9.	ज़ुयांग तुइ / **ZUANGTUI**	12:23	All analog data are not available.	All digital data are not available.
10.	कोलासिब / **KOLASIB**	12:23	Following analog data not available: • ICT-1 Tap status.	Most of the digital data are not available.
11.	वंकल सोलर / **Vankal Solar**	12:24	All analog data are not available.	All digital data are not available.

Note:

1) RTUs at the following grid connected stations are not yet installed:

i) 132kV Melriat (State).
ii) 132kV Bairabi.
iii) 132 kV Vankal.
iv) Serlui HEP (3x4 MW)

❖ ***Changes from last week is highlighted in red color.***

ANNEXURE-VII

अनैलॉग और डिजिटल स्टेटस नागालैंड राज्य के स्टेशन का / ANALOG AND DIGITAL DATA STATUS OF NAGALAND STATE

Status checked on (06.01.2025)

Sl. No	आर टी यू स्टेशन / RTU STATION	Time	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	दिमापुर / **DIMAPUR**	12:01	Following analog data not available: • Tap position of all ICTs. • 66 kV Main bus kV & Hz.	Following digital data are not available. • Bus coupler CB showing in between status for 66kV and 132 kV. • ICT-2 HV Side Bay CB & Isolator. • Singrijan Line-1 Bay all isolator. • Singrijan Line-2 Transfer Bus Isolator. • ICT-1 LV side bay all isolators. • Dimapur Line-1 & 2 main and tie isolators.
2.	गणेश नगर / **GANESH NAGAR**	12:02	All analog data are not available.	All digital data are not available.
3.	किफिरे / **KIPHIRE**	12:03	Following analog data not available: • Tap position of all ICTs. • 132 kV and 66 kV Main Bus kV & Hz.	Most of the digital data are not available.
4.	कोहिमा / **KOHIMA**	12:04	Following analog data not available: • Tap position of all ICTs. • ICT-3 MW & MVAR both sides.	Following digital data are not available. • ZHADIMA line bay all isolator. • DIMAPUR_PG Bay transfer bus isolator. • ICT-1 & 2 hv side bay all isolator data. • ICT-3 hv side bay all digital data.
5.	एल एच ई पी / **LHEP**	12:04	All analog data are not available.	All digital data are not available.
6.	लॉन्ग नाक / **LONGNAK**	12:05	All analog data are not available.	All digital data are not available
7.	मेलुरी / **MELURI**	12:05	All analog data are not available.	All digital data are not available.
8.	मोकोक चुँग / **MOKOKCHUNG**	12:07	All analog data are not available.	All digital data are not available.
9.	मोन / **MON**	12:08	Following analog data not available: • 66kV main bus kV and Hz • Tap status of all ICTs	All digital data are available.
10.	नगनी मोरा / **NAGNIMORA**	12:09	All analog data are not available.	All digital data are not available.

11.	पावर हाउस / **POWER HOUSE**	12:11	Following analog data not available: • Tap position of ICT-2. • 66kV main bus kV and Hz.	Following digital data are not available: • CB of ICT-1 & ICT-2 are showing in between status. • CB of DIMAP_NA line is showing in between status.
12.	सनिस / **SANIS**	12:12	Following analog data not available: • Tap position of ICT-1.	Some digital data are not available.
13.	टीजीट / **TIZIT**	12:12	All analog data are not available.	All digital data are not available.
14.	तुएन सांग / **TUENSANG**	12:14	Most of the analog data are not available.	Following digital data are not available: • All CBs are showing in between status.
15.	तुली / **TULI**	12:14	All analog data are not available.	All digital data are not available.
16.	वोखा / **WOKHA**	12:15	All analog data are not available.	All digital data are not available.
17.	जुहेन बोटों / **ZUHENEBOTO**	12:15	All analog data are not available.	All digital data are available.

Note:

1) RTUs at the following grid connected stations are not yet installed:

i) 132kV Meluri.
ii) 66kV Tizit.
iii) 66kV Nagnimora.
iv) 132 kV Chiephobozou.

❖ ***Changes from last week is highlighted in red color.***

अनैलॉग और डिजिटल स्टेटस अरुणाचल प्रदेश राज्य के स्टेशन का / **ANALOG AND DIGITAL DATA STATUS OF ARUNCHAL PRADESH STATE**

Status checked on (06.01.2025)

Sl. No.	आर टी यू स्टेशन / RTU STATION	Time	अनैलॉग डेटा / ANALOG DATA	डिजिटल डेटा / DIGITAL DATA
1.	अलोंग / **ALONG**	13:30	Following analog data not available: • Tap position of ICT.	Following digital data are not available. • All digital data of KAMBANG. • Basar main isolator.
2.	बसर / **BASAR**	13:30	All analog data are not available.	All digital data are not available.
3.	भालूकोंग / **BHALUKONG**	13:31	All analog data are not available.	All digital data are not available.
4.	डपोरीज़ों / **DAPORIJO**	13:32	All analog data are not available.	All digital data are not available.
5.	देओमाली / **DEOMALI**	13:33	All analog data are not available.	All digital data are not available.
6.	चिंपू / **CHIMPU**	13:34	Following analog data not available: • Tap position of all ICTs. • MW & MVAR of HALONG1. • MVAR of PARE-1 & BNCHV-1	Following digital data are not available. • PARE-1 & PANYOR line bay all isolator.
7.	जयराम पुर / **JAIRAMPUR**	13:34	All analog data are not available.	All digital data are not available.
8.	खुपी / **KHUPI**	13:35	Following analog data not available: • Tap position of ICT-1.	All digital data are available.
9.	लेखी / **LEKHI**	13:35	Following analog data not available: • Tap position of ICTs.	All digital data are available.
10.	पासी घाट /**PASIGHAT**	13:36	All analog data are not available.	All digital data are not available.
11.	दीक्षी / **DIKSHI**	13:36	All analog data are showing value.	All digital data are showing value.
12.	टेंगा / **TENGA**	13:37	Following analog data not available: • MW & MVAR of ICT-1 & ICT-2 of both sides LV & HV.	Following digital data are not available. • HV sides of ICT-1 & ICT-2 lines bay all isolator.
13.	**HOLONGI**	13:37	All analog data are not available.	All digital data are not available.
14.	**NAPIT**	13:38	All analog data are not available.	All digital data are not available.
15.	**KHUPI**	13:38	Following analog data not available: • Tap position of ICT-1.	All digital data are available.
16.	**NIGLOK**	13:39	All analog data are not available.	All digital data are not available.
17.	**PASIGHAT**	13:39	Most of the analog data are not available.	All digital data are not available.
18.	**SEPPA**	13:39	All analog data are not available.	All digital data are not available.

Note:

1) Jairampur is a 33kV interstate connecting substation.

❖ ***Changes from last week are highlighted in red color.***

Standard Operating Procedure (SOP)

Procurement & Installation of ISTS Interface Energy Meter (IEM/SEM)

Introduction:

This Standard Operating Procedure (SOP) for Procurement and Installation of Interface Energy Meter (IEM/SEM) will be applicable only for the IEM/SEM falling under the purview of CTU as per the provisions under Regulations 49.12 (a) of CERC (Indian Electricity Grid Code), Regulations, 2023 and as per clause 6 (1)(a) of CEA (Installation and Operation of Meters) Regulations and amendments thereof. The Regulation 49.12(a) & 6 (1) is re-produced below:

"49.12 Energy Metering and Accounting:

(a) The CTU shall be responsible for procurement and installation of Interface Energy Meters (IEM/SEM), at the cost of respective entity, at all the ISTS interface points, points of connections between the regional entities, cross border entities and other identified points for recording of actual active and reactive energy interchanged in each time-block through those points, and its operation and periodic calibration shall be done by the respective entity. CTU shall be responsible for replacement of faulty meters."

"6. Ownership of meters-

(1) **Interface meters** (a) All interface meters installed at the points of interconnection with Inter-State Transmission System (ISTS) for the purpose of electricity accounting and billing shall be owned by CTU.

The objective of this procedure is to ensure timely installation of IEM/SEM in the new ISTS system and timely replacement of the defective IEM/SEM by CTU or their authorized agency. The procedure also aims for timely payment by the respective entities to authorized agency of CTUIL against supply & installation of the IEM/SEM.

Presently, POWERGRID is the authorized agency for procurement of IEM/SEM, installation of new IEM/SEM and replacement of defective IEM/SEM. Any mention of POWERGRID in this procedure shall also mean any other agency authorized by CTUIL, if any, to carry out the aforesaid functions. CTUIL may authorize any other agency to carry out the aforesaid functions in future. Replacement/Installation of IEM/SEM shall mean all the activities including supply of new IEM/SEM, its installation, testing and commissioning.

The complete cycle of installation/replacement of IEM/SEM has been divided in various steps as described in Part A& B. Since timely procurement and availability of sufficient no. IEM/SEM is the key requirement, Part D of this procedure deals with timely estimation of requirement & procurement of IEM/SEM. Part C and Part F are for payment & warranty and inventory management respectively.

Applicability:

The procedure shall be applicable for the entities which are in the RLDCs control area and whose metering and energy accounting is done at the regional level. Thus, all Gencos including RE

generators and all other utilities connected to ISTS Grid are the entities for the purpose of this procedure.

