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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website: www.nerpc.gov.in

No.: No. NERPC/NETeST/2024/2230-2269 September 19, 2024

To

As per list attached

Sub: Minutes of the 29th NETeST Coordination Committee Meeting

Sir/Madam,

Please find enclosed herewith the minutes of the 29th NETeST Meeting held on 5th September, 2024 at "Hotel Royale De' Casa, Guwahati" 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.

Encl: As above

भवदीय / Yours faithfully,

(अनिल कवरानी/ Anil Kawrani)
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. 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.

(अनिल कवरानी/ Anil Kawrani)
निदेशक / Director

MINUTES

OF

29TH NETeST MEETING

Time of meeting : 11:30 Hrs.

Date of meeting : 05th September, 2024 (Thursday)

Venue : Hotel Royale De' Casa,Guwahati

Contents

NORTH EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 29TH NETeST MEETING HELD ON 05.09.2024 (THURSDAY) AT 11:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 28th Meeting of NETeST Sub-Committee of NERPC

The minutes of 28th meeting of NETeST Sub-committee held on 14.05.2024 at NERPC, Shillong were circulated vide letter No. NERPC/NETeST/2024/546-585 dated 28th May, 2024.

The following comments have been received from CTU:

Sr.No and Agenda as per 28th NETeST MoM	**As per 28th NETeST MoM (Deliberation)**	**Suggested modification in 28th NETeST MoM**
Sr. No. 2.5: Dual reporting of RTU, PMU, VOIP, AGC etc applications on dual channel to RLDC and Back up RLDC.	CTU representative briefed the agenda item. Assam and Tripura responded that the cost implication is very high for the States. Keeping in mind, the financial constraints of the NER States, all the States requested CTU to apply for PSDF funding. NERPC advised CTU to explore the possibility of using spare STM 16 FOTE instead of procuring new STM 16	CTU representative briefed the agenda item. Assam and Tripura responded that the cost implication is very high for the States. Keeping in mind, the financial constraints of the NER States, all the States requested CTU to apply for PSDF funding. **However, CTU stated that POWERGRID shall prepare a DPR for this project and submit for PSDF funding after finalization of scheme.** NERPC advised CTU to explore the possibility

	FOTE to reduce the cost implications. Member Secretary, NERPC opined that CTU can plan for redundancy including all ISTS, ISGS and TSP keeping in mind the cost-benefit analysis.	of using spare STM 16 FOTE instead of procuring new STM 16 FOTE to reduce the cost implications. Member Secretary, NERPC opined that CTU can plan for redundancy including all ISTS, ISGS and TPS keeping in mind the cost-benefit analysis.

Deliberation of the sub-committee:

The subcommittee deliberated on the comments received from CTU. POWERGRID agreed to prepare the DPR for the project upon finalization of scheme by CTU.

Action: *CTU to finalize the scheme for the project and communicate to POWERGRID.*

The forum confirmed the minutes of 28th NETeST sub-committee meeting.

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 will be deliberated.

Deliberation of the sub-committee:

The forum decided that NERLDC would prepare the list of substations for communication audit as per priority and submit to NERPC. Upon submission, the communication audit shall be carried out as per the shortlisted list. Member Secretary, NERPC advised the forum to start the communication audit for NER grid tentatively by September-2024.

The sub-committee noted as above.

2.2. Draft Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2024

As per Section 177 of the Electricity Act, 2003, the Central Electricity Authority (CEA) has notified the draft Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2024. The proposed draft regulations are available on the CEA Website www.cea.nic.in for inviting public comments. The Regulations can also be inspected in the office of Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi-110066 on any working day till 10th September, 2024, between 1100 hrs to 1600 hrs. NERPC has circulated the draft regulations to

all the stakeholders of NER on 29/08/2024 via email. The draft regulations are attached as Annexure B 2.2.

All the Stakeholders are requested to send their comments on the draft regulations to Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi-110066 by post or through e-mail (celegal-cea@gov.in) latest by 10th September, 2024.

Deliberation of the sub-committee:

NERLDC briefed the forum about the draft Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2024 through a presentation. NERLDC also apprised the forum that the comments from NERLDC had been sent to corporate office for finalization which would be then sent to CEA. NERPC requested all other constituents to go through the draft regulations and send their comments, if any, to CEA latest by 10th September, 2024.

The sub-committee noted as above.

2.3. Communication System Outage Planning

As per Regulation 7.3 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017:

Quote:

The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

Unquote

Communication System Outage Planning will be limited to the following systems:

(i) ISTS Communication System including ISGS

(ii) Intra-state Communication System being utilized for ISTS Communication

(iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDCs.

(iv) Inter-regional AGC links

(v) Any other system agreed by the sub-group

- Communication System Outage Planning (CSOP) meeting shall be conducted during the third week of every month normally (preferably through VC) to discuss and approve the proposed outages of communication links and equipment.
- In case of any emergency outage requirement of communication links and equipment, Entities/Users/Owners may directly apply to respective RLDC with intimation to respective RPCs on D-2 basis. Confirmation of approval/rejection will be provided on D-1 basis by RLDCs in consultation with respective RPCs considering 24hrs processing window.
- Detailed SOP of Communication System Outage Planning attached at Annexure-B 2.3
- As per Communication system outage planning SOP provision, Monthly Communication system Outage planning meeting needs to be conducted in current month for approval of planned outage of communication equipment's and links in next month.
- Hence, it is proposed to start outage planning for Communication system in line with provisions of Communication system regulations, 2017 and w.e.f. September 2024.

Deliberation of the sub-committee:

NERPC informed that the format for shutdown details shall be shared with all the constituents via e-mail. The forum agreed that all the constituents shall send the outage requirements for next 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. The forum advised the States to share the list of important lines that are critical from communication perspective to NERLDC by 20th September'2024.

The subcommittee noted as above.

2.4. Guidelines on availability of communication system

- CERC vide order dated 19.01.2024 had approved the "Guidelines on Availability of Communication System" (Annexure-B.2.4) 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:

The forum opined that a letter will be sent by NERPC Secretariat to CTU to provide the list of channels as per guidelines from UNMS.

The sub-committee noted as above.

AGENDA FROM POWERGRID

2.5. Issuance of Trial Operation Certificate for UNMS system.

The request for issuance of Trial Operation certificate has been already forwarded by POWERGRID to Grid-India on 29.02.2024, however, the trial operation certificate has not been received yet.

Deliberation of the sub-committee:

The forum decided that a special meeting shall be held among NERPC, POWERGRID, NERLDC and all NER States regarding the issues of pending NMS integration and FOTE integration with UNMS. All the NER States shall take a

decision on issuance of NOC for Trial Operation Certificate for UNMS system upon completion of the pending integration issues.

The sub-committee noted as above.

AGENDA FROM CTU

2.6. Scheme for OPGW replacement work on 132kV NEHU-Khliehriat ckt-1 line and laying of UGFO cable from Tower 25 of 132 kV NEHU – Mawlyndep line to NERLDC,Shillong.(agenda no. 3.6 of MoM of 26th TCC and NERPC meeting)

In 26th NERPC meeting, NERPC noted and gave in-principle approval of the project subject to the approval of Board of Meghalaya and sharing of fiber laid under the scheme shall be as per the outcome of the decision of the CEA Committee on formulating comprehensive guidelines on OPGW sharing.
Till now Meghalaya has not updated the status of their board approval.
Meghalaya is requested to update the status of their board approval.

Deliberation of the sub-committee:

Meghalaya apprised the forum that the board approval shall be issued only after finalization of guidelines for sharing of optical fibres by CEA. The forum opined that Meghalaya to get the board approval at the earliest as the same had been discussed in 26th NERPC meeting.

The forum assured Meghalaya that commercial utilisation of the fibres shall not be done till the guidelines for sharing of optical fibres are finalized by CEA. The fibres will be used only for critical grid applications(which is of utmost importance) and this shall be ascertained during the communication audit.

The sub-committee noted as above.

2.7. OPGW replacement on 132 kV Kahilipara - Umiam Stg. III -Umiam Stg. I – NEHU link and OPGW laying on 132kV Sarusujai to Umtru line for back up NERLDC connectivity (agenda no. 3.20 of MoM of 26th TCC and NERPC meeting)

Deliberation of the 26th NERPC Meeting: Meghalaya representative requested the forum that they will take their board approval for the scheme in a month's time. NERPC noted and 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.

Till now Meghalaya has not updated the status of their board approval.

Meghalaya is requested to update the status of their board approval.

Deliberation of the sub-committee:

Meghalaya apprised the forum that the board approval shall be issued only after finalization of guidelines for sharing of optical fibres by CEA. The forum opined that Meghalaya to issue the board approval at the earliest as the same had been discussed in 26th NERPC meeting.

The forum assured Meghalaya that commercial utilisation of the fibres shall not be done till the guidelines for sharing of optical fibres are finalized by CEA. The fibres will be used only for critical grid applications and this shall be ascertained during the communication audit.

The sub-committee noted as above.

AGENDA FROM AEGCL

2.8. Discussion on AMC of SCADA/EMS

It is to inform you that, the existing AMC of SCADA/EMS which was extended for 2 years under the scope of the contract is going to expire on 11.11.2024. The system is due for upgradation. As such, the DPR for upgradation has already been submitted to NERPC for onward submission to PSDF. However,

before the upgraded system is put in place, the AMC of the existing system is going to expire. In view of the above M/S GE T&D Ind. Ltd. (the OEM of the existing system) was requested to submit an offer for further extension of AMC for another 2 years on 02.05.2024. M/S GE T&D Ind. Ltd. has reverted with techno-commercial offer on 09.07.2024. Following are the observations made on the offer:

1. The offered price is significantly high as compared to the existing AMC with the following exclusion from maintenance:
   a. Any Upgrade (hardware & Software)
   b. Signature and Patch updates for End of Support Products
   c. External Firewalls (Checkpoint)
   d. VC System
   e. TV Screen-55 Inch
   f. Printer
   g. Input/Output ACDB, UPS Battery and Battery Bank
   h. Any RTU and field equipment
   i. Any new bay/station integration shall be done at mutually agreed price
   j. L-3 support for deep application issues and customization for eDNA
   k. Any item not mentioned in above Scope of Work
   l. 3rd Party audits, mitigations and support
   m. SAN/NAS storage availability

   For signature and patch update for the products which are not in their end of support is not specified. Inclusion of UPS along with DG has also not specified. Also, the license of the External firewall is going to expire in December, 2024 and End of Life for the same has been declared as December, 2025. Till the EOL the firewall shall be within the scope of AMC. After EOL the same may be upgraded by SLDCs on their own or by M/S GE T&D Ind. Ltd. as in the case of internal firewall.

2. In the existing AMC the scope (terms and condition) such as system availability, Manpower requirement, Service response requirements were broadly elaborated. The same is missing from the new offer.

The offer having such escalate financial implication for AMC with significant reduction in the scope of work appears very difficult to accept.

Hence, considering the above M/S GE T&D Ind. Ltd. has been requested to submit a revised offer on 24.07.2024. M/S GE T&D Ind. Ltd. has declined the request.

Also, other SLDCs of NER are nearing their 2-year extended AMC period. Looking at the above and to bring uniformity to the scope, financial implication, and terms and condition for extension of AMC beyond existing AMC, NERPC is requested to put up this matter in the forthcoming 29th NETeST meeting for discussion.

Deliberation of the sub-committee:

The forum opined that a special meeting would be held among NERPC, NERLDC, GE and all NER states to deliberate on the issue of AMC of SCADA/EMS.

The sub-committee noted as above.

2.9. Maintenance of 170KM OPGW span between Mariani (AEGCL) and Samaguri (AEGCL)

At present 2 pairs of Fibers from 220KV Mariani AEGCL to 220KV Samaguri AEGCL GSS is being used for establishing redundant link between Mariani (PGCIL) and Misa (PGCIL) via Mariani(PG)-Mariani(AEGCL)-Samaguri (AEGCL)-Misa (PG). The OPGW installed in this line is under MW Vacation Earth wire replacement project awarded in the year 2011 to KEC. The OPGW link was finally handed over to AEGCL by PGCIL on 2018. At present AEGCL is looking after the healthiness of this OPGW link and also doing its maintenance and had also done some rectification works in certain sections of this line. It has been observed that proactive rectification work with dedicated live-line expertise Gang helps to quickly recover the OPGW link. But it is not easy to hire and maintain a live line OPGW gang for such quantum of line length which otherwise becomes very expensive.

If any OPGW maintenance work for ULDC/PGCIL link is carried under RTM or any under cost recovery mode by PGCIL, the scope of OPGW maintenance for this 170KM OPGW span between Mariani (AEGCL) and Samaguri (AEGCL) may also be included in such schemes.