Effectiveness:

The date of effectiveness of this procedure shall be notified separately on CTUIL website.

A. Procedure for replacement of Faulty ISTS IEM/SEM

1. Identification of faulty IEM/SEM and communication to CTU:

1.1 Any Entity who wants IEM/SEM replacement shall inform concerned RLDC about such requirement along with the reasons thereof. RLDC also identify inconsistent SEM/IEM based on its observations on IEM/SEM data (received through AMR system or otherwise). The RLDC shall send a communication to the entity within 3 working days from the detection of inconsistent data or defective IEM/SEM.

1.2 The Entity shall take immediate steps to get all the issues rectified within 7 working days from receipt of above communication from RLDC. If the issue is not rectified within 7 working days or if it is established that IEM/SEM needs to be replaced, the Entity shall send a communication (through letter or e-mail) to CTUIL, within next 3 working days requesting replacement of the defective IEM/SEM. The said communication shall include the followings:

a. The location, serial no., make and model of the defective IEM/SEM along with accessories (required if any)

b. The date of installation of the above IEM/SEM

c. The observations w.r.t. the said defective IEM/SEM

d. Consent for payment, as per the provision of this procedure, towards supply and installation of IEM/SEM

A copy of this communication shall be sent to respective RLDC and regional nodal officer of POWERGRID. The contact details of POWERGRID Nodal officers shall be made available on CTUIL's website. The amount to be charged by POWERGRID towards Supply & Installation of the IEM/SEM shall be made available on CTUIL website.

1.3 In line with applicable Regulations, the replacement of IEM/SEM shall be on a chargeable basis. The Entity shall undertake in the said communication that they will make payment for supply &installation of the IEM/SEM, in accordance with the provisions of this procedure, as per the invoice raised by POWERGRID.

2. Communication to POWERGRID:

2.1 On receipt of the above communication from the Entity, CTUIL within 3 working days from receipt ofthe said communication, shall advise POWERGRID to replace the defective IEM/SEM. A copy of the advice shall also be sent to the respective Entity.

3. Replacement of Faulty IEM/SEM:

3.1 The POWERGRID shall raise the invoice on the concerned Entity within 7 working days from the receipt of the advice from CTUIL and shall replace the defective IEM/SEM within 8 working days from date of acceptance of invoice by the entities. POWERGRID shall inform CTUIL after replacement of the defective IEM/SEM.

3.2 After replacement of faulty IEM/SEM, the entity shall inform respective RLDC & CTUIL about the same with necessary details (Meter Sl.No, Make, Model, Date of replacement and meter location) within 2 days. The verification testing with respective RLDC shall be ensured by the Entity.

B. Procedure for Installation of ISTS IEM/SEM for new systems

1. The Entity shall request CTUIL for installation of new IEM/SEM along with the Metering Scheme Letter issued by respective RLDC in line with the scheme approved by RPC, if any. Entity shall make such request to CTUIL at least three months in advance of the anticipated COD of the new system.

2. On receipt of the above request from the Entity, CTUIL within 5 working days from receipt ofthe said request, shall advise POWERGRID to install the IEM/SEM in the new system as per the scheme suggested by RLDC. A copy of the advice shall also be sent to the respective Entity.

3. The entity shall approach POWERGRID along with the CTUIL letter regarding requirement of IEM/SEM along with required accessories, intimating the timeframe for IEM/SEM installation. Accordingly, POWERGRID shall raise the invoice on the Entity. The entity shall accept the invoice in next 7 days thereafter.

4. POWERGRID shall install IEM/SEM in the new system at least 15 days before anticipated COD of the new system. POWERGRID shall inform CTUIL after installation of the IEM/SEM in the new system.

5. After installation of IEM/SEM, the entity shall inform respective RLDC & CTUILabout the same with necessary details (Meter Sl.No, Make, Model, Date of replacement and meter location) within 2 days. The verification testing with RLDC shall be ensured by the Entity.

C. Payment and Warranty:

1. The Entity shall make payment to POWERGRID within 45 days from the date of replacement of IEM/SEM failing which the late payment surcharge @ 0.04% of the invoice amount per day shall be payable for the delayed period. In no case, the delayed period shall exceed 60 days. In case, any payment is pending even after 60 days from the date of last IEM/SEM replaced for the particular entity, no further supply/replacement of any IEM/SEM for that entity will be carried out. In such a case, the onus of continuing with the defective IEM/SEM shall solely be on the entity.

2. IEM/SEM once replaced, shall be under warranty for a period of 1 year from the date of installation. During this warranty period, the entity shall take up the matter directly with POWERGRID's nodal officers with a copy to CTUIL. POWERGRID's nodal officer shall arrange to replace such faulty IEM/SEM within 15 working days from the date of intimation by the entity.

D. Standardized charges for Supply, and Supply and Installation of IEM:

1. CTU, in consultation with POWERGRID, shall device region wise standardized rate for Supply, and Supply and Installation of IEM for each Financial Year.

E. Bulk Procurement of ISTS IEM/SEM

1. By the end of September of each year, CTUIL/STU shall provide the details of ISTS projects coming up in the next 2 years to respective RLDC.

2. RLDC shall work out the metering scheme for total requirement of IEM/SEM under the following heads:

i. For new ISTS system

ii. Spares @10% of the IEM/SEM population in the region

iii. Projected requirement towards replacement of defective IEM/SEM based on past 2-year trend.

RLDC will get the total IEM/SEM quantity approved by respective RPCs and inform to CTUIL by November end.

3. On receipt of the IEM/SEM quantity from RLDCs, CTUIL shall aggregate the requirement on PAN India basis and issue procurement advice to POWERGRID by December end.

F. Inventory Management

Each month RLDC would furnish the report on working, suspect and defective IEM/SEM in respective region to CTUIL. POWERGRID would furnish the region-wise numbers of the IEM/SEM available with them to CTUIL.

Based on this input CTUIL may issue suitable directions for diversion of spares from one region to another or initiate timely action for procurement of spares.

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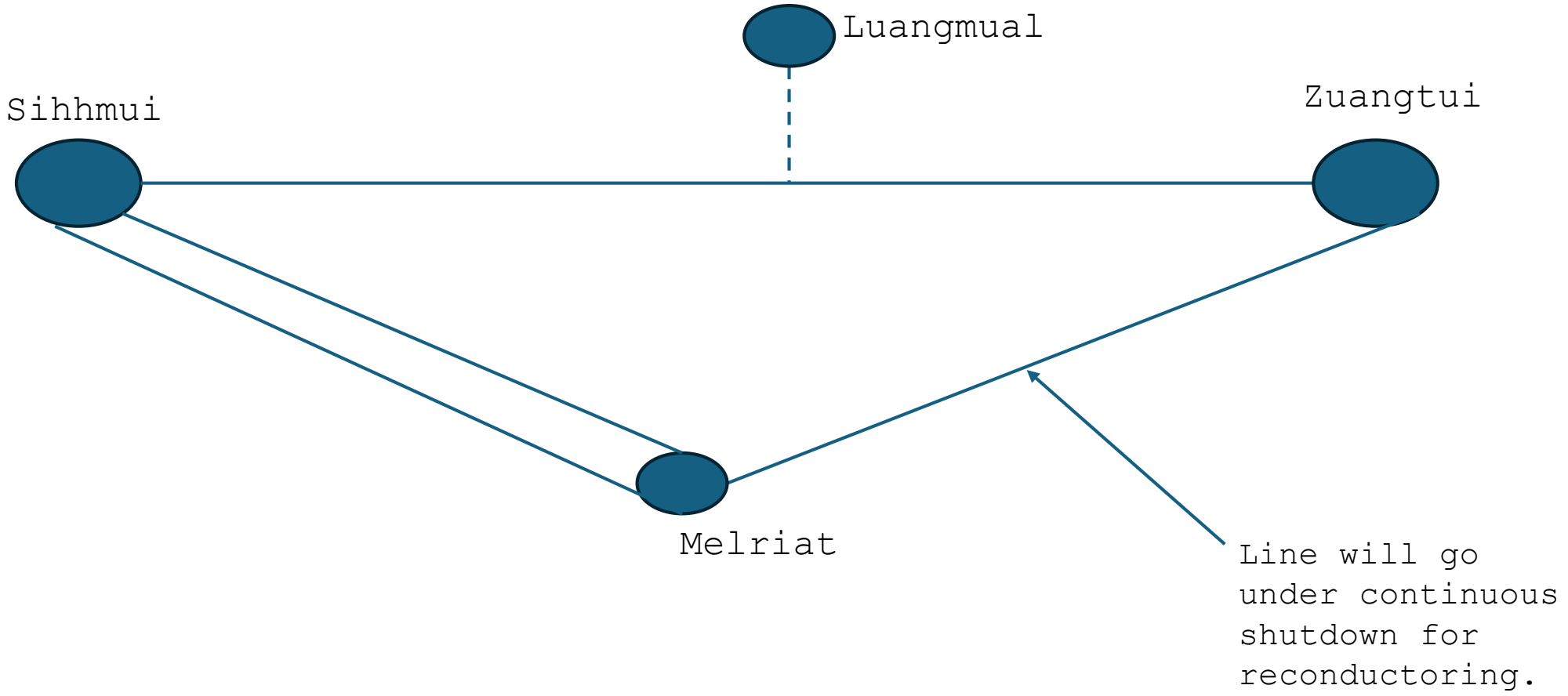
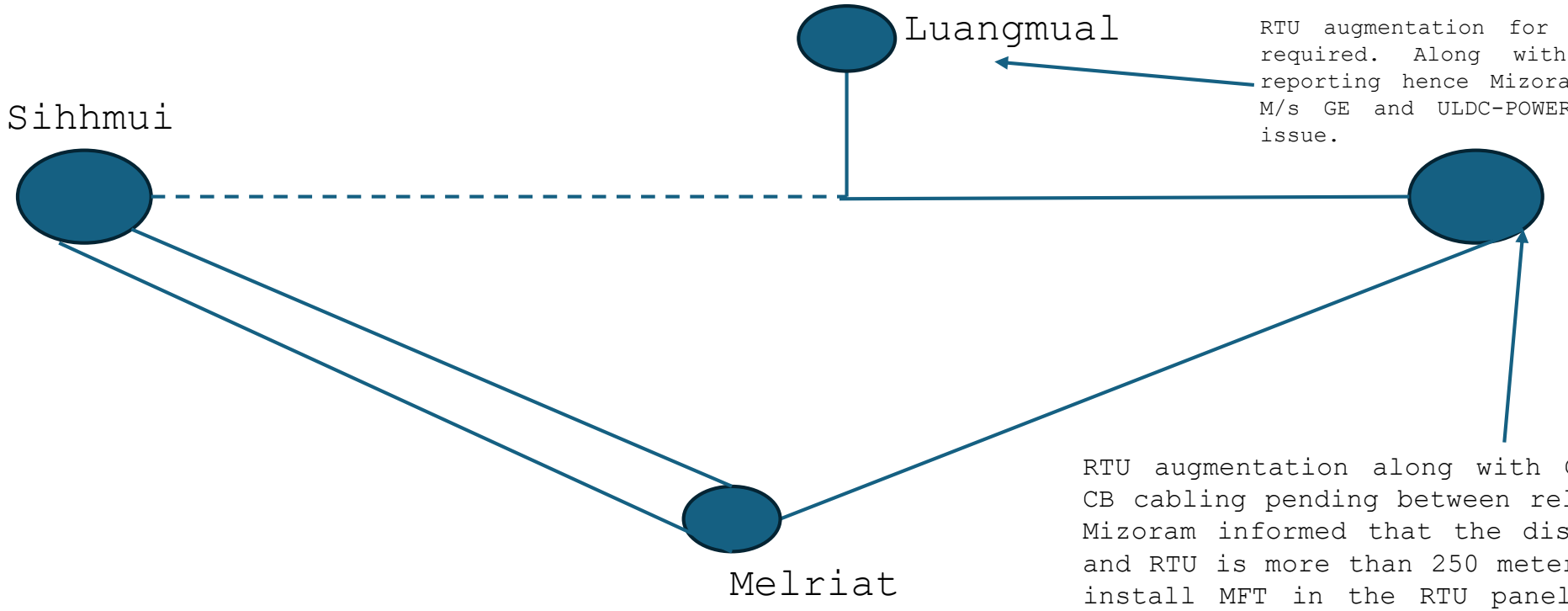
Connectivity of Sihhmui – Luangmual – Zuangtui during reconductoring of 132 kV Melriat – Zuangtui line



Connectivity of Sihhmui – Luangmual – Zuangtui after reconductoring of 132 kV Melriat – Zuangtui line



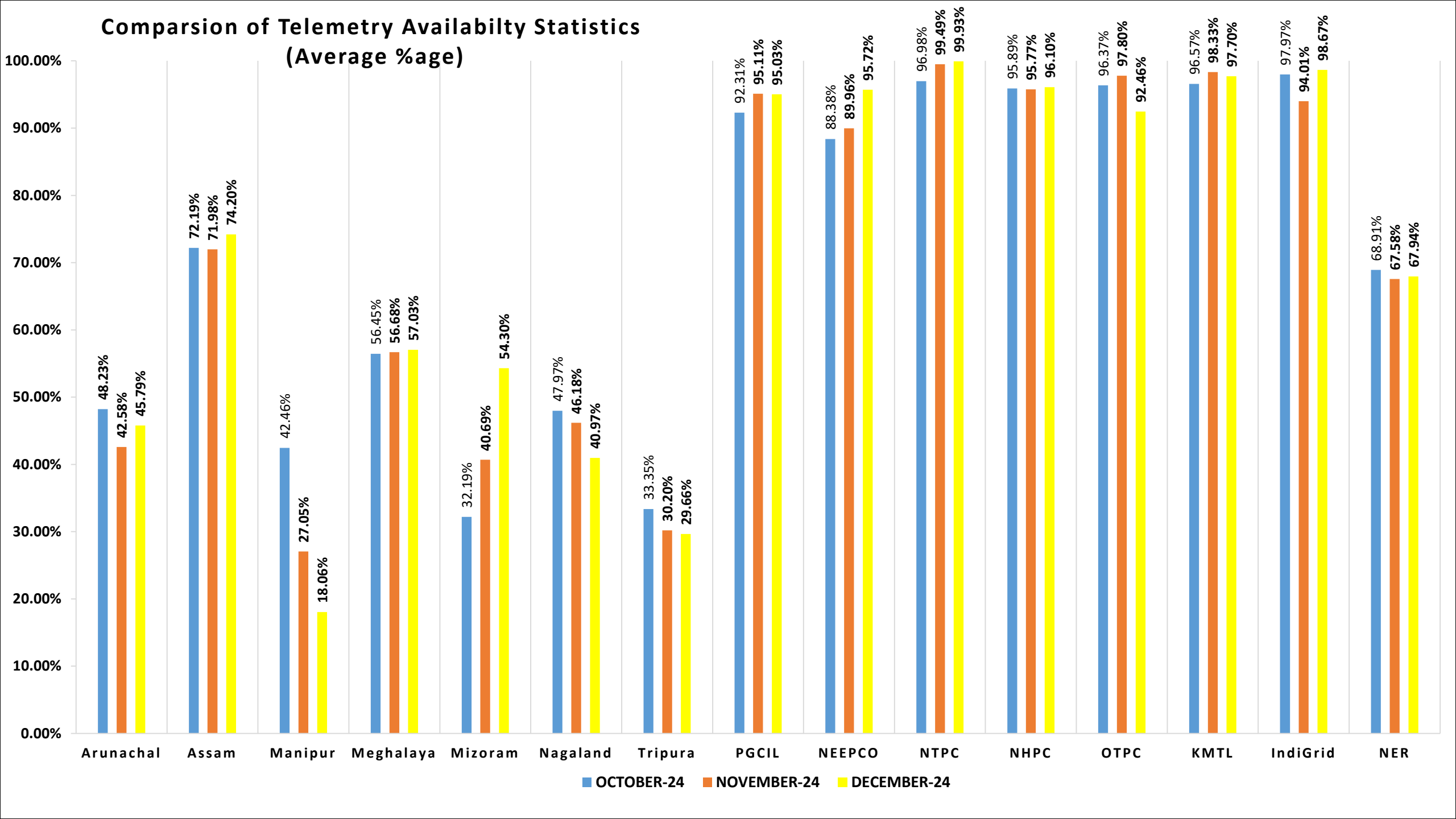
RTU augmentation for the Zuangtui Bay is required. Along with that RTU is not reporting hence Mizoram will take up with M/s GE and ULDC-POWERGRID to resolve the issue.

RTU augmentation along with CT/PT and Isolators & CB cabling pending between relay panel and RTU/MFT. Mizoram informed that the distance between the Bay and RTU is more than 250 meters. It is requested to install MFT in the RTU panel and lay cables from CT/PT from bay till MFT. Similarly cables for isolator and CB position will be laid from Relay panel upto DI card of RTU, if required necessary CMR will also be installed.