Deliberation of the sub-committee:

The forum advised Assam and POWERGRID to discuss the issue bilaterally. The sub-committee also noted that cost recovery may not be possible through RTM mode as it is an intra-State line. Assam shall bear the cost implications for the maintenance and discuss the issue with POWERGRID.

The sub-committee noted as above.

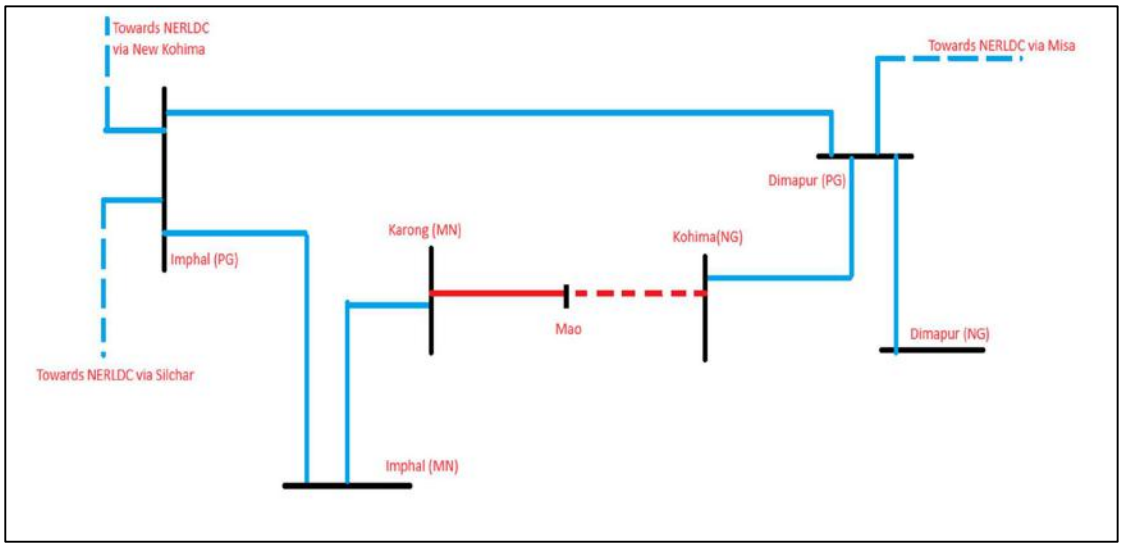
AGENDA FROM NERLDC

2.10. Missing link OPGW in 132 kV Karong-Kohima line

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)

Nagaland is requested to intimate the forum under which scheme they will implement the OPGW link as well as the status of progress of the OPGW installation with target date of completion.



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.

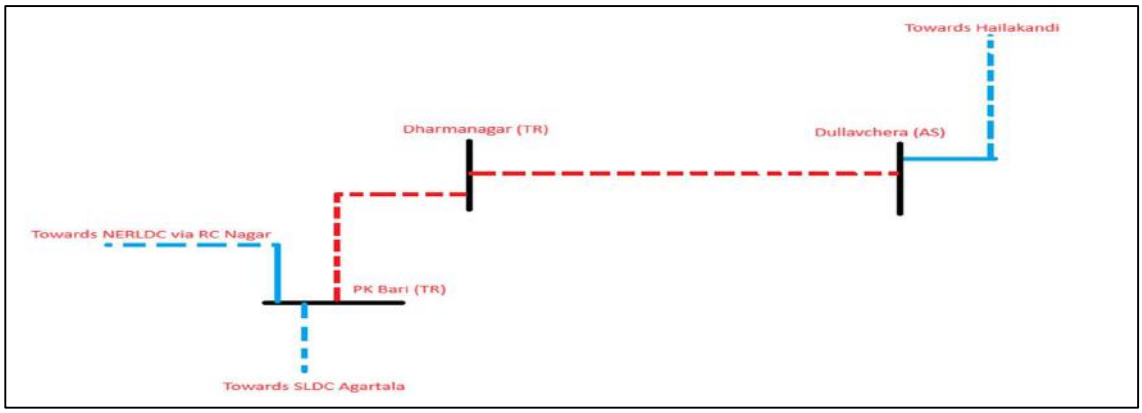
2.11. Dharmanagar-Dullavcherra OPGW connectivity.

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.

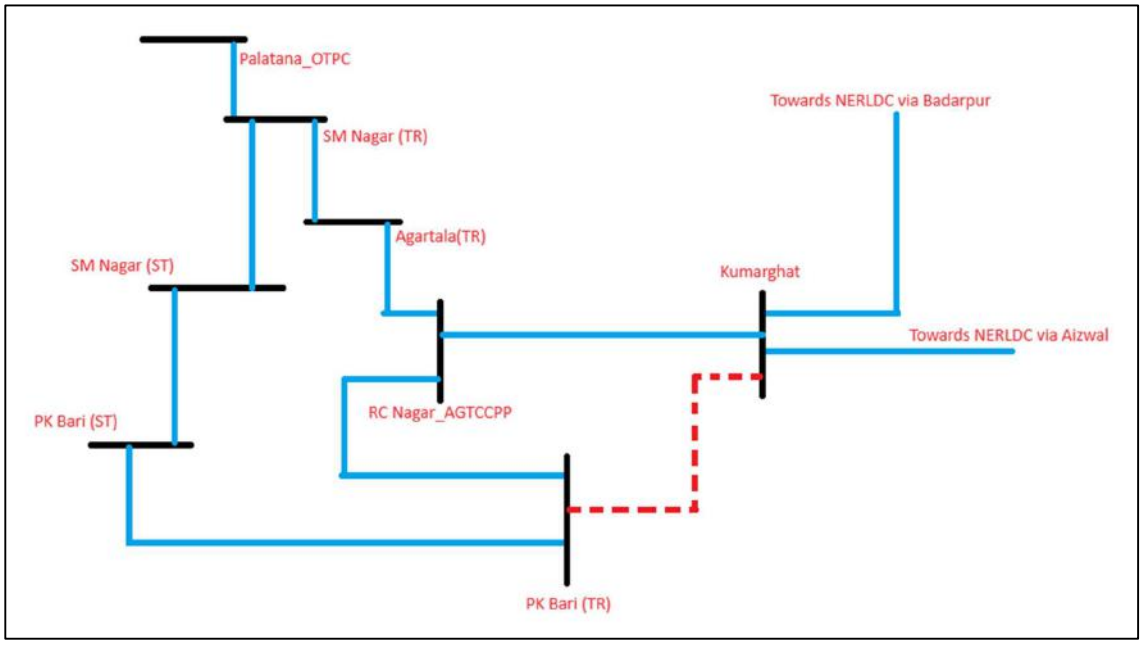
On 07/07/2024, at 1900 hrs, a technical issue at RC Nagar has led to the failure of the 132 kV RC Nagar-Kumarghat link. As a result, the VoIP, PMU, and RTU services of 400 kV SM Nagar, 400 kV PK Bari, Palatana, and RC Nagar were not available at NERLDC. The outage lasted for over 20 hours, with restoration 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.

TSECL and NERPSIP is requested to provide a pair of fibre for the link 132 kV Kumarghat-PK Pari which will be connected to ULDC FOTE at both stations.

Further, NERPSIP-Tripura is requested to intimate the forum the target date of completion of inter-patching between NERPSIP-FOTE and ULDC-FOTE at Kumarghat and PK Bari which will enhance the reliability of OPGW link between 132 kV Kumarghat-PK Bari line.



Deliberation of the sub-committee:

During the 6th CPM meeting held on 23rd August 2024, Tripura confirmed that the OPGW laying and equipment installation at both ends was already completed under the ongoing NERPSIP scheme. Further, NERLDC enquired regarding the status of inter-patching of NERPSIP-FOTE and ULDC-FOTE at Kumarghat and PK Bari and also requested for a pair of NERPSIP fiber to be connected to ULDC-FOTE directly for redundant communication path between Kumarghat and PK Bari.

NERPSIP – Tripura has informed that they would complete the inter-patching with ULDC-FOTE at Kumarghat and PK Bari by the end of September 2024. NERLDC further requested to provide a pair of fibers which will be connected to ULDC-FOTE directly for redundant communication channel between Kumarghat

and PK Bari. NERPSIP-Tripura and TPTL agreed for the same and assured the forum that same would also be completed by the end of Sep.'24.

The sub-committee noted as above.

2.13. Feeble condition of State-Estimator of NERLDC SCADA system due to low availability of Real-time Telemetry

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. In a presentation prepared by NERLDC, attached as Annexure B 2.13, 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.

Deliberation of the sub-committee:

NERLDC highlighted the importance of real-time telemetry data for running the State-estimator.

Member Secretary, NERPC advised the forum to set a target for improvement of telemetry for all the NER States. The targets and timelines as discussed in the forum are mentioned 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*

The sub-committee noted as above.

2.14. Notification of Revised Guidelines for PSDF Fund Disbursement and Request for DPR Revisions

It is 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.

Considering these new guidelines, states are requested to revise the Detailed Project Report (DPR) of the State Reliable Scheme to align with the provisions mentioned above.

The new guidelines have been attached as Annexure-B 2.14 for your reference.

Deliberation of the sub-committee:

NERLDC informed the forum regarding the recent changes in PSDF guidelines dated 12th March 2024. Member Secretary, NERPC requested all the NER States to prepare the DPR for projects related to Communication Schemes for Automated Meter Reading (AMR) and real-time telemetry aimed at achieving 100% grid visibility according to the new clause mentioned in the guidelines . The forum requested States to revise the DPR of State Reliable Communication scheme for getting funding from PSDF and send it to PSDF by October, 2024.

The sub-committee noted as above.

2.15. Non reporting of Deemed ISTS stations

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 Dullavcherra (Assam)	132 kV Dharmanagar (Tripura)	PLCC communication. Data is not reporting due to faulty gateway.

132 kV Tipaimukh (Manipur)	132 kV Aizawl (Mizoram-PG)	Data is not reporting due to non-availability of communication link.

TSECL, AEGCL and Manipur may update on the issue.

Deliberation of the sub-committee:

a) ***132kV Dharmanagar (Tripura) Station***- *As discussed in Agenda 2.11*

b) ***132kV Dullavchera (Assam) station***- *AEGCL has informed that faulty gateway has been resolved and intermittent data is reporting through PLCC. For long term solution the course of action shall be as discussed in Agenda 2.11.*

c) ***132kV Tipaimukh (Manipur)***- *Manipur representative was absent. Manipur is requested to update the latest status via e-mail to NERPC.*

The sub-committee noted as above.

2.16. Connectivity of 132 kV Roing, Tezu and Namsai on OPGW

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.

We kindly request that PGCIL and AEGCL coordinate the necessary inter-patching at Rupai and share the KLM so that the data and voice communications from the 132 kV Roing, Tezu, and Namsai substations can be effectively configured and transmitted to NERLDC, Guwahati.

Deliberation of the sub-committee:

NERLDC has highlighted the importance of connecting 132kV Roing, Tezu and Namsai over OPGW network for which inter-patching of ULDC-FOTE with NERPSIP-FOTE is required at 132kV Chapakhowa (Assam owned station). ULDC-NERTS and NERPSIP has agreed to complete the necessary inter-patching work required within 15 days (i.e. by 20th September, 2024).

The sub-committee noted as above.

2.17. 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)

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).

A presentation has been prepared to illustrate the status of various items under this CERC order that require compliance. This presentation is attached as Annexure B 2.17A for your review. The forum is encouraged to discuss the details and ensure that all necessary actions are being taken in accordance with the order. The CERC order is attached as Annexure B 2.17B.

Deliberation of the sub-committee:

NERLDC informed the forum that as part of the CERC order dated 4th August 2023, all the NER States have to submit a monthly progress report to NERPC and NERLDC. Currently, 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.

Member Secretary, NERPC stated all the NER States need to adhere to CERC order strictly and comply accordingly.

The sub-committee noted as above.

AGENDA FROM PwC

2.18. State wise agenda points to be discussed during the 29th NETeST Coordination

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 860+ days and that of milestone#5 invoice is 330+ 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 330+ days. MePTCL is yet to submit the PSDF requisition for

		10% fund
Arunachal Pradesh	1) Progress status of the project	SAT completed on 16 May 2024 Go-LIVE was completed on 19 July 2024. User training was conducted from 19-21 August 2024. Warranty support period is in progress
	2) Fund requisition is pending for Milestone# 2, 4 & 5	DoP, AP to submit fund requisition of remaining 40% to clear the payment for Milestones# 2, 4 & 5.
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.
	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.

Mizoram	1) Progress status of the project	Go-Live of SAMAST was completed on 19 July 2024. Warranty support period is in progress.
Nagaland	1) Progress status of the project	Warranty support period is in progress
	2) Fund requisition is pending for Milestone# 5	DoP, GoN to submit fund requisition of remaining 10% to complete the payment for Milestones# 5.

Deliberation of the sub-committee:

Assam *apprised the forum that PSDF funding has not been received so far.*

Meghalaya *apprised the forum that requisition for fund shall be sent to PSDF within 15 days.*

Arunachal Pradesh *apprised the forum that the balance fund shall be utilized for payment to M/s Genus. After that Arunachal Pradesh shall send requisition for fund to PSDF.*

Nagaland *apprised the forum that requisition for fund shall be sent to PSDF by September end.*

Tripura *assured the forum to expedite the process of payment.*

AGENDA FROM TRIPURA

2.19. Integration of communication nodes in UNMS

Integration of following communication nodes related with Tripura power system into Tripura UNMS System are still pending which has been communicated via email to NERTS, PGCIL dated on 16th May 2024.

Nodes are:

a. All the FO nodes under NERPSIP Substations.

b. PK Bari ISTS FO Node

c. Surjyamaninagar(Tripura) to South Comilla(Bangladesh) cross border Communication system.

The above UNMS integrations are quite essential for monitoring as well as fault restoration of communication system on pan India basis

Deliberation of the sub-committee:

ULDC-POWERGRID agreed to initiate the UNMS integrations by 27th September 2024.

The sub-committee noted as above.

2.20. Phasing out of PDH commissioned under NERFO scheme

PDH is commissioned under the NERFO scheme are malfunction very frequently since commissioning and spare cards are almost exhausted. The repairing of defective cards/defective spare cards have not yet been taken up by the agency Valiant Communications through the PGCIL (nodal) since commissioning. Due to inadequate spares availability as well as in the long run of 7 years the panels are near to end of life. It is proposed for phasing out the PDH panels commissioned under NERFO to avoid interruption of RTU data telemetry at Tripura SLDC.

Deliberation of the sub-committee:

The forum advised POWERGRID to bilaterally discuss the issue with Tripura and help them resolve it. POWERGRID agreed for the same.

The sub-committee noted as above.

2.21. Extending support to report all 101 RTU data to 104 via SDH (NERFO)

In line with the above PGCIL is requested to extend support to configure the SDH commissioned under NERFO for Reporting RTU data through 104 protocol.

Deliberation of the sub-committee:

The forum advised POWERGRID to bilaterally discuss the issue with Tripura and help them resolve it. POWERGRID agreed for the same.

The sub-committee noted as above.

2.22. Requirement of MD50B Decode Modem for SLDC Tripura

MD50B Decode Modems at RTU panel end were supplied by GE under Phase-II implementation of the NER EMS/SCADA Up-gradation project. In the long run all the Decode Modems got faulty (Eight nos). However, after repairing of all the said Modems by GE at their HQ, Noida, it is found that only one Modem is working properly and rest of the Modems are still non-functional. It is proposed for rectification of all the faulty Modems at the earliest to avoid interruption of RTU Data availability reporting on IEC101 protocol at SLDC Tripura.

Deliberation of the sub-committee:

The forum advised Tripura get assistance from Assam in coordination with GE.

The sub-committee noted as above.

2.23. AMC of ongoing SAMAST project: TPTL Tripura

As per scope of the SAMAST implementation project, in the post warranty period, respective states may individually carry out maintenance contract between buyer and agency with mutual agreement basis.

In this regard, TPTL requests the involvement of NERPC in the finalisation of:

- Scope of the post warranty maintenance contract with GENUS for Metering & PwC for data Centre.
- Consider increasing the proposed comprehensive AMC period from 3 years to 5 years (entire lifespan of project) as discussed in the 28th NETeST meeting.

- Determination of Fixed Base Price as all State SAMAST Data Centres are having the same hardware & software architecture and AMC price for 5 years may not exceed 5% of the project cost which has already been raised & discussed in NERPC forum.
- Fixing up of Terms & Conditions.

Deliberation of the sub-committee:

The forum advised all the NER States to hold bilateral talks with Genus and PwC regarding the issue of AMC of SAMAST. Member Secretary, NERPC requested Genus and PwC to review their decision.

The sub-committee noted as above.

2.24. Battery bank issues of Tripura SLDC

The 125 kVA UPS system supplied under the SCADA/EMS Upgradation project in the year 2016 is very vital to the functioning of Tripura SLDC as the following systems are drawing power through this UPS system:

1. SCADA/EMS
2. URTDSM
3. ADMS
4. UNMS

Earlier, 30 nos. replacement cells were delivered by GE in month of August 2023 and installed in place of the defective cells but however more cells are reportedly getting defective and at present the battery backup is now reduced to around one hour as detected during the Preventive Maintenance activity carried out by Delta representative on 11th March, 2024. Delta engineer has recommended for replacement of both battery banks. GE is requested to take appropriate actions in this regard.

Deliberation of the sub-committee:

The forum advised GE to provide support to Tripura in the extended warranty period.

The sub-committee noted as above.

AGENDA FROM NHPC

2.25. Requirement of E1 Channel & Ethernet Port for DTPC

In the proposed R&M of Loktak, DTPC is being planned for installation in the four 132 kV Lines, i.e two MSPCL Lines, viz Loktak-Rengpang & Loktak-Ningthoukhong and two PGCIL Lines, viz Loktak-Imphal-2 and Loktak-Jiribam-2 Lines which are already laid with OPGW fibers. It is requested to provide E1 Channel and Ethernet Port at all the ends of these 04 lines for installation of DTPC for protection and speech.

In this regard, PGCIL and MSPCL are requested to provide the same.

Deliberation of the sub-committee:

PGCIL agreed to provide E1 Channel and Ethernet Port at all the ends of these four lines for installation of DTPC for protection and speech. PGCIL also agreed to help in configuration of the scheme. The required materials for Manipur owned lines shall be supplied by MSPCL.

The sub-committee noted as above.

AGENDA FROM GE

2.26. Outstanding payment of SCADA/EMS project

CC	Period	Outstanding Amount
AEGCL	Y7Q1, Q2, Q3, Q4 & Y8Q1, Q2	₹ 68,41,152
Manipur	Y5Q3, Q4 & Y6Q1, Q2, Q3,Q4 & Y7Q1, Q2, Q3	₹ 1,02,16,697
MePTCL	Y7Q1, Q2, Q3, Q4 & Y8Q1	₹ 56,14,439
Tripura	Y7Q1, Q2, Q3, Q4 & Y8Q1	₹ 56,41,672
NERLDC	Y7Q1, Q2	₹ 47,88,724
Mizoram	Y6Q2, Q3, Q4 & Y7Q1	₹ 45,13,338

Nagaland	Y6Q1, Q2	₹ 22,56,669
		₹ 3,98,72,691

Deliberation of the sub-committee:

The forum noted that the data provided by M/s GE for deliberation in the meeting is not up to date. Hence, the forum requested M/s GE to provide the updated data and place it in the next meeting.

The sub-committee noted as above.

2.27. Meghalaya Firewall upgrade outstanding amount

Meghalaya Firewall upgrade outstanding is Rs. 23,01,000.

Deliberation of the sub-committee:

Representative of Meghalaya apprised the forum that the outstanding amount has already been paid.

The sub-committee noted as above.

2.28. Two Years AMC extn LOA issuance delay for SCADA/EMS:

NERLDC AMC		Post 6 years AMC		
Constituent Name	6 years AMC End date	2 years AMC Signed	2 years AMC Start date	2 Years GST Amendment
AEGCL	11-11-2022	Yes	12-11-2022	Yes
MePTCL	31-03-2023	Yes	01-04-2023	Yes
TSECL	31-03-2023	Yes	01-04-2023	Yes

Manipur	07-11-2023	No	08-11-2023	No
NERLDC	31-01-2024	Yes	01-02-2024	Yes
Mizoram	26-04-2024	Yes	27-04-2024	Yes
Nagaland	15-01-2025	No	16-01-2025	No
Arunachal Pradesh	28-02-2025	No	01-03-2025	No

Deliberation of the sub-committee:

The forum opined that NERPC Secretariat would take up matter to the concerned States.

The sub-committee noted as above.

ADDITIONAL AGENDA

AGENDA FROM STERLITE

2.29. Alternate path for reporting the data of Ampati and Hatsingimari Bays of NBTL

Presently Ampati bays data is reporting in one path using Ampati- Ronghkhon link. Similarly, Hatsingimari data is reported in one path using Hatsingimari-Agia link. We are mapping Hatsingimari data at their station SAS Gateway in 104 protocol, further data from 104 protocol will patch to Tejas make FOTE at Hatsingimari over Ethernet port.

Using OPGW backbone from Hatsingimari to Ampati, data of Hatsingimari will reach to Tejas make FOTE at Ampati.

Further with local Optical level patching between Tejas make FOTE & Hitachi Make FOTE using Tejas make SFP, we will patch Hatsingimari data from Tejas make FOTE to Hitachi Make FOTE. From their using existing path of Ampati-

Ronghkhon- Nangalbibra - Agia - Assam SLDC, Hatsingimari data will report as redundant path to Asam SLDC.

In a similar way using the inter patching mentioned in sl. No. a & b above, Ampati data will reach Tejas make FOTE at Hatsingimari. From their using ethernet port connection between FOTE to Hatsingimari SAS, Ampati data will reach Hatsingimari SAS. Hatsingimari SAS having 101 port as well as 104 port, where Ampati data will be uploaded in 101 port for transferring data over 101 protocol using PLCC link. Further Ampati data can be routed as 2nd path using the route of Hatsingimari- Agia - Nangalbibra - Ronghkhon-Meghalaya SLDC.

Requesting the forum to deliberate and allow NBTL to install Tejas make SFP at existing Hitachi make FOTE at Ampati station so that we can establish communication between both the FOTE at Ampati in optical level.

Deliberation of the sub-committee:

NBTL representative informed that they are trying to configure the above-mentioned link which is to be used as an alternate link for reporting Hatsingimari and Ampati bays data to NERLDC via respective SLDC network. However, the same is not successful due to un-availability of requisite information and coordination from Meghalaya and Assam.

NERLDC stated that as this path involves multiple configurations at different nodes like Ampati, Ronkhong, Nangalbibra, Agia etc. which may not be in the scope of M/s NBTL. Hence NBTL should configure the requisite FOTE and PLCC at Ampati and Hatsingimari and ensure that data is reporting till the next station. Assam and Meghalaya shall extend the required support for patching. Further, configuration required to report data till NERLDC via State network at nodes other than Hatsingimari and Ampati shall be done by the respective States.

The sub committee noted as above.

2.30. Alternate data path for reporting the data of u/c 220/132 kV Nangalbibra S/s of NBTL

As per the connectivity agreement signed for NBTL, the data collection point for reporting the data of 220/132 kV Nangalbibra S/s of NBTL is 400/220kV Bongaigaon S/s of PGCIL. Accordingly, we are planning to configure the OPGW path of 220kV Nangalbibra Bongaigaon line as a main path. Further, as per the FTC procedure alternate data path also needs to be made available for getting the FTC approval. Hence, we are planning to configure a P2P link (lease line) from Nangalbibra S/s to NERLDC directly which will be the alternate path for data reporting.

Requesting NERLDC to kindly suggest the pre-requisites and the location i.e. Shillong or Guwahati and accord the approval to proceed further with the proposal.

Deliberation of the sub-committee:

NERLDC stated that NBTL can proceed for the P2P link for reporting data for their upcoming Nangalbibra stations complying to the CEA Cybersecurity guidelines.

The sub committee noted as above.

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

3.1. Connectivity of NERLDC Guwahati with Sarusajai and Umiam bypassing Kahilipara for its redundancy. (Agenda 2.14 as per MoM of 28th 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:

a. POWERGRID to lay two 24-core fiber 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 PGCIL may update the status.**

b. 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.**

c. 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.

Deliberation of the sub-committee:

a) PGCIL informed that as per information received from CTUIL, the project is to be included in same package along with project mentioned in below point b & c.

b) *Meghalaya (MeECL) has updated the status of pending board approval to the forum . NERPC informed that NERPC will take up matter to MePTCL for expediting the issue.*

c) *Meghalaya (MeECL) has updated the status of pending board approval to the forum .NERPC informed that NERPC will take up matter to MePTCL for expediting the issue*

The sub-committee noted as above.

3.2. Upgradation Activities of SCADA-EMS systems at Regional/State level in North-Eastern Region (Agenda 3.3 as per MoM of 28th 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 on 16th August 2024.

NERLDC will follow up with PSDF Secretariat (NLDC) for updates on approval from PSDF. It is requested that all states may kindly be available for any meeting being called by PSDF.

PSDF has requested to upload the DPR of Part-B and BoQ as per the mail dated 22/08/2024. The email and template of BoQ are attached as Annexure-C 3.2A and Annexure-C 3.2B. All states are requested to upload the necessary files at the earliest, or else states may share the BoQ in the provided format with NERLDC for further necessary action.