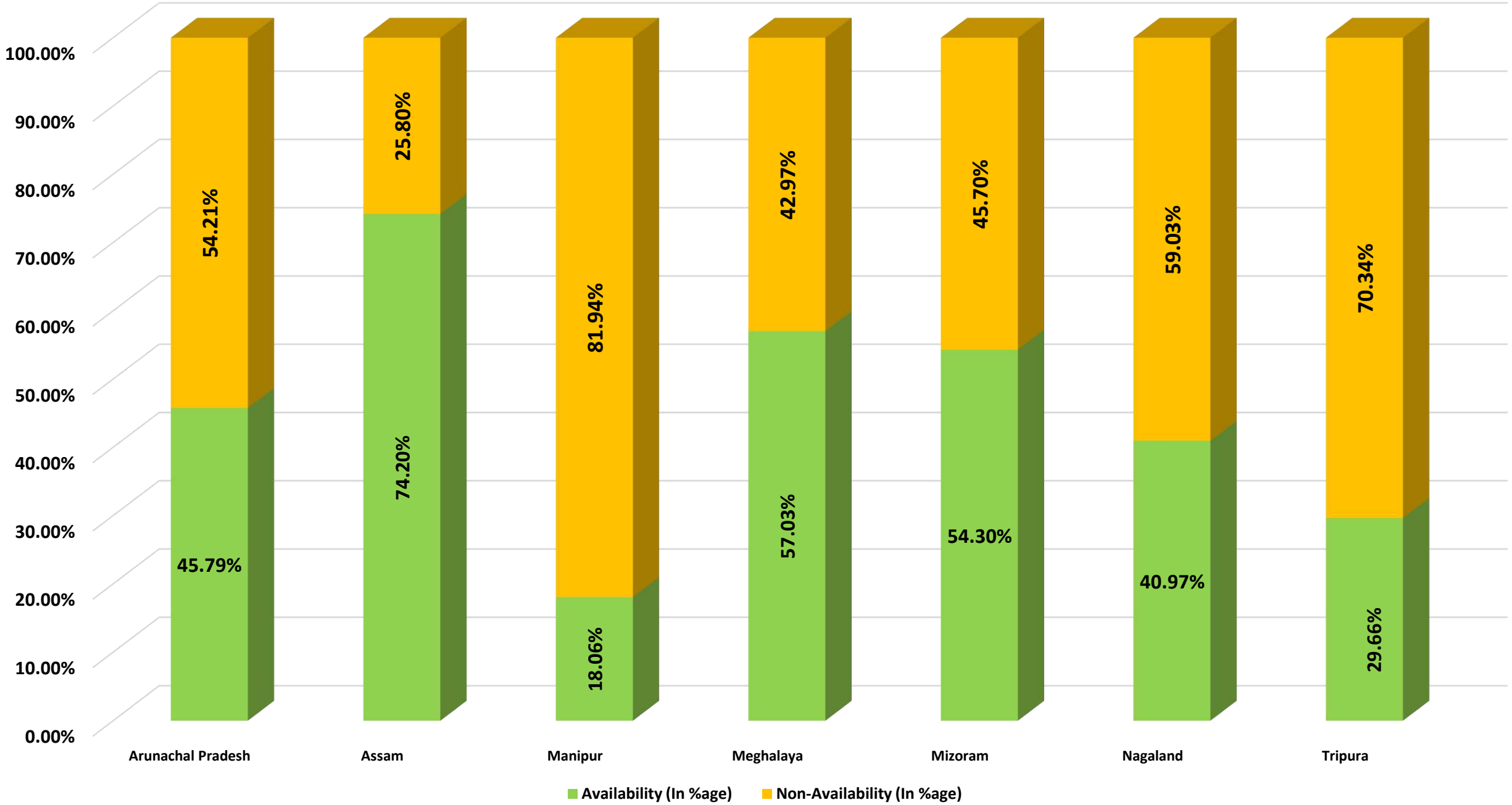
Telemetry Statistics for the month of December 2024

Annexure C 3.4

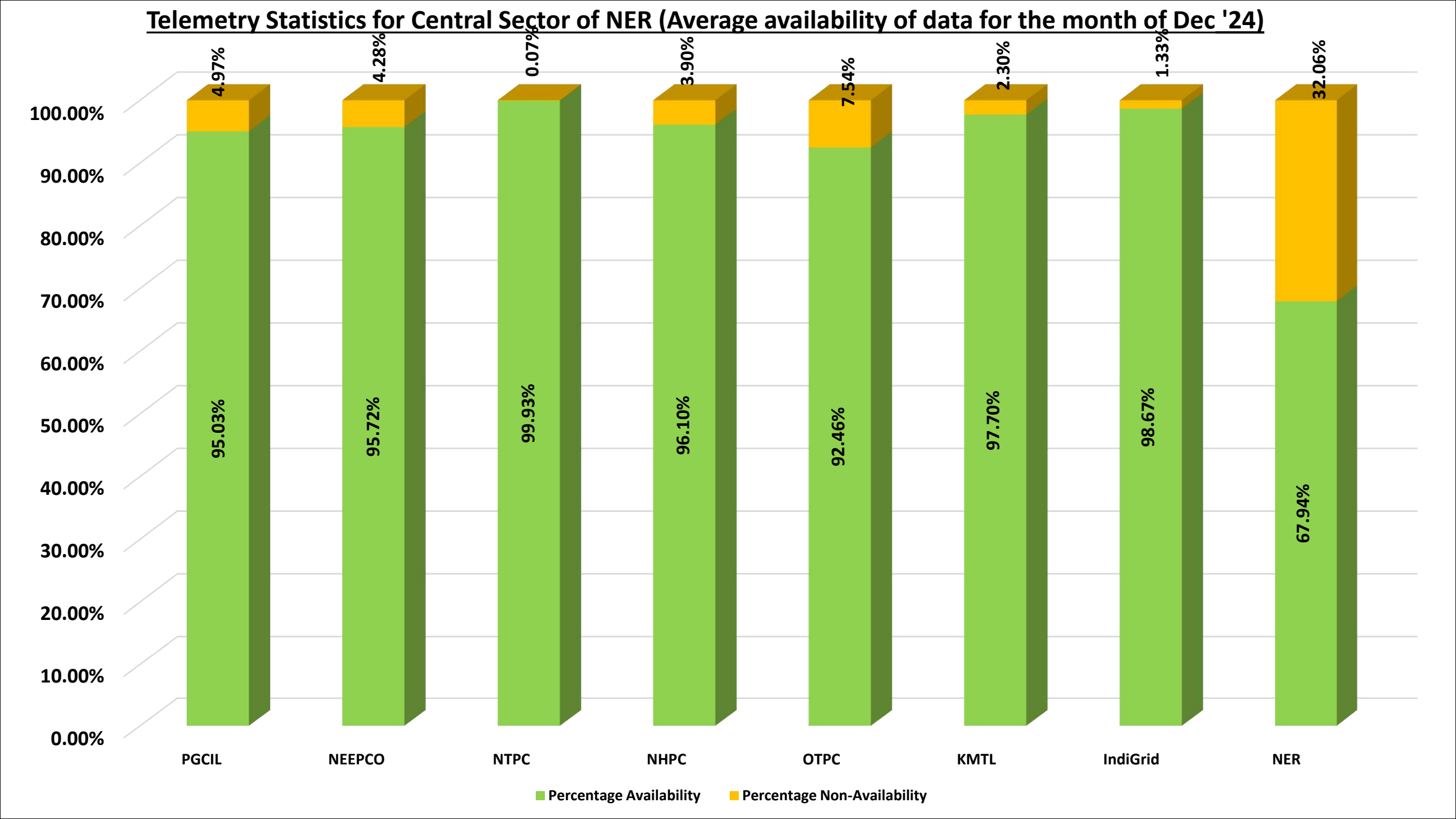
Sl. No.	Utility	Average Total Percentage	Average Analog Percentage	Average Digital Availability	Average RTU Availability
1	PGCIL	95.03	94.66	95.21	91.34
2	NEEPCO	95.72	94.42	96.5	99.76
3	NTPC	99.93	99.93	99.93	99.93
4	NHPC	96.1	99.78	94.1	99.78
5	OTPC	92.46	91.85	92.75	95.46
6	KMTL	97.7	97.89	97.62	99.95
7	Indi-Grid	98.67	97.01	99.36	99.97
8	Arunachal Pradesh	45.79	49.1	43.52	57.72
9	Assam	74.2	75.4	73.32	79.58
10	Manipur	18.06	19.27	17.34	24.99
11	Meghalaya	57.03	78.99	40.49	84.73
12	Mizoram	54.3	50.56	57.4	73.8
13	Nagaland	40.97	36.55	44	35.96
14	Tripura	29.66	32.36	27.72	41.63
	NER	67.94	69.44	66.96	70.29


Comparsion of Telemetry Availabilty Statistics
(Average %age)
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
48.23%
42.58%
45.79%
72.19%
71.98%
74.20%
42.46%
27.05%
18.06%
56.45%
56.68%
57.03%
32.19%
40.69%
54.30%
47.97%
46.18%
40.97%
33.35%
30.20%
29.66%
92.31%
95.11%
95.03%
88.38%
89.96%
95.72%
96.98%
99.49%
99.93%
95.89%
95.77%
96.10%
96.37%
97.80%
92.46%
96.57%
98.33%
97.70%
97.97%
94.01%
98.67%
68.91%
67.58%
67.94%
Arunachal
Assam
Manipur
Meghalaya
Mizoram
Nagaland
Tripura
PGCIL
NEEPCO
NTPC
NHPC
OTPC
KMTL
IndiGrid
NER
OCTOBER-24
NOVEMBER-24
DECEMBER-24

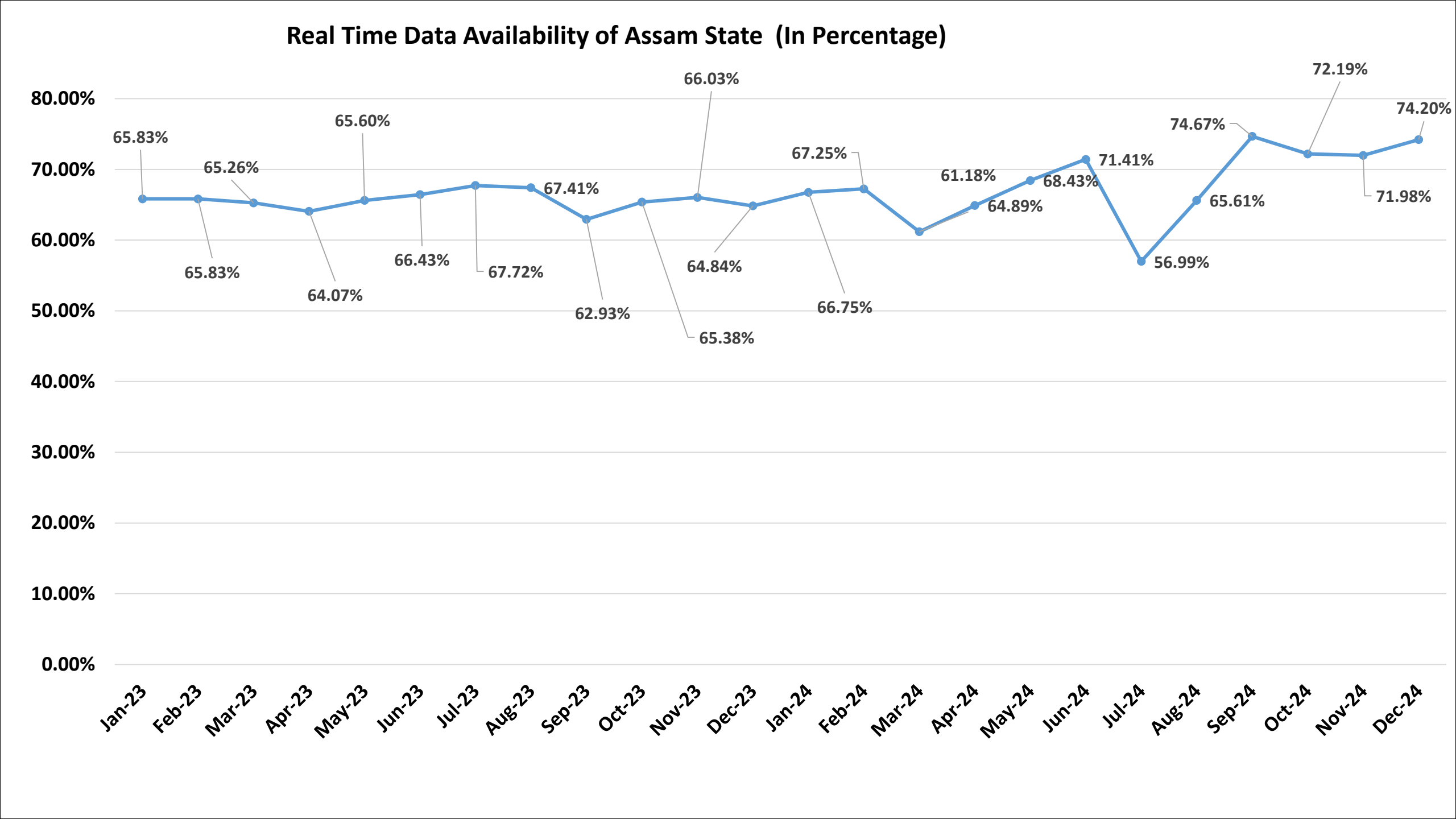
Telemetry Statistics for NER States(Average availability of data for the month of Dec '24)

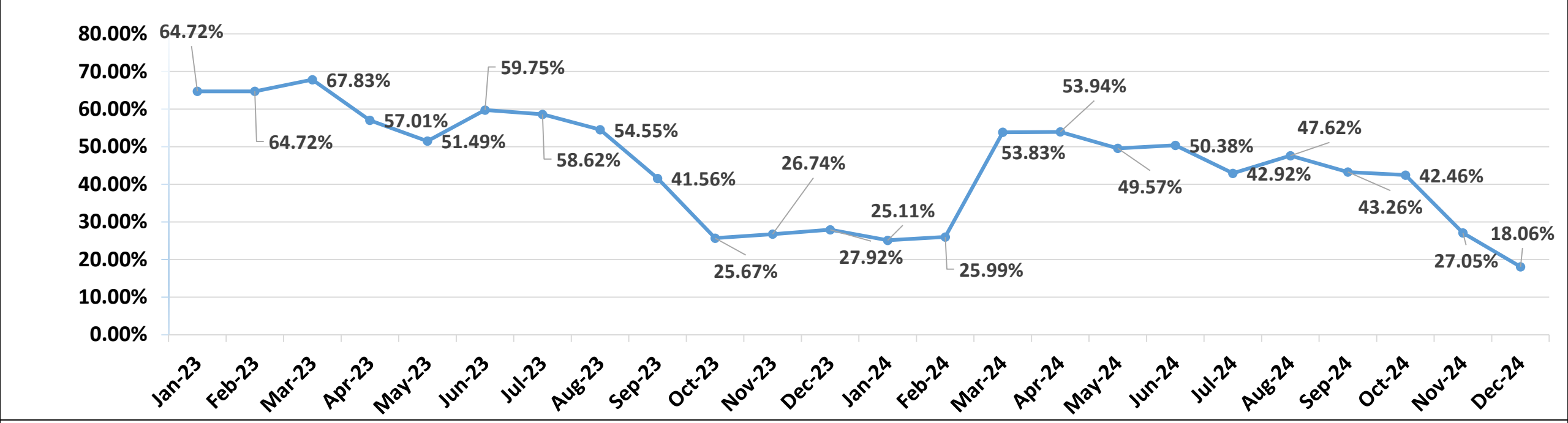


Telemetry Statistics for Central Sector of NER (Average availability of data for the month of Dec '24)

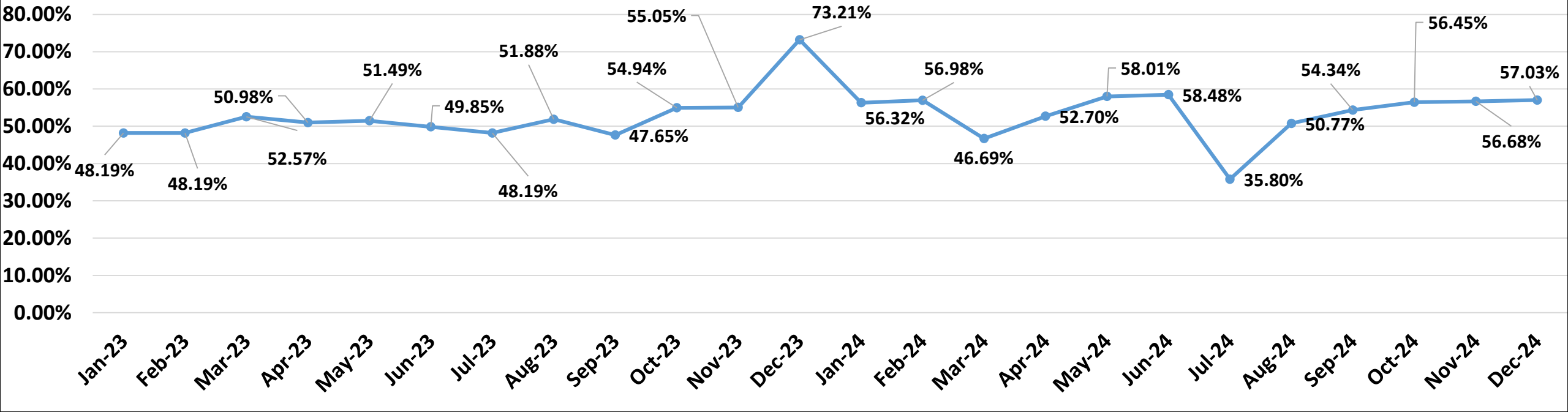


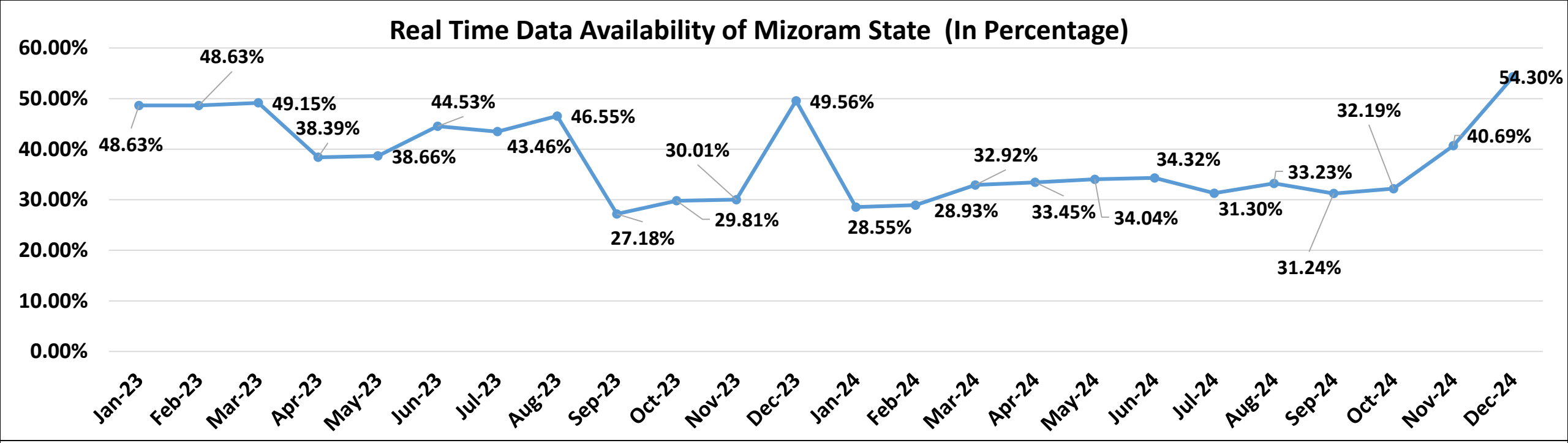
Real Time Data Availability of Assam State (In Percentage)