Deliberation of the sub-committee:

NERLDC has informed the forum that as requested by PSDF, Part B DPRs of all the NER States have been uploaded in PSDF portal. NERLDC also informed, PSDF is yet to hold a meeting to discuss the funding issue.

The sub-committee noted as above.

3.3. Status of State reliable communication scheme (Agenda 3.4 as per MoM of 28th NETeST Meeting)

State reliable communication scheme is being funded 90% by PSDF and 10% to be funded by state themselves. 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 28th NETeST meeting	Current Status
Arunachal Pradesh	• DoP-Arunachal Pradesh conveyed the forum that all the state's requirements are being met within the Comprehensive Arunachal Pradesh Transmission and Distribution (T&D) project. • The forum advised a review of the necessity for VSAT installations, particularly at radially connected stations such as Yachuli, Etalin etc. • In this regard, DoP-Arunachal Pradesh informed the forum that many of their generating stations are connected at the 33 kV level for which RTUs and VSATs are required. • The forum noted the same and advised DoP-Arunachal Pradesh to include special requests within the Detailed Project Report (DPR) for the deployment of VSATs and RTUs specifically for monitoring purposes	Will be submitted by Oct'24

	at these 33 kV levels generating stations, emphasizing their significance.	
Assam	SLDC, Assam has informed that it has successfully submitted DPR for State Reliable Communication Scheme to PSDF for: • Part A: Optical Ground Wire (OPGW) • Part B: Synchronous Digital Hierarchy (SDH)-based end equipment • Part C: Very Small Aperture Terminal (VSAT) Forum requested SLDC Assam/AEGCL to share the NLDC specified format of Bills of Quantities (BoQs) which needs to submit along with DPR.	DPR for 100% funding will be submitted by Nov'24
Manipur	SLDC, Manipur provided an update to the forum, that they are currently in the process of reviewing their requirements and shall prepare the DPR accordingly.	MSPCL may update the status
Meghalaya	• SLDC, Meghalaya informed the forum that the Detailed Project Report (DPR) encompassing all required components (Part A to Part D) has been completed. • SLDC, Meghalaya further informed that for Fiber Optic Transmission Equipment (FOTE), they have opted for Multiprotocol Label Switching (MPLS) based technology. • However, SLDC, Meghalaya is yet to submitted the DPR to the Power System Development Fund (PSDF) due to unresolved issues concerning the 132 kV NEHU-NEIGRIMS, NEHU- NERLDC, and NEHU-Mawlyndep-Mustem-Khliehriat links.	Will be submitted by Oct'24

Mizoram	SLDC, Mizoram informed the forum that the preparation of DPRs for all the parts are in process & they shall submit the same by March'24.	Will be submitted by Oct'24
Nagaland	•DoP, Nagaland informed the forum that according to the decision made during the 32nd Appraisal Committee meeting of PSDF, OPGW with SDH technology has been granted approval in June 2023, with an allocated amount of ₹ 43.05 Crores. •However, DoP-Nagaland, is currently in the process of re-evaluating the necessity for VSAT installations and RTUs for state-owned stations. •They intend to submit any additional requirements in the form of a Detailed Project Report (DPR) by the end of March 2024.	Already submitted.
Tripura	The status for SLDC, Tripura could not be updated due to absence of representative from SLDC, Tripura.	Will be submitted by Oct'24

Deliberation of the sub-committee:

Member Secretary, NERPC advised all the NER States to revise their DPRs according to new guidelines issued for PSDF funding. Assam has ensured to revise and resubmit by Nov'24, Meghalaya and Mizoram by Oct'24.

The sub-committee noted as above.

3.4. Implementation of Guwahati Islanding Scheme (Agenda 3.5 as per MoM of 28th 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.

AEGCL/SLDC, Assam may update the status.

Deliberation of the sub-committee:

SLDC Assam informed the forum that they have submitted the revised DPR to PSDF on 6th July, 2024.

The sub-committee noted as above.

3.5. Non-availability of real-time data pertaining to POWERGRID-owned bays installed at AEGCL-owned stations (Agenda 3.6 as per MoM of 28th 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 –

a) Nirjuli bay installed at Gohpur station since 16th Dec-2022.

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

c) Silchar bays installed at Hailakandi.

d) 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, PGCIL is requested to update the status as per the table below:

Sl. No.	Name of Bay	Status as per 28th NETeST for upgrade to BCU and integration to AEGCL SAS (permanent solution)	Latest status (as per 28th NETeST meeting) (interim solution)
1	Nirjuli bay installed at Gohpur station	The replacement of outdated isolator with new isolators compatibility with the BCU system could not be undertaken due to non-	BCU upgradation of Nirjuli Bay at Gohpur will be completed by next month.

		approval/non-availability of shutdown. Action: PGCIL may update the status	
2	Silchar bays installed at Srikona station	ULDC-POWERGRID informed the forum that they will internally deliberate and communicate the action plan for SAS system upgrades to the forum. Action: PGCIL may update the status	AEGCL requested CMRs and Cables from PGCIL so that the bay can be integrated in RTU. PGCIL agreed to provide the same. For BCU upgradation and integration with SAS, PGCILULDC will talk to PGCIL-AM.
3	Silchar bays installed at Hailakandi.	ULDC-POWERGRID informed the forum that they will internally deliberate and communicate the action plan for SAS system upgrades to the forum. Action: PGCIL may update the status	AEGCL requested CMRs and Cables from PGCIL so that the bay can be integrated in RTU. PGCIL agreed to provide the same. For BCU upgradation and integration with SAS, PGCIL-ULDC will talk to PGCIL-AM.
4	132 kV BNC HVDC bays at Pavoi S/s.	ULDC-POWERGRID informed the forum that they will internally deliberate and communicate the action plan for SAS system upgrades to the forum. Action: PGCIL may update the status	AEGCL requested CMRs and Cables from PGCIL so that the bay can be integrated in RTU. PGCIL agreed to provide the same. For BCU upgradation and integration with SAS, PGCIL-ULDC will talk to PGCIL-AM.

Deliberation of the sub-committee:

a) *Nirjuli bay installed at Gohpur station since 16th Dec-2022. ULDC-NERTS has informed that the data is reporting now.*
b) *Silchar bays installed at Srikona station isolator data since 28th Nov - 2022. ULDC-NERTS has informed that they will complete the work within one month.*
c) *Silchar bays installed at Hailakandi. ULDC-NERTS has informed that they will complete the work within one -month.*
d) *132 kV BNC HVDC bays at Pavoi S/s. ULDC-NERTS has informed that they will complete the work within one -month.*

The sub-committee noted as above.

3.6. Cyber Security aspects in SCADA/IT systems at Load Despatch Centres in North Eastern Region (Agenda 3.8 as per MoM of 28th NETeST Meeting)

State-Utilities may update the status with respect to CII Status by NCIIPC, ISO 27001:2013 implementation, VA-PT twice a year, Cyber Crisis Management Plan (CCMP), Cyber Management Team (CMT), patching of vulnerabilities and virus alerts from CERT-In/CERT-GO, etc, participation in various trainings and workshops on Cyber Security being conducted by CEA, Ministry of Power and Grid-India, etc.

During 28th NETeST meeting, all the SLDCs were advised to expedite the fulfilment of all aspects related to cybersecurity promptly. Emphasizing the integration of OT with the SAMAST, NERLDC stressed the imperative adoption of requisite measures to ensure a secure IT-OT connection. States have affirmed their compliance with the approved architecture in accordance with cybersecurity guidelines and decisions made within various NERPC forums.

A summary of the present status of each SLDC is attached in as Annexure-C3.6.

Deliberation of the sub-committee:

NERLDC highlighted the present Cyber Security status of SLDCs in Annexure-C3.6, and requested all SLDCs to expedite the fulfilment of all aspects related to Cyber Security promptly.

The sub-committee noted as above.

3.7. Restoration of OPGW owned by Manipur (Agenda 3.10 as per MoM of 28th 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 PGCIL 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.

Deliberation of the sub-committee:

ULDC-NERTS informed that all necessary documents have been handed over to SLDC, Manipur in Apr'24. 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.

The sub-committee noted as above.

3.8. Establishment of redundant fibre path between NERLDC and NEHU for reliability of power system communication link till RLDC. (As per MoM Point 3.11 of 28th NETeST Meeting)

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

a. **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. ***PGCIL may update the status.***

b. **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) may update the status on board approval. Meghalaya (MeECL) is requested to intimate the forum about the target date for taking board approval.***

B. As per 28th NETeST MoM:

a. **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.

b. **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

Deliberation of the sub-committee:

Meghalaya (MeECL) has updated the status of pending board approval to the forum. NERPC informed that NERPC will take up matter to MePTCL for expediting the issue .

The sub-committee noted as above.

3.9. Status of Fiber-Optic works under different projects (As per MoM Point B.2 of 28th NETeST)

Deliberation of the sub-committee:

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. The matter is under process and POWERGRID will resolve it at the earliest. Response: 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
3	400kV Mirza (Azara) – Byrnihat (Killing)		No response has been obtained from Chinese vendor M/S SDJI. The matter is under process and POWERGRID will resolve it at the earliest. Response: ULDC-NERTS is trying to Partially off load the contract, so that pending work can be assigned to new contractor. Target: October 2024
4	400kV Silchar – Palatana		Survey going on for unhealthy stretch. Work will commence after availability of materials on site. Target: October 2024

The sub-committee noted as above.

3.10. Status and details of Fiber-Optic projects approved in 17th TCC/RPC meeting (As per MoM point 3.14 of 28th NETeST)

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 28th NETeST meeting (attached as Annexure C 3.10A).

Action: POWERGRID-ULDC may update the status.

B. Reliable Communication Scheme:

a. Replacement of existing fibre: Status as per 28th NETeST is attached as Annexure-C3.10B.

Action: POWERGRID-ULDC may update the status.

b. Fibre on new lines: Status as per 28th NETeST is attached as Annexure- C3.10B.

Action: POWERGRID-ULDC may update the status.

Deliberation of the sub-committee:

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

The sub-committee noted as above.

3.11. Integration of Dikshi HEP real time data and pending Voice communication (Agenda as per MoM of 28th 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.

Deliberation of the sub-committee:

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.

The sub-committee noted as above.

3.12. Automatic Generation Control (AGC) in Indian Grid (Agenda 3.16 as per MoM of 28th NETeST)

The status as per 28th NETeST is tabulated below:

Station Name	Background	Status as per 28th NETeST Meeting
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	Tendering is in process. Action: NEEPCO may update the status.

Station Name	Background	Status as per 28th NETeST Meeting
Doyang	NEEPCO may update the status	Tender for SCADA floated. Bidder has requested for extension from NEEPCO. NEEPCO informed that the work completion schedule is 33 weeks from the issuance of LoA.
Kopili Stage -2	25 MW	Will be done after Khandong comes into service.
Kopili	100W	Unit 1 shall be available by May 2024.
Khandong	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	Shall be completed by July-2025. status.
Kameng	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	In process. Petition filed to CERC for exemption. Deliberations going on with NEEPCO management status.
Ranganadi (Panyor)	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	In process. Petition filed to CERC for exemption. Deliberations going on with NEEPCO management
Pare	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	In process. Petition filed to CERC for exemption. Deliberations going on with NEEPCO management
RC Nagar	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	There is constraint due to low gas supply, will be discussed in OCC forum.

Station Name	Background	Status as per 28th NETeST Meeting
Palatana	As per new Ancillary Services Regulation 2022, all ISGS plant will be participating in AGC.	OTPC was absent.

Deliberation of the sub-committee:

NEEPCO will provide the status update to NERPC via e-mail.

The sub-committee noted as above.

3.13. Pending issues of State Utilities of NER (Agenda 3.17 as per MoM of 28th NETeST)

Utility	Pending issues	Remarks as per 28th NETeST
Assam	SAS upgradation related works may be updated.	Dullavcherra is not reporting. Assam-SLDC stated that there is issue of SAS gateway, which is expected to be completed by March'24.
Tripura	Dharmanagar Ambassa	Discussion could not be carried out due to absence of Tripura representative.
Manipur	Chandel, Churachandpur, Rengpang, Tipaimukh, and Yiangangpokpi	• The mentioned stations are not reporting. MSPCL informed that they have started restoring the RTUs but it may take time due to current law and order situation.
	Hundung, Yurembam, Kakching, Konga and Ningthoukhong	• The mentioned stations are reporting partially. MSPCL informed that they have started restoring the RTUs but it may take time due to current law and order situation.
	Elangkhangpokpi, Thanlon, 132kV Thoubal, 132 kv Moreh	• MSPCL has proposed the purchase of RTUs under PSDF.
	Kiphire	• Meluri-Kohima line is still under diversion due to road construction work. PLCC is

Nagaland		restored, DoP will visit the station to restore the data at the earliest. • DoP-Nagaland informed that they have submitted the cost estimate NHIDL for shifting of tower and waiting for their response.
Mizoram	Luangmual Zuangtui Kolasib	• Communication equipment at Lungmual is powered off due to repeated incident in which cards of SDH/PDH were burnt. It is suspected that SDH/PDH are not connected properly to earth. • PE&D-Mizoram informed that survey for restoration of isolator data has been done and proposal to restore the data will be submitted sooner.
Arunachal Pradesh	VSATinstallation and other issues	UPS installation for VSAT equipment: • DoP, Arunchal Pradesh informed that UPS installation is completed in Along, Deomali and Pasighat. For Daporizo the UPS is supplied but installation is pending. RTU failure at Daporijo: Discussion could not be carried out due absence of M/s GE T&D representative. Power Supply issue at Pasighat: • 48V to 110V DC Converter is faulty, same has been purchased and issue shall be resolved soon
Meghalaya	Non reporting of stations	• 220 kV Mawngap is now reporting

Deliberation of the sub-committee:

All the NER States will provide the status update to NERPC via e-mail.