Real Time Data Availability of Meghalaya State (In Percentage)




Real Time Data Availability of Mizoram State (In Percentage)
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
48.63%
48.63%
49.15%
38.39%
38.66%
44.53%
43.46%
46.55%
27.18%
30.01%
29.81%
49.56%
28.55%
28.93%
32.92%
33.45%
34.04%
34.32%
31.30%
33.23%
31.24%
32.19%
40.69%
54.30%
Jan-23
Feb-23
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
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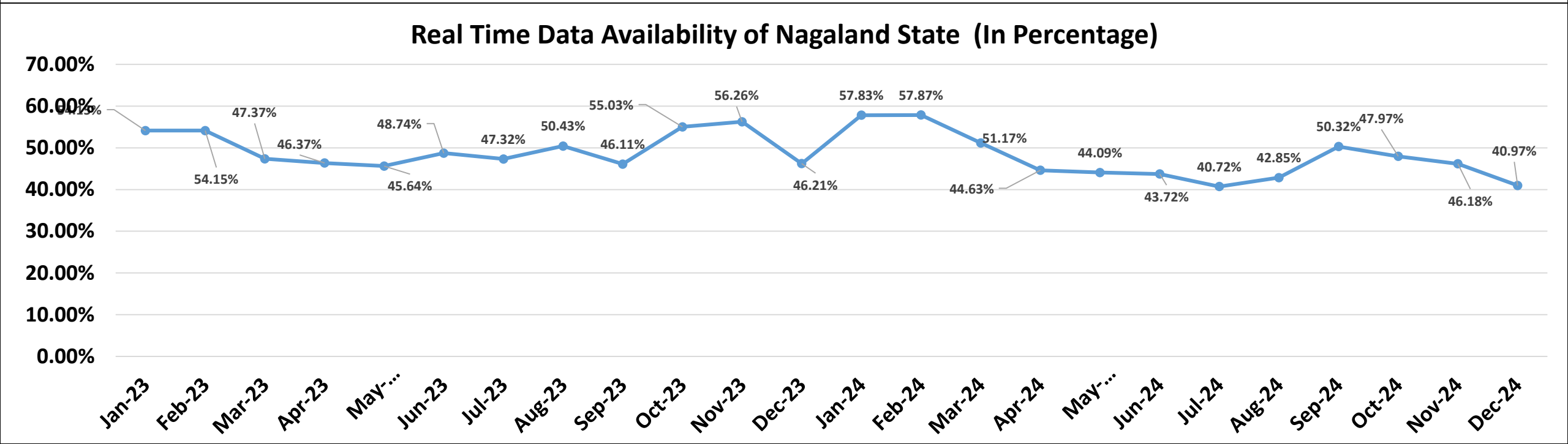
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


Real Time Data Availability of Nagaland State (In Percentage)
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40.00%
30.00%
20.00%
10.00%
0.00%
54.15%
47.37%
46.37%
45.64%
48.74%
47.32%
50.43%
46.11%
55.03%
56.26%
46.21%
57.83%
57.87%
51.17%
44.63%
44.09%
43.72%
40.72%
42.85%
50.32%
47.97%
46.18%
40.97%
Jan-23
Feb-23
Mar-23
Apr-23
May-...
Jun-23
Jul-23
Aug-23
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Nov-23
Dec-23
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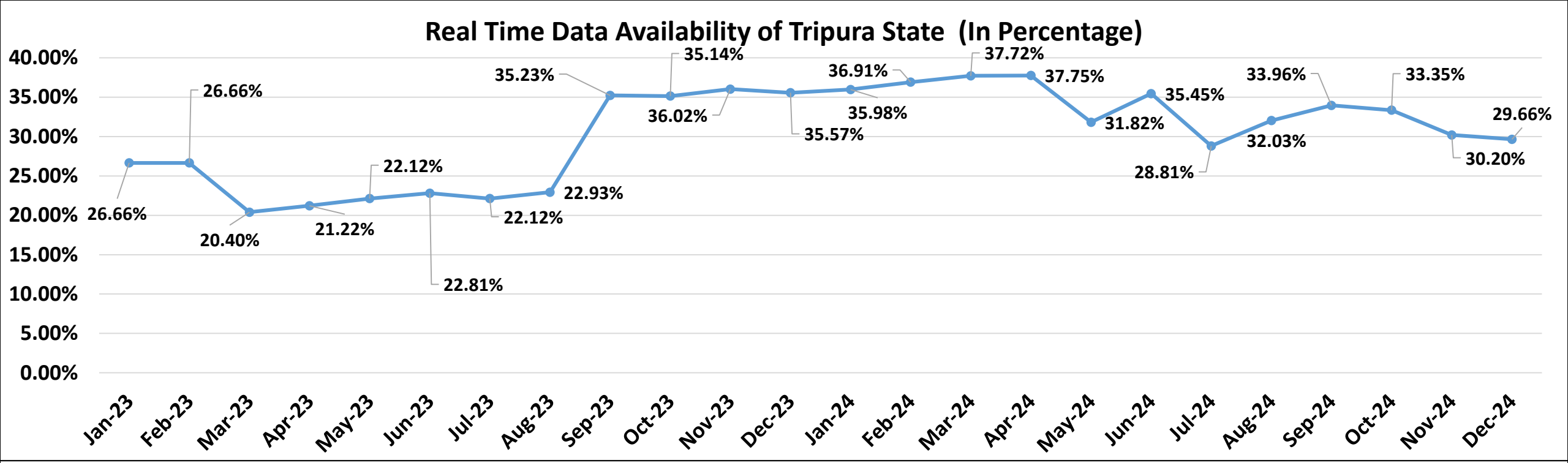
Sep-24
Oct-24
Nov-24
Dec-24


Real Time Data Availability of Tripura State (In Percentage)
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35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
26.66%
26.66%
20.40%
21.22%
22.12%
22.81%
22.12%
35.23%
22.93%
35.14%
36.02%
36.91%
35.57%
35.98%
37.72%
37.75%
31.82%
35.45%
28.81%
32.03%
33.96%
33.35%
30.20%
29.66%
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Nov-23
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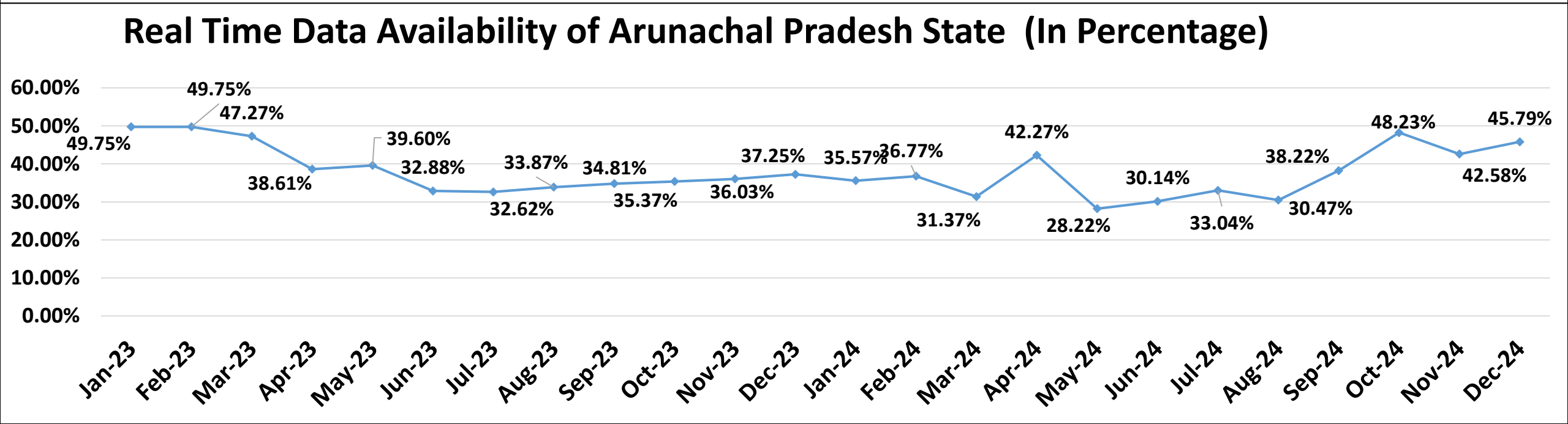
Oct-24
Nov-24
Dec-24