The sub-committee noted as above.

3.14. Feasibility to connect Lekhi Substation over Fiber-Optic Network (Agenda B.7 as per MoM of 28th 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.

Currently, 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.

Deliberation of the sub-committee:

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.

The sub-committee noted as above.

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
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Website: www.nerpc.gov.in

No. NERPC/Communication/2024-25/1748-1787 .

Dated: 30.07.2024

To:
As per list.

Sub: **Formation of Communication Audit Team for NER -reg**

This is to inform that in accordance with **Regulation 10 of Communication System for inter-state transmission of Electricity Regulation, 2017,** NERPC is to conduct performance audit of communication system annually as per the procedure finalized in the forum of National Power Committee (NPC) **(14th Meeting of National Power Committee (NPC) held on 03.02.2024 at Bangalore)**. An Annual Report on the audit carried out by NERPC shall be submitted to the Commission within one month of closing of the Financial Year. The SOP adopted for the communication audit is attached as **Annexure I** along with this letter for your ready reference.

The details of the nominated officers for Communication Audit of NER grid are as follows:

SL No.	Name of Organization	Nominated Officers	Designation
1	NERPC	Sh. Alikpanth De	Deputy Director
		Sh. Ashim Kumar Goswami	Assistant Director
2	NERLDC	Sh. Gaurav Bhattacharya	Assistant Manager
		Sh. Subal Das	Engineer
3	POWERGRID	Sh. Kamlesh Baishya	AM, NER-ULDC
		Sh. Bhaskar Jyoti Gohain	JE, NER-ULDC
4	Assam	Sh. Poonam Biswakarma	AGM
		Sh. Rupjyoti Das	DM
5	Arunachal Pradesh	Er. Purik Buchi	AE
		Sh. Dani Byai	JE

6	Meghalaya	Sh. Wewon Marbaniang	JE
		Sh. Pynshai Nonglong	RE
7	Nagaland	Sh. P. Tiakaba Yimchunger	JE
		Sh. Khumlise Anar	JE
8	Mizoram	Sh. H. Lalruatkima	SE, MSLDC
		Sh. Lalawnpuia Chawngthu	SDO
9	Tripura	Smt. Shampa Sen	SM,SLDC
		Sh. Partha Pratim	Manager(Electronics)

Audit shall be carried out in a planned manner by a team of three members. The audit team shall comprise of one representative from the NERPC Secretariat, one representative from NERLDC and one representative from any of the Utilities or SLDCs of respective Region. The Audit team shall be formed excluding the member for the Organization/Utility whose system is to be Audited. The Audit team may co-opt any other member from any organization for facilitating the activities of the committee.

This is for your kind information.

30/7/24

(K. B. Jagtap)
Member Secretary, NERPC

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. 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.

Annexure-I

Final Standard Operating Procedure (SOP) for Communication audit of Substations

1. This procedure has been prepared in compliance to Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017. As per clause 10 of the Regulation, RPC shall conduct annual audit of the communication system annually as per the procedure finalized in the forum of the concerned RPC. However, this SOP for communication audit of substations is finalized to maintain uniformity at the national level. It also mandates that RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat based on the audit report. An Annual Report on the audit carried out by respective RPC is to be submitted to the Commission within one month of closing of the financial year.
2. The Audit would be conducted in two phases. In first phase scrutiny of the reports, documents etc. In the second phase physical verification shall be carried out.
3. Each User/entity, using inter-state transmission or the intra-state transmission incidental to inter-state, shall submit the detailed report to RPC Secretariat and RLDC, as per prescribed format on yearly basis. The detailed report shall be submitted by the April end of the respective year. This report shall be considered as self-certificate regarding availability and healthiness of the Communication system of respective user/entity.
4. In respect of intra-state users/entities, SLDC shall submit detailed reports yearly by the April end of the respective year, to RPC Secretariat and RLDC.
5. Outage report of all the channels (including Network Management System, PLCC etc) report for a month shall be submitted by the Users/entities to RLDC and respective SLDCs, on monthly basis, by 7th day of the next month. RLDC and SLDCs after verifying the NMS data shall submit report to RPC Secretariat by 15th day.
6. All users/entities and Control Centers shall get the third-party cyber security audits done from a Cert-in certified vendor in compliance of CEA (Cyber Security in Power Sector) Guidelines,2021. The detailed report of the Cyber Security Audit shall be submitted by 15th April for the previous financial Year.
7. RPC Secretariat may ask any other information required for Audit of the communication system in addition to these periodic reports.

Phase-I Audit: Scrutiny of the Information

8. A Communication System Audit Sub-Group comprising one member each from RPC, RLDC, PowerGrid and One of the respective Region SLDCs shall be constituted by RPC Secretariat with the approval of Member Secretary, RPC. The sub-group may co-opt any other member from any organization for facilitating the activities of the sub-group. Further, consultation from CEA may be taken, if required. The Audit team shall be formed excluding the member forthe Organization/Utility whose system is to be audited.
9. The Communication System Audit Sub-group shall scrutinize the information received in RPC Secretariat. The Sub-group may also ask any additional information necessary for its activities. All the users/entities, RLDC, SLDCs shall provide the information to the sub-group on priority within the stipulated time period.
10. The sub-group shall also identify the nodes for physical inspection based on the criticality of the node in view of performance of the communication network or based on the deficiencies observed in the communication system.
11. The Audit would include but not limited to following aspects:
    a. Availability of communication channels. The outage reason needs to be clearly specified whether it is on account of the concerned entity or on account of any other entity, force majeure etc. The list of communication channels would be finalized by Communication System Sub Group in consultation with other stakeholders.
    b. Availability of terminal equipment. The outage reason needs to be clearlyspecified whether it is on account of the concerned entity or on account of any other entity, force majeure etc. The list of terminal equipment would be finalized by Communication System Sub Group. Part outage like failure of specific cards etc. would also be furnished along-with reasons.
    c. Availability of Auxiliary System e.g. Battery Charger, Battery bank, sufficient cooling equipment etc.
    d. Compliance of CERC and CEA Regulations and the procedures under these Regulations.
    e. Completion of periodic testing of the communication system in accordance with procedure for maintenance and testing prepared by CTU.
    f. Audit of all newly commissioned communication equipment within six months of its commissioning.
    g. Completion of 3rd party Cyber Security Audits.
    h. Network traffic w.r.t capacity.
    i. Spare availability, replenishment etc.
    j. Any other parameters as agreed by the Communication Sub Group.

Phase-II Audit: Physical Verification

12. Based on the Recommendations of the Communication System Audit Sub-group, Audit team shall be constituted and the physical inspection Audit plan shall be prepared by RPC Secretariat.
13. Audit team shall be formed on regional basis.
14. Audit shall be carried out in a planned manner as included in this document by a team of three members. The audit team shall comprise of one representative from the RPC Secretariat, one representative from RLDC and one representative from any of the Utilities or SLDCs of respective Region. The Audit team shall be formed excluding the member for the Organization/Utility whose system is to be Audited. The Audit team may co-opt any other member from any organization for facilitating the activities of the committee.
15. Once the plan is finalized, minimum 3 days advance notice shall be served to the concerned Auditee entity intimating the detailed plan so that availability of required testing equipment and the required documents is ensured by Auditee entity and is made available to the Audit team during the site visit.
16. Member Secretary, RPC in consultation with the Communication System Audit Sub-Group may decide on any additional nodes/locations for physical inspection if a location is very critical in view of performance of the communication network at any time of the year.
17. The Scope of the physical verification shall include but not limited to thefollowing:
    a. Available communication Network for its redundancy
    b. Availability of channel redundancy for all the functions for which it is configured.
    c. Communication equipment (hardware and software configuration) of all thenodes including repeater stations for its recommended performance.
    d. Documentation of the configuration of the respective site and its updation.
    e. Fibre layout / usage of fibre / Availability of dark fibre and its healthiness.
    f. Cable Schedule and identification / tagging.
    g. Healthiness of Auxiliary supply including the healthiness of Battery backup.
    h. Healthiness of Earthing / Earth protection for communication system.
    i. Availability of sufficient cooling equipment at the User's premises to maintain the stipulated temperature for the communication equipment.
    j. Optical power level
    k. Alternate modes of communication for speech

18. The format for collecting the details of Communication channels/links and Equipment is at **Annexure-I** and the same shall be furnished by the Auditee entity.

19. Communication Audit Checklist points are given in **Annexure-II** and the same are to be thoroughly verified by the Audit team.
20. Expenses towards Lodging, Boarding & Transportation (Excluding Air/Train Fair) between various places within the jurisdiction of Auditee entity shall be borne by respective Auditee entity. The Coordinating Officer(s) from the Auditee Utilities identified for each Team is (are) responsible for facilitating them to all the Members of respective Team.
21. Audit team shall submit report including recommendations for action on deficiencies, if any, found during the inspection, within 15 days from the date of inspection to Member Secretary, RPC. After approval of MS, RPC, the report would be communicated to the Auditee entity for compliance.

Audit Compliance Monitoring

22. Communication System Audit Sub-group would monitor the compliance of audit observations as applicable. Non-compliance of Audit Recommendations, if any, shall be put up to TCC and RPC.
23. The Annual Audit Report would be reviewed by a Communication System Sub Group at RPCs level. After considering the observations of Sub Group, RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat based on the audit report. An Annual Report on the audit carried out by RPC would be submitted to the Commission within one month of closing of the financial year.

***

REGIONAL COMMUNICATION AUDIT REPORT			
General Information:			
1	**Substation Name**		
2	**SS Voltage level**		
3	**Date of commissioning of the substation**	**XX.XX.XXXX**	
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)**	**(i)** **(ii)**

		(iii)	**(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	Audit Team Member	Audit Team Member	Audit Team Member
SRPC	Co-Ordinator	PGCIL (Internal / External)	State (Internal / External)

Communication Audit Checklist (Annexure-II)

S.No	Check list points	Expected	Actual	Reference
1	Whether OPGW is terminated properly. Down lead shall be fixed property in sufficient locations. Metallic part shall be connected to earth mat riser.	Yes		
2	Distinct approach cable shall be laid 1 Protection & Communication 2 Fibers for commercial applications Item no 1 cable shall be terminated in communication room FODP One number FODP panel shall be available in communication room			
3	Fiber Identification shall be done in FODP properly			
4	Whether End to end tests were carried out during installation and records are available (both Optical Power Source/receiver testand OTDR Test results			
5	Whether patch chords 1 Cross labelled (source/ receive) 2 Tx – Rx Marking 3 Mechanical protection is provided for pach chords laid between panels			
6	Whether separate room for communication is available with following:- 1 Air conditioning with standby A/C Unit 2 AC Distribution board with ELCB 3 Single point earthing bar which shall be connected to substation Earth mat			
7	Two sets of 48 V (Positive Earthed) DC Systemshall be available with 1 Common DC Distribution board/ Panels with incoming MCB, coupler MCB , out doing MCBsetc 2. Minimum 200 Ah (2 sets of battery) VRLA batteries are preferred to keep chargers and battery in communication room. 3. Battery Charger shall be Thryristorised/SMPS			
8	Battery Charger alarms /measurements shallbe made available to SAS (if available) It can be achieved through MOD bus or connecting analogue/ digital signals to Common BCU of SAS. If such system is not available major			

	alarms shall b alarmed in common substation annunciator			
9	2 nos of substation Data (From RTU or SAS Gateway)shall route in different roots to Main and Standby Load Dispatch centres			
10	Kindly assure proper protection is available for AC Distribution (ELCB, MCB, Backup fuse),			
11	Aux Transformer neutral Earthing shall be connected to Stations earth mat (Aux Transformers shall be installed in yard earth mat area only)			
12	Whether DG sets with AMF panels are provided for Aux AC Supply			
13	Whether 2 nos 11 kV (or 33kV) supplies are available for Each station aux Transformer			

Annexure B.2.3

Final Standard Operating Procedure (SoP) for Communication System Outage Planning

1. As per the following CEA and CERC Regulations, the Communication Outage for the Region shall be carried out by RPC Secretariat:
   a) Regulation 7.3 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 stipulates as below:

   Quote:

   7.3 Role of National Power Committee (NPC) and Regional Power Committee (RPC):

   ……

   (iv) The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

   ……

   Unquote

   b) Regulation 10 Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 envisages as below:

   Quote:

   10. Outage Planning: 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.

   Unquote

2. A Communication System Outage Planning Sub-Group/ TeST Sub Committee shall be formed in each region constituting the members from all the entities connected to ISTS including all CGS, ISGS, REGs/SPPDs/SPDs, STUs, SLDCs etc., of the respective Region, RLDC/Grid-India, PGCIL, CTUIL, Private Transmission licensees in respective region & RPC secretariat. The sub-group/ Sub Committee may co-opt any other member from any organization for facilitating the activities of the sub-group/ Sub Committee.

3. Communication System Outage Planning will be limited to the following systems:
   (i) ISTS Communication System including ISGS
   (ii) Intra-state Communication System being utilized for ISTS Communication
   (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDCs.
   (iv) Inter-regional AGC links.

(v) Any other system agreed by the sub-group.

4. Communication Equipment/link within the scope of the Procedure would include :

   (i) Optic Fibre links
   (ii) Any other link being used for ISTS communication
   (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDC
   (iv) VC links between LDCs
   (v) Inter-regional AGC links
   (vi) SPS Links
   (vii) Tele-Protection
   (viii) AMR
   (ix) PMU
   (x) SDH & PDH
   (xi) DCPC
   (xii) RTU & its CMU cards
   (xiii) DTPCs
   (xiv) Battery Banks and Charging Equipment
   (xv) EPABX
   (xvi) Any other equipment/link agreed by the sub-group

5. A Web Portal named as "Communication System Outage Planning Portal" shall be developed by respective RLDCs. Log-in credentials shall be provided to all the ISTS connected entities/concerned entities.

6. Entities/Users/Owners shall add their communication links and the equipment to the Web Portal as soon as they are commissioned. The same has to be furnished to RPC Secretariat /RLDCs.

7. Entities/Users/Owners of the communication equipment shall upload the outage proposals of communication links and the equipment (in the prescribed format only) to be availed during subsequent month by 7th/8th of every month in the Web Portal.

8. RPC Secretariat consolidates the list of outage proposals received from various Entities/Users/Owners of the communication links and equipment by downloading from the Web portal and circulate the same among all the respective region entities by 15th of every month. Communication outages affecting other regions would be coordinated by respective RLDC through NLDC.

9. Communication System Outage Planning (CSOP) meeting shall be conducted during the third week of every month normally (preferably through VC) to discuss and approve the proposed outages of communication links and equipment.

10. The approved outages of Communication links and equipment in the CSOP meeting shall be published in the RPC website and respective RPCs Communication Outage Portal within 3 days from the date of CSOP meeting.

11. Outage of the approved communication links and equipment shall be availed by the respective owner /entities after confirming the same with RLDC on D-3 basis.

12. In case of any emergency outage requirement of communication links and equipment, Entities/Users/Owners may directly apply to respective RLDC with intimation to respective RPCs on D-2 basis. Confirmation of approval/rejection will be provided on D-1 basis by RLDCs in consultation with respective RPCs considering 24hrs processing window.

13. Entities/Users/Owners shall take the code from the respective RLDC before availing the planned outage of the communication links & equipment and before restoration of the same.

14. Entities/Users/Owners of the communication links and equipment shall submit the deviation report for the approved outages (approved dates & approved period) availed during the previous month and the report on planned / forced / other outage of communication links / equipment by 10th of the month to RPC Secretariat as per the format at **Annexure-I** .

15. In the monthly CSOP meetings, communication links and equipment whose outage duration (Planned / Forced / Others) more than 48 hours for the last 12 months of rolling period shall be deliberated for the measures to be taken in future for the better outage management. The date deviations and non-availing the outages that were approved in the previous CSOP meetings shall also be deliberated in the CSOP meetings.

***

Annexure: DCOA-I

Outage Deviation Report : List of outages of Communication Links, availed / deviated during the month of June, 2021

Dated :

A Details of Communication Links (Point to Point) availed :

SL	Name of Requesting Agency	Description of Link	Source	Destination	Channel Routing	Ownership	Reason for availing outage with the details of equipment attended	Approved Start Date : Time [dd-mm-yy<>hh:mm]	Approved End Date : Time [dd-mm-yy<>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<>hh:mm]	Outage availed End Date : Time [dd-mm-yy<>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	Back up Control Center (BCC) : Data	KAYATHAR 230 kV SS	MADURAI LDC	Data will be availble throu	TANTRANSCO	Shifting of FODB panel at Kayathar 230 KV SS	10-Mar-2021 09:00	10-Mar-2021 18:00	**09:00**	10-Mar-2021 14:07	10-Mar-2021 17:30	**03:23**	**N**

Annexure: DCOA-II

Outage Deviation Report : List of outages of Communication Equipment availed / deviated during the month of June, 2021

Dated : 00:00

B Details of Communication Equipment availed :

SL	Name of Requesting Agency	Name of the communication equipment	Location of the Equipment / Name of Station	Name of the Link/Channel/Path / directions affected	Alternate Channel/Path available ? (Furnish details)	Ownership	Reason for availing outage with the details of faults	Approved Start Date : Time [dd-mm-yy<>hh:mm]	Approved End Date : Time [dd-mm-yy<>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<>hh:mm]	Outage availed End Date : Time[dd-mm-yy<>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	DC Charger -2, Amararaja, 48v	Edamon	Nil	Nil	KSEBL	Monthly maintenance. No interruption as alternate chargers available	16-Mar-21, 11:00	16-Mar-21, 16:00	**05:00**	16-Mar-21, 10:30	16-Mar-21, 16:00	**05:30**	Y

GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
(MINISTRY OF POWER)
Sewa Bhawan (North Wing), Room No. 622, 6th Floor,
R. K. Puram, New Delhi-110066
Tel. Fax -011-26103246, email: celegal-cea@gov.in
Website: www.cea.nic.in

PUBLIC NOTICE

In accordance with the Section 177 of the Electricity Act, 2003, the Central Electricity Authority (CEA)**,** proposes to notify the **draft Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2024.** The proposed draft regulations are available on the CEA Website www.cea.nic.in for inviting public comments. The Regulations can also be inspected in the office of Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi-110066 on any working day till **10th September, 2024** between 1100 hrs to 1600 hr**s.**

2. All the Stakeholders including the public are requested to send their comments on the draft regulations to Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi-110066 by post or through e-mail (celegal-cea@gov.in) latest by **10th September, 2024.**

(Rakesh Kumar)
Secretary, CEA

NOTIFICATION

No. ---------- In exercise of the powers conferred by sub-section (1) of 177 of the Electricity Act, 2003 (36 of 2003), the Central Electricity Authority hereby makes the following regulations for Measures relating to Cyber Security in Power Sector, namely: -

Chapter-I

1. **Short title and Commencement.** - (1) These regulations may becalled the Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2024.

   (2) They shall come into force six calendar months, from the date of their publication in the Official Gazette, except for the Regulations 7(4), 8(2), 8(3),7(11)(b),8(5),9 which may come in to force on such date as the Authority may notify. These regulations shall come into force on such date as the Authority may notify. Provided that different dates may be appointed for commencement of different regulations.

   (3) **Scope and Extend of Applicability:** These regulations shall apply to all Responsible Entities, Regional Power Committees, Appropriate Commission, Appropriate Government and Associated Power Sector Government Organizations, Training Institutes recognized by the Authority, Authority and Vendors.

2. **Definitions**, - (a) In these regulations, unless the context otherwise requires, -

   (1) Accreditation: shall mean the process of verifying that an organization is capable of conducting the tests and assessments against a product/process that are required to be certified.

   (2) Accreditation Body: shall mean an organization that has been accredited to verify the credentials and capabilities of the organizations that wish to become a certification body.

   (3) Asset: shall mean anything that has value to the organization.

   (4) Attestation: issue of a statement, based on a decision, that fulfilment of specified requirements has been demonstrated

   (5) Certification: third-party attestation related to an object of conformity assessment, with the exception of accreditation.

   (6) Certification Body: shall mean an organization that has been accredited by an accreditation body to certify products/ process against a certification scheme.

   (7) Certification Scheme: certification scheme is a conformity assessment scheme that includes selection, determination, review, decision and finally certification as the attestation activity.

   (8) Chief Information Security Officer: means the designated employee of Senior management, directly reporting to Managing Director /Chief Executive Officer/Secretary of the organization, having knowledge of information security and related issues,responsible for cyber security efforts and initiatives including planning, developing, maintaining, reviewing and implementation of Information Security Policies

(9) Critical Assets: shall mean the facilities, systems and equipment which, if destroyed, degraded or otherwise declared unavailable,would affect the reliability or operability of the Power System.
(10) Critical Cyber Assets: shall mean cyber assets essential to the reliable operation of critical asset.
(11) Critical Systems: a group of critical Assets and/or Critical Cyber Assets or parts that work together.
(12) Critical Information Infrastructure: shall mean Critical Information Infrastructure as defined in explanation of sub-section (1) of Section 70 of the Act.
(13) Cyber Assets: shall mean the programmable electronic devices,including the hardware, software and data in those devices that areconnected over a network, such as LAN, WAN and HAN.
(14) Cyber Crisis Management Plan: shall mean a framework for dealing with cyber related incidents for a coordinated, multi- disciplinary and broad-based approach for rapid identification, information exchange, swift response and remedial actions to mitigate and recover from malicious cyber related incidents impacting critical processes.
(15) Cyber Resilience: The ability to anticipate, withstand, recover from, and adapt to adverse conditions, stresses, attacks, orcompromises on systems that use or are enabled by cyber resources. Cyber resiliency is intended to enable mission or business objectives that depend on cyber resources to be achieved in a contested cyber environment.
(16) Cyber Security Breach: shall mean any cyber incident or cyber security violation that results in unauthorized or illegitimate accessor use by a person as well as an entity, of data, applications, services, networks and/or devices through bypass of the underlying cyber security protocols, policies and mechanisms resulting in the compromise of the confidentiality, integrity or availability ofdata/information maintained in a computer resource or cyber asset.
(17) Cyber Security Incident: shall mean means any real orsuspected adverse event in relation to cyber security that violates an explicitly or implicitly applicable security policy resulting in unauthorized access, denial of service or disruption, unauthorizeduse of a computer resource for processing or storage of informationor changes to data, information without authorization.
(18) Cyber Security Policy: shall mean documented set of business rules and processes for protecting information, computer resources, networks, devices, Industrial Control Systems and other OT resources.
(19) Electronic Security Perimeter: shall mean the logical border surrounding a network to which the Cyber Systems of Power Systemare connected using a routable protocol.
(20) Information Security Division: shall mean a division accountable for cyber security and protection of the Critical System of the Responsible Entity.
(21) Internet: The single interconnected world-wide system of commercial, government, educational, and other computer networks that share the set of protocols specified by the Internet Architecture Board (IAB) and the name and address spaces managed by the Internet Corporation for Assigned Names and Numbers (ICANN).
(22) IT System: a collection of computing and/or communications components and other resources that support one or more functional objectives of an organization. IT system resources include any IT component plus associated manual procedures and physical facilities that are used in the acquisition, storage,

manipulation, display, and/or movement of data or to direct or monitor operating procedures. An IT system may consist of one or more computers and their related resources of any size. The resources that comprise a system do not have to be physically connected.

(23) Operational Technology (OT): Programmable systems or devices that interact with the physical environment (or manage devices thatinteract with the physical environment). These systems/devices detect or cause a direct change through the monitoring and/or control of devices, processes, and events. Examples include industrial control systems, building management systems, fire control systems, and physical access control mechanisms.

(24) Protected System: shall means any computer, computer system or computer network of any organization notified under section 70 of the Act, in the official gazette by appropriate Government.

(25) Responsible Entities: shall mean power sector entities deploying Operational Technologies with or without IT systems, including Generating companies including the captive plants,Renewable Energy Sources, Energy Storage System, Transmission Licensees including deemed transmission licensee, Distribution Licensees, National Load Dispatch Centre, Regional Load Dispatch Centers, State Load Dispatch Centers, Control Centers of distribution licensee, Central Transmission Utility, State Transmission Utilities, and Renewable Energy Management Centers, forecasting service provider, Traders, Power Exchanges, Qualified Coordinating Agencies.

(26) Software Bill of Materials: a formal record containing the details and supply chain relationships of various components used in building software. Software developers and vendors often create products by assembling existing open source and commercialsoftware components. The SBOM enumerates these components in a product.