Real Time Data Availability of Arunachal Pradesh State (In Percentage)
60.00%
50.00%
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30.00%
20.00%
10.00%
0.00%
49.75%
49.75%
47.27%
38.61%
39.60%
32.88%
32.62%
33.87%
34.81%
35.37%
37.25%
36.03%
35.57%
36.77%
31.37%
42.27%
28.22%
30.14%
33.04%
38.22%
30.47%
48.23%
42.58%
45.79%
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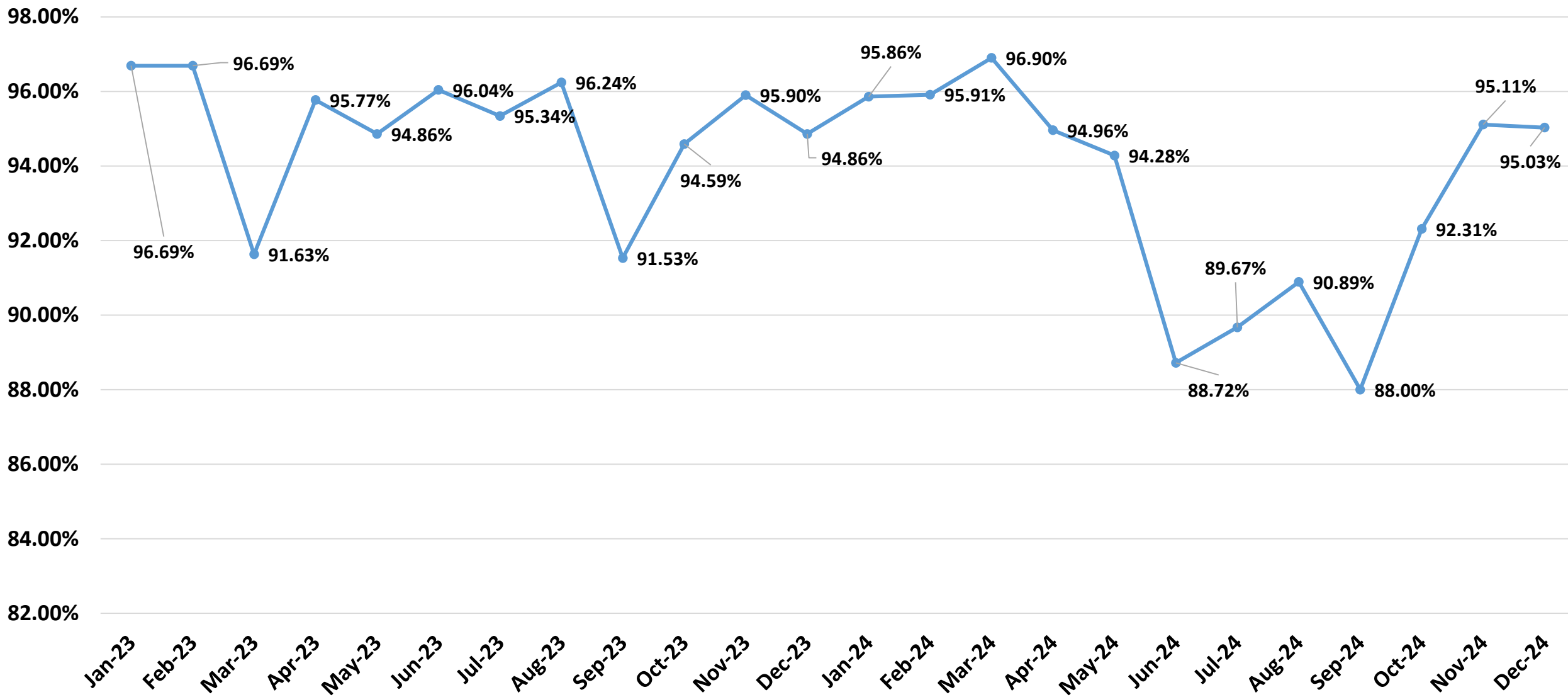
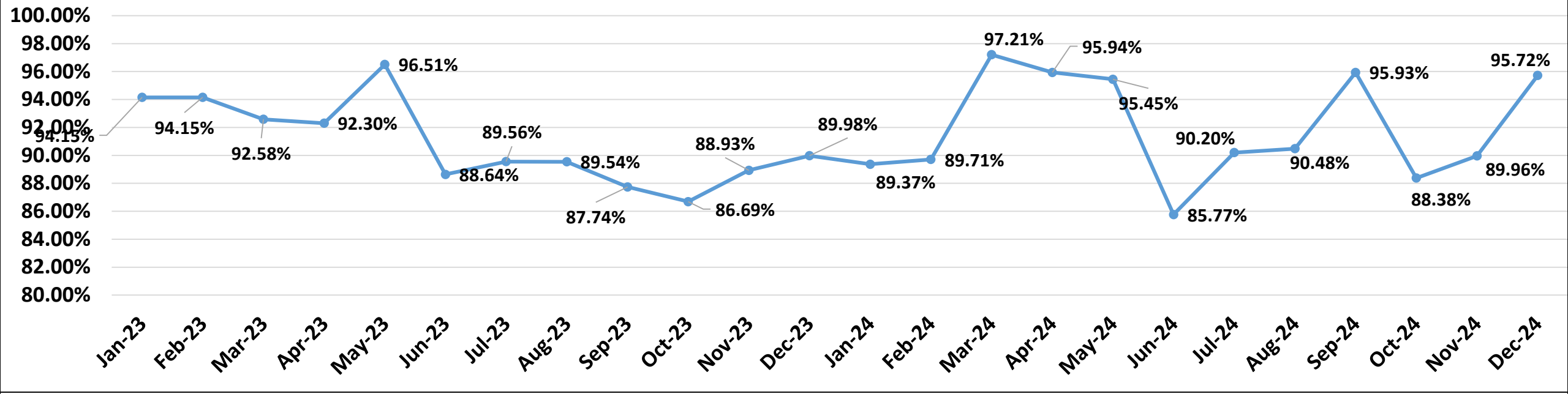
Oct-24
Nov-24
Dec-24

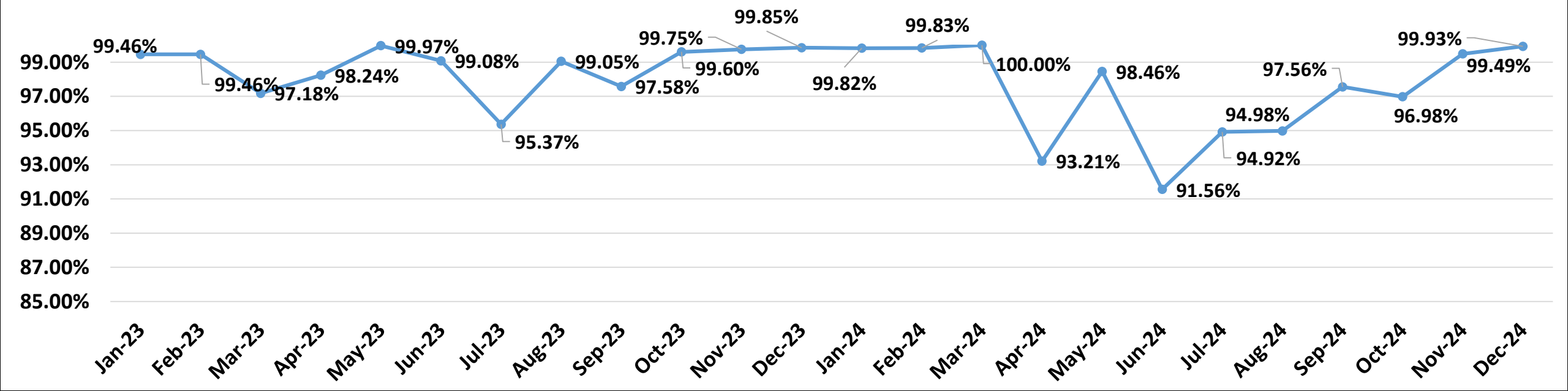
Real Time Data Availability of PGCIL(In Percentage)