(27) Vulnerability: weakness of an asset or control that can be exploited by one or more threats.

(28) Vulnerability Assessment: shall mean a process of identifyingand quantifying vulnerabilities.

(29) Vendors: Vendor includes Original Equipment Manufacturer, Original Equipment Suppliers, System Integrator, Associated Hardware/ Software Component Suppliers, and Service Providers.

2 (b) Words and expressions used and not defined in these regulations but defined in the Information Technology Act, 2000 and the Electricity Act, 2003 shall have their respective meanings assigned to them in the respective Acts.

Chapter-II

CSIRT-Power

3. Computer Security Incident Response Team (CSIRT)-Power as may be established under CEA, shall collect traffic data, generated, transmitted, or stored in computer resources of all Responsible Entities in power sector, to enhance cyber security and for identification, analysis and prevention of cyber intrusion or spreadof computer contaminant or any other work, as directed by the Authority through a separate order.
4. CSIRT-Power shall have roles and responsibilities including the followings-(1)

laying down the Cyber Security framework and protocol for the Power Sector.
(2) serve as a Point of Contact and Responsible Agency of the Power Sector for responding to and prevention of cyber security incidentsin the Power Sector.
(3) reviewing the Cyber Security arrangements in the different wings from time to time and strengthening such arrangements.
(4) Coordinate, share, collect, analyse cyber threats related to Power Sector.
(5) Create/develop Standard Operating Procedures (SOPs), security policies, best practices for incident Response activities in consultation with CERT-In and NCIIPC.
(6) Issue, Analysis, follow-up action on Alert and Advisories in coordination with NCIIPC, CERT-In and MHA.
(7) Implement Cyber Crisis Management Plan for the Power Sectorin coordination with CERT-In
(8) Collaboration with CERT-In and NCIIPC to resolve the CyberSecurity incidents.
(9) Proactive measures to increase the cyber security awareness and improving the cyber security posture of the Power Sector including audits, assessments and exercises.
(10) Work closely with CERT-In and active participation in all cyber security related activities & initiatives suitable to the Power Sector
(11) Facilitate and promote research & development in relevant subject domain pertaining to cyber security in collaboration with Research Institutes and Academia.
(12) Implementation of Scheme of Trusted Vendor System for PowerSector as and when notified.
(13) Security Control Selection & Tailoring Process for Power Sector
(14) Any other functions related to cyber security issues as directedby Ministry of Power, the Authority, CERT-In and NCIIPC.

5. The Authority may also designate sub sectoral CERTS in Power Sector for Generation, Transmission, Distribution, Grid Operation toassist CSIRT-Power in hierarchical structure and shall carry out functions, as directed by the Authority through a separate order.
6. The directions of CSIRT-Power shall be complied with, and if askedfor, documents related to Cyber Security shall be submitted.

Chapter-III

General Cyber Security Requirements

Applicable to all Entities listed under Regulation 1(3).

7. The Entity shall

(1) designate regular employees of the senior management level as CISO and alternate CISO who shall be Indian nationals (by birth) and define their roles and responsibilities, ensuring that the role of the CISO is ring fenced to tasks of Cyber Security. The designated CISO shall report to the CEO/Head of the Responsible Entity. In absence of CISO, the roles and responsibilities of CISO shall be executed byAlternate CISO.
Provided that both the posts of CISO and Alternate CISO do notremain vacant at

the same time.

(2) have a defined, documented and maintained Cyber Security Policy which is approved by the Board or Head of the entity as a casemay be.

(3) Have a Cyber Crisis Management Plan (CCMP) which is approvedby the Board or Head of the entity as a case may be.

(4) ensure deployment of all required security devices, such as appropriate firewalls, intrusion detection systems (IDS), intrusion prevention systems (IPS) capable of identifying behavioural anomaly, including deployment of Web Application Firewall for the protectionof critical web-based applications.

(5) ensure that all websites, web portals, applications, and web services as well as any update undergo and successfully pass a cyber security audit before being hosted on the Internet.

(6) ensure that a comprehensive cyber risk assessment isconducted, and effective measures for identified cyber risks are implemented before grant of approval for remote access to cyber assets.

Provided that, such remote access shall be limited to the minimum necessary duration, with least privilege, ensuring multi-factorauthentication to verify the identity of remote users.

(7) conduct periodically, Cyber Security awareness program and Cyber Security exercises including mock drills and Tabletop exercises.

(8) ensure that all engaged personnel sign an undertaking, includinga non-disclosure agreement, to protect the confidentiality, integrity, and availability of sensitive information and implement an enquiry process to investigate an event of Cyber Security breach.

Provided that disciplinary process shall be implemented to act against personnel committing a Cyber Security breach.

(9) report Cyber Security incidents within prescribed time limits to CSIRT-Power along with CERT-In and NCIIPC.

(10) ensure online and offline backups of all critical and other required systems as stated in their Cyber Security policy, in separate and secure environments.

(11) facilitate a comprehensive Cyber Security audit

(A) for the IT system twice a year, the first audit period between April and September, and the second audit period between October and March with a gap of atleast four months between these two audits.

(B) once a year for the OT system, as applicable.

Chapter-IV

Roles and Responsibilities of Responsible Entities

8. Responsible Entities shall(1) establish an Information Security Division (ISD) dedicated to ensuring Cyber Security, headed by the CISO and remain operational round the clock. Sufficient workforce and infrastructure support shall be ensured for ISD.

(2) acquire ISO/IEC 27001 certificate by certification bodies, preferably accredited by the Indian Accreditation Body or acquire Basic Technical Criteria certificate as and when issued by the Authority through a separate order.

(3) ensure that all personnel engaged in the operation and maintenance of IT & OT systems, including personnel from Contractors and Vendors, have mandatorily undergone designated Cyber Security courses from training

institutes as directed by the Authority through a separate order.

Provided that CISO and members of the ISD shall attend CyberSecurity training program for at least ten person-days per year oras may be directed by separate order by the authority to upgradethe necessary competencies.

(4) ensure the availability of essential communications withrequired internal & external stakeholders for management of crisis, natural disasters, or other emergencies.

(5) ensure deployment of all required security devices, such asappropriate firewalls, IDS, IPS capable of identifying behaviouralanomaly in both IT and OT environment as applicable, including deployment of Web Application Firewall for the protection of critical web-based applications.

Provided that Responsible Entity shall ensure deployment of suitable perimeter Cyber Security devices such as appropriate Firewall with hardened configuration at their point of connection with power system.

(6) ensure that control and operation of power system elements are prohibited over Internet.

Provided that power system elements are controlled and managed from within national boundaries only, and real-time data of grid operations and status information is not transferred across the border.

(7) ensure that its Critical Information Infrastructure is not discoverable on public platforms unless permissible in Cyber Security policy case to case basis.

(8) ensure physical isolation of critical OT system from Internet.

(9) ensure physical separation between critical OT system and enterprise IT system. In case, physical separation is not possible, suitably hardened logical separation shall be ensured.

Provided that Enterprise IT networks having identified Critical Information Infrastructure shall be separated from other/rest of IT networks.

(10) in case remote operation is required, ensure the implementation of a secure architecture that includes deploymentof next-generation firewalls with hardened configurations, andhaving IDS/IPS, to protect against unauthorized operations. Provided that, these systems are connected with secure, encrypted,and dedicated communication channels isolated from internet traffic and shall be monitored continuously.

(11) ensure that no equipment, component, software or applicationis deployed in the production environment without successfultesting and is verified before being used in the power system. Provided that the Responsible Entity shall ensure the testing of allequipment, components, and parts imported for use in the PowerSupply System and Network for any kind of embedded malware,Trojan, or cyber threat and for adherence to Indian Standards in compliance with the orders issued by the Ministry of Power fromtime to time in this regard.

(12) ensure that as and when Ministry of Power, Government ofIndia stipulates the Model Contractual Clauses on cyber security,the applicable clauses are included in their procurement bid invited for of all ICT based components/equipment/systems as well as services

(13) ensure that as and when Ministry of Power, Government ofIndia stipulates the Scheme of Trusted Sources in power sector, all the designated ICT based Equipment and Services are sourced from listed Trusted Sources only.

Chapter –V

Functions and Responsibilities of Information Security Division (ISD)

9. ISD shall be manned by sufficient numbers of officers, having validcertificate of successful completion of domain specific Cyber Security courses.

The indicative minimum manpower of ISD is given in Part-I of theSchedule I.

10. ISD shall carry out the Functions of including the following

(1) to implement measures for Cyber Security of the Critical Information Infrastructures (CIIs) as identified by NCIIPC and the notified Protected Systems by appropriate Government as per IT Act, 2000.
(2) to review the Cyber Security Policy of the Responsible Entity annually and its compliance measures on a quarterly basis.
Provided that such a review shall include items as given in Part-II of Schedule I.
(3) to test randomly, the day-to-day operations of Critical System for being in conformance with Cyber Security Policy and advisories, guidelines and directive issued by NCIIPC, CERT-In, CSIRT-Power and take required actions.
(4) to act upon the directive, guidelines, and advisories issued by NCIIPC, CERT-In, CSIRT-Power and the Authority.
(5) to share the details of the detected cyber security incidents,Action Taken Reports, Root Cause Analysis and other incident related reports with CSIRT-Power along with CERT-In and NCIIPC.
(6) to gather cyber threat intelligence, identification of threat vectors and evaluation for Cyber Security risks including internal risks and external risks by analyzing Cyber Security logs, alerts and events.
(7) to maintain an updated inventory of all IT and OT assets, including hardware assets, software assets, and other associated assets, and a record of documented network architecture depicting data flows.
(8) to identify and select Cyber Security control measures that commensurate with the criticality of Cyber Security risks.
(9) to implement process to receive, analyze and respond to disclosed vulnerabilities from internal and external sources.
(10) to implement mechanism for timely identifying, assessing and managing Cyber Security threat and vulnerabilities.
(11) to retain Cyber Security documents like certificates of Cyber Security tests, FAT, SAT results, and Cyber Security Audit reports for the period as directed by the Authority through a separate order.
(12) to report cyber sabotage in the Critical System to CSIRT-Power within 24 hours of detection or within period as directed by the Authority through separate order.

11. ISD shall ensure the followings, across its Responsible Entity: -

(1) the updation of the firmware/software with the digitally signed OEM validated patches only.
(2) cyber security hardening of deployed security devices, networkdevices,

host devices etc.,

(3) the enforcement of strict and approved protocol for grant ofremote access as laid in their Cyber Security Policy.

(4) the storage of logs of all of their ICT systems for a rolling period of 180 days or for a period as directed by the Authority through a separate order.

(5) secured preservation of logs and forensic records pertaining to Cyber Security incidents for at least 180 days or for a period as directed by the Authority through a separate order.

(6) identification and documentation of cyber asset wisevulnerabilities, as and when known, discovered, or disclosed publicly by the OEM/third party.

(7) that the Cyber Security requirements are included in the FAT and SAT requirements during the procurement of equipment/ components/ parts.

(8) updated record of Configuration details of Critical System is maintained.

(9) that the clocks of all relevant information processing systems within IT and OT systems are synchronized to a reference time source.

(10) inclusion of Cyber Security requirements in Service Level Agreement (SLA) with Cloud Service Provider following applicablegovernment guidelines, rules, and regulations and inclusion of withthe approved.

(11) storage of Cyber Security-related documents and records in secure and controlled environments, with access restricted to authorized personnel only.

(12) on-boarding of required information including allocated, used and unused public IPs with Threat Detection Portals of cyber security agencies.

(13) that all OT equipment/systems supplied by the successful bidder are accompanied by a certificate obtained by the vendor from acertification body for conformance to IEC 62443-4 standards.

Chapter-VI

Chief information Security Officer (CISO) and Alternate CISO

12. CISO & Alternate CISO shall possess a degree in Engineering with at least fifteen years of experience in power sector domain or 10 years of experience in IT/Cyber Security.

Provided that they conform to other required qualifications, as and when, issued by the Authority through a separate order. The CISOs shall acquire these qualifications within six months of their issuance or within a period as may be directed by the Authority through a separate order.

13. The CISO shall be the nodal officer for all cyber security related issues, coordination with the authorities/ agencies handling Cyber Security subject matters including handling of all communicationsrelated to CCMP.
14. The details of the CISO and alternate CISO shall be communicatedto CSIRT-Power and to all internal and external stakeholders of organizations, including publication on the website.
15. The CISO shall be the custodian of all the cyber security relateddocuments as specified in IS 16335.

Chapter-VII

Cyber Security Policy

16. **Cyber Security Policy shall include**

(1) defined Purpose, Scope, roles and responsibilities of their internal and external stakeholders. It shall contain applicable compliance and legal requirements including review schedule, Monitoringmechanisms and reporting metrics.

(2) asset management processes including asset identification and classification process.