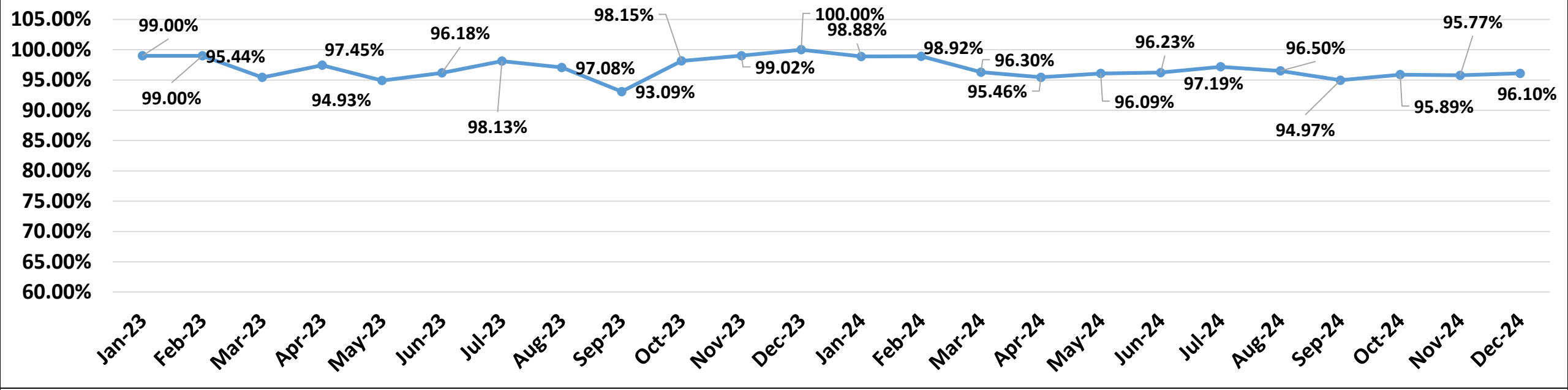
Real Time Data Availability of NEEPCO (In Percentage)



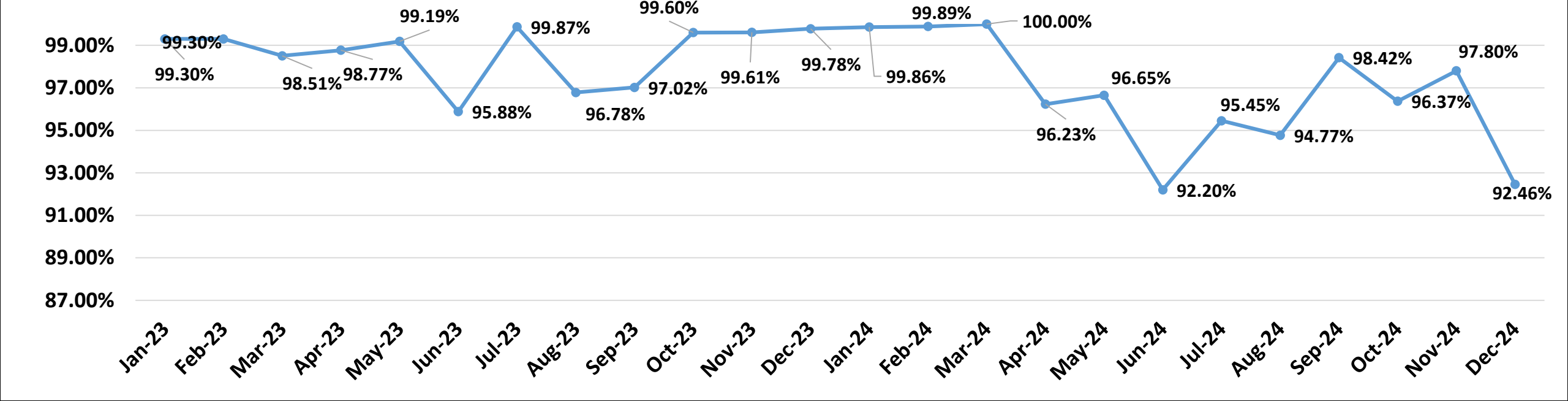
Real Time Data Availability of NTPC (In Percentage)



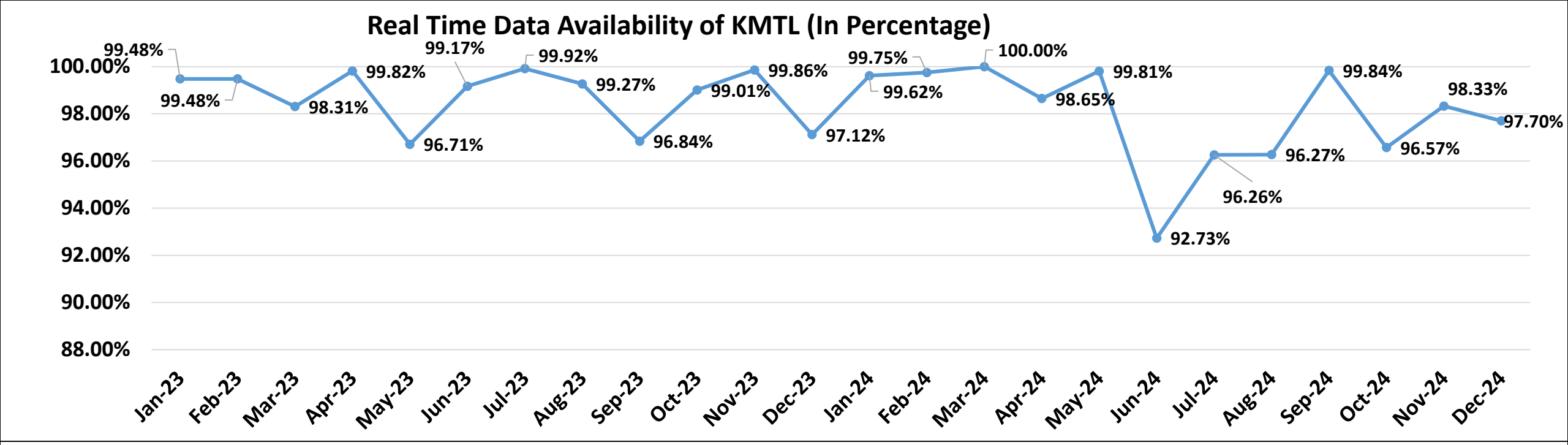
Real Time Data Availability of NHPC (In Percentage)



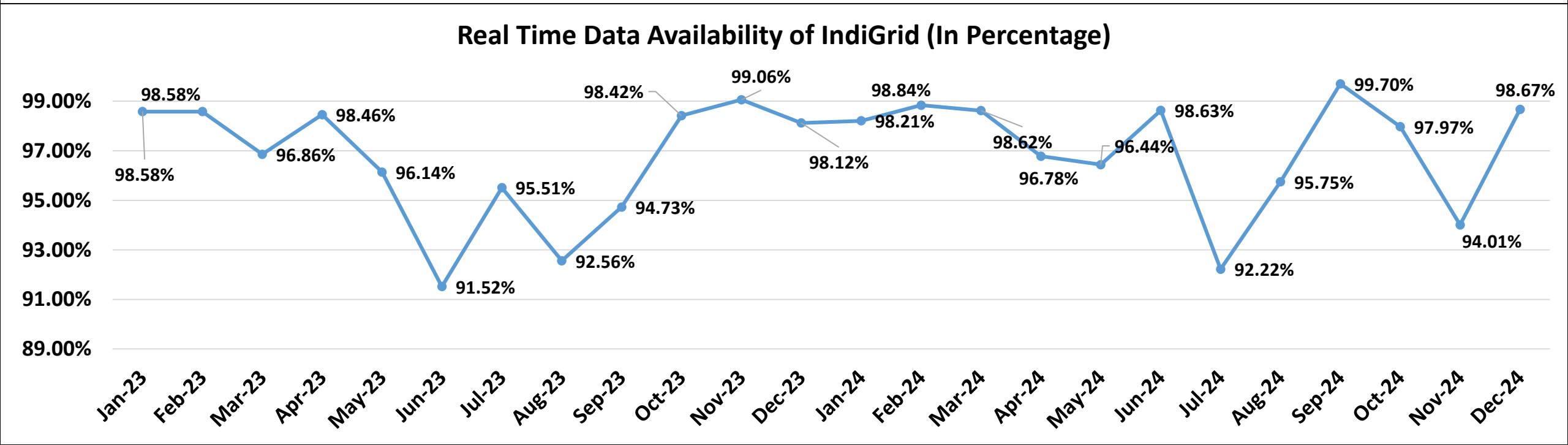
Real Time Data Availability of OTPC (In Percentage)



Real Time Data Availability of KMTL (In Percentage)



Real Time Data Availability of IndiGrid (In Percentage)



List of Participants in 30th NETeST meeting held on 24.01.2025 in NERPC Conference Hall

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18	Abhilash AA	AM	POWERGRID	abhilash@powergrid.in	9600160276	
19	Pranjal Das	AM	POWERGRID	pranjdas@powergrid.in	8473871673	
20	Ojing Serang	EEC@SLDC	DOP. AP	ojing.serang@gmail.com	8974640422	
21.	Pradip Sharma	Project Manager	Genus Power	Pradip.Sharma@genus.in	7786710588	
22	SAPTARSHI DEB	MANAGER	GENUS	saptarshi.deb@	8420472769	
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26	Gaurav Bhattacharjee	Asst. Manager	NERLDC, GUHY	bhattacharjee.gaurav@grid-india.in	9402304240	
27	S MONDAL	GM	NERLDC	saupak@grid-india.in	9437041855	

List of Participants in 30th NETeST meeting held on 24.01.2025 in NERPC Conference Hall

S.No	Name	Designation	Organization	Email-Id	Contact No.	Signature
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30	Alokpantha De	DD, NERPC	NERPC	alok.erpc@gov.in		
31	Ashim Kr. Goswami	AD-II, NERPC	NERPC	—	8638966481	