(3) defined Cyber Risk Assessment and Risk Treatment Plan, with an approved risk matrix and risk acceptance criteria for both IT and OT environment. The same shall be approved by the Board of Directorsof the Entity.

Provided that Cyber risk assessment shall be conducted annually and shall consider but not limited to, all cyber assets identified/notified as Critical Information Infrastructure/Protected Systems, critical and high-risk cyber assets as identified in the Cyber Security risk assessment and risk treatment plan.

(4) defined policy for Personnel Risk Assessment, which shall include the process and controls to mitigate risks from Personnel after their termination from employment or upon change of their job responsibilities

(5) Vulnerability Management Process for periodic identification and closure of vulnerabilities,

(6) defined Access Control for user Access Management including Authentication and Authorization for granting access.

(7) defined physical Access controls defining rules for physical access to critical cyber assets and mechanisms for protecting against environmental threats.

(8) designed and documented annual cyber security training program for personnel having authorized cyber or authorized physical access to their Critical Systems.

(9) defined and documented Change Management process to ensure that all changes in software and/or update shall be version controlled with roll-back provision.

Provided that, there shall be defined and documented patch management procedures that shall include the identification, categorization, and prioritization of security patches, and the time frame for application and process to check and verify the authenticity, integrity, and compatibility of security patches and system updates shall be defined.

(10) defined backup policy to ensure that all backup data is being retained at least for the period of one calendar year or as directed bythe Authority through a separate order. Backup policy shall havemechanism for verification and testing of the integrity of all the backup data as well as the restoration processes.

Provided that Backup of all sensitive data shall be encrypted duringboth transmission as well as storage. Access of such backup data shall be secured and restricted to authorized personnel only.

(11) defined and documented, risk-based Cyber Security Incident Response and Recovery Plan for effective response and the timely restoration of systems.

(12) defined and documented digital Data Protection and PrivacyPolicy in line with notified Government Rules and Regulations, which shall include encryption for sensitive data when data is at rest on the device or on a removable media or in

transit.

Provided that sensitive data, such as Personally Identifiable Information (PII), stored on or sent to or transmitted fromtelecommuting devices shall be protected from unauthorized accessor corruption.

(13) provisions for secured use of external removable and mobile devices including restriction on the use of Bring Your own Device (BYOD) within critical & associated networks.

(14) defined and documented Internet Access Policy to monitor and regulate the use of internet.

(15) management and phase out plan for obsolete cyber asset, thatare already outlived their useful life or nearing the end of their usefullife.

Provided that documented Standard Operating Procedure (SOP) forthe safe and secure disposal of obsolete system shall be in place.

(16) Process for vulnerability scanning and penetration testing priorto the commissioning of any system in case of replacement obsolete system.

(17) password Policy that includes strong Password controls for authorized access to systems, applications, networks and databases.

(18) plan for collaboration with other industry stakeholders and academia to promote R&D activities in the domain of Cyber Security.

(19) plan for Cyber Supply Chain Risk Management that includes provision of Cyber Security requirements in outsourcing and Non-Disclosure Agreement in the Service Level Agreement.

(20) procedure for identifying and reporting of sabotage in CriticalSystem.

Chapter-VIII

Cyber Crisis Management Plan (CCMP)

17. CCMP shall include cyber event categorization, criteria(s) for identifying event as crisis, identified stakeholders and their responsibilities, Standard Operating Procedure to manage the cybercrisis and Communication methodologies during crisis with impacted parties, internal/ external stakeholders, and key users.
18. CCMP shall be prepared in consultation with concerned Sectoral- CERTS and vetted by CERT-In, the vetted CCMP shall be approvedby their Board of Directors and reviewed annually, or after any major change, whichever is earlier.
19. In the CCMP, Recovery Plan(s) for every Critical System shall be defined and documented and same shall be communicated to allconcerned Personnel.
20. CISO shall be responsible for ensuring implementation of CCMP.

Chapter-IX

Additional Cybersecurity Requirements for Vendor

21. The vendor shall provide documented and tested procedures andrecovery plan for restoration of the system from potential cyber crisis scenarios.
22. The vendor shall ensure that the security patches and updates aremade available for all system components, supplied by them throughout the entire contractually stipulated operating time.

Provided that, where the vendor has not provided entire systems, it shall indicate the necessary requirements and process to install security patches and other

updates on the third-party components, if integrated in the system.

23. The vendor shall inform the End of Support/ End of life of all hardware/ software/ system, including those of third parties, supplied by them.
24. The vendor shall provide Software Bill of Materials stating detailedlist of used software components in case of Critical Applications, supplied by them.

Chapter-X

Cyber Security Audit

25. The Cyber Security audit shall be conducted through a CERT-In empaneled Cyber Security Auditor or cyber security auditor as per NCIIPC scheme as and when the same comes into existence. TheseCyber Security audits shall be carried out as per ISO/IEC 27001 along with sector specific standard ISO/IEC 27019, IS 16335, ISO/IEC 27017 and any other Cyber Security audit directions issued by the Authority.
26. The Cyber Security audit and their compliance report shall be reviewed by CISO. Critical vulnerabilities and major non- compliances identified in critical information infrastructure during internal and external cyber audits shall be presented to the Board ofDirectors.
27. The audit report shall be submitted within 6 weeks of itscommencement and within the same audit period.

Provided that all critical and high-risk vulnerabilities shall be addressed within a period of one month and medium & low risks vulnerabilities before the commencement of the next audit.

Further, provided that effective closure of all identified vulnerabilities shall be verified during the conduct of next audit.

28. No three consecutive Cyber Security audits shall be done by thesame Auditing Agency and in the case of certification audit, the third audit shall be done by a different group of Auditors.

Chapter-XI

Physical Security

29. All cyber and non-cyber critical assets shall be identified and protected and all access points to the Critical System shall be secured physically and monitored by employing physical, human, and procedural controls such as the use of Security Guards, CCTVs,Biometric, card access systems, mantraps, bollards, etc. whicheverappropriate.
30. Physical access to OT and Industrial Control System (ICS) Systemsshall be restricted.

Provided that the grant of physical access to the Critical Systems shall be revoked in case of a perceptible threat of physical damage.

31. The Systems, Networks, Applications used for ensuring effective physical security shall be kept separated from the network of critical systems.

Chapter-XII

Critical Information Infrastructure (CIIs) Identification

32. For the identification of CIIs, all information required by NCIIPC shallbe provided.

Provided that Upon receipt of the communication regarding declaration of CIIs from NCIIPC, the organization shall, within 15 calendar days, approach the appropriate government for notification of their declared CIIs as "Protected Systems" in the Official Gazette, in accordance with the provisions of Section 70 of ITAA 2008.

33. Details of new cyber assets shall be submitted to NCIIPC, within 30 days of their commissioning.

Chapter-XIII

Miscellaneous

34. **Monitoring and Compliance**

(1) Assessment of Compliances

The performance of all organizations with respect to compliancewith these regulations shall be assessed periodically.

(2) Monitoring of Compliance

(1) In order to ensure compliance, two methodologies shall befollowed:
(a) Self-Audit
(b) Compliance Audit

(2) Self Audit:
(a) All organizations shall conduct annual self-audits to review compliance of these regulations and submit the reports by 31stMarch of every year.
(b) The self-audit report shall inter alia contain the followinginformation with respect to non-compliance:
(i) Sufficient information to understand how and why the non-compliance occurred.
(ii) Extent of damage caused by such non-compliance.
(iii) Steps and timeline planned to rectify the same.
(iv) Steps taken to mitigate any future recurrence.

(c) The self-audit reports by all Responsible Entity, associated Government Organizations (CPRI, PFC, REC, BEE, Training Institutes), and Vendors shall be submitted to the CISO-MoP andCSIRT-Power.

(d) The self-audit reports of Power Sector IT Infrastructure of Appropriate Government, RPCs, Appropriate Commissions shallbe submitted to CISO, MoP.

(e) The deficiencies shall be rectified in a time-bound manner within a reasonable time.

(f) CISO, MoP shall continuously monitor the instances of non- compliance of the provisions of these regulations and endeavor to sort out all operational issues and deliberate on the ways in which such cases of non-compliance shall be prevented in future.

(g) CISO, MoP may initiate appropriate proceedings upon receiptof the report under sub-clauses (e) of this clause.

Provided that CISO, MoP may report the non-compliance of any regulations to CERT-In and NCIIPC for appropriate action under IT Act 2000 and Amendment thereof.

Furthermore, provided that CISO, MoP may initiate action for non-compliance of these regulations under section 146 of theElectricity Act, 2003.

(h) In case of non-compliance with any provisions of these regulations, the matter may be reported by any person to theCISO-MoP or the Authority.

(3) Independent Third-Party Compliance Audit:
CISO, MoP or the Authority may order independent third-party compliance audit for any organization as deemed necessary based on the facts brought to the knowledge of CISO, MoP or theAuthority.

35. **Power to Relax**

The Authority through an order, for reasons to be recorded inwriting, may relax any of the provisions of these regulations on its own motion or on an application made before it by an affected person to remove the hardship arising out of the operation of anyof these regulations, applicable to a class of persons.

36. **Power to Remove Difficulty**

If any difficulty arises in giving effect to the provisions of these regulations, the Authority may, on its own motion or on an application made before it by the affected person, by order, make such provisions not inconsistent with the provisions of the Act or provisions of other regulations specified by the Authority, as may appear to be necessary for removing the difficulty in giving effectto the objectives of these regulations.

Schedule-I

Part-I: Indicative minimum required officers/officials in ISD.

1. Minimum Work Force required for setting up an ISD:
    a. 04 (Four) officers including CISO and 04 officers/officialsfor shift operations.
    b. Besides these indicated officers/ officials additional officers/officials can be placed exclusively for cyber security task like conducting Internal Cyber Security Audit, Mock-Drills/ Exercise, VAPT, coordination, and execution of tasks related tocompliance of cyber security Guidelines, Regulations, advisory and alerts etc.2. The officers/officials deployed in the ISD shall have valid certificate of successful completion of Cyber Security courses as issued by the Authority through a separateorder. The officers/officials shall acquire these certificates within six months of their issuance or within a period as may be directed by the Authority through a separate order.

Part II - The review of the Cyber Security policy implementationmust include:

i. Review of current cyber security capabilities including capabilities of cyber security deployed Cyber Security tools and implemented Cyber Security processes and procedures.
ii. To Review the efficacy of cyber security preparedness.
iii. Review of goals set for a targeted level of cyber resilience.
iv. Review of Incident response plan to improve upon cyber resiliencelevel and strengthening of cyber security incident handling capabilities.
v. Review of measures for improvement in Cyber Security posture.

Part III - Guidance on Awareness Programs.

Personnel having authorized cyber or physical (escorted or unescorted)access, must receive on-going reinforcement on cyber security best practices. The cyber security best practices dissemination may be done through mechanisms such as:

i. Direct communications (e.g., emails, memos, computer-basedtraining, etc.).
ii. Indirect communications (e.g., posters, intranet, brochures, etc.).
iii. Management support and reinforcement (e.g., presentations,meetings, etc.).

Annexure-IV 14th NPC

Final Standard Operating Procedure (SoP) for Communication System Outage Planning

1. As per the following CEA and CERC Regulations, the Communication Outage for the Region shall be carried out by RPC Secretariat:
   a) Regulation 7.3 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 stipulates as below:

   Quote:

   7.3 Role of National Power Committee (NPC) and Regional Power Committee (RPC):

   ……

   (iv) The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

   ……

   Unquote

   b) Regulation 10 Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 envisages as below:

   Quote:

   10. Outage Planning: 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.

   Unquote

2. A Communication System Outage Planning Sub-Group/ TeST Sub Committee shall be formed in each region constituting the members from all the entities connected to ISTS including all CGS, ISGS, REGs/SPPDs/SPDs, STUs, SLDCs etc., of the respective Region, RLDC/Grid-India, PGCIL, CTUIL, Private Transmission licensees in respective region & RPC secretariat. The sub-group/ Sub Committee may co-opt any other member from any organization for facilitating the activities of the sub-group/ Sub Committee.

3. Communication System Outage Planning will be limited to the following systems:
   (i) ISTS Communication System including ISGS
   (ii) Intra-state Communication System being utilized for ISTS Communication
   (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDCs.
   (iv) Inter-regional AGC links.

(v) Any other system agreed by the sub-group.

4. Communication Equipment/link within the scope of the Procedure would include :

   (i) Optic Fibre links
   (ii) Any other link being used for ISTS communication
   (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDC
   (iv) VC links between LDCs
   (v) Inter-regional AGC links
   (vi) SPS Links
   (vii) Tele-Protection
   (viii) AMR
   (ix) PMU
   (x) SDH & PDH
   (xi) DCPC
   (xii) RTU & its CMU cards
   (xiii) DTPCs
   (xiv) Battery Banks and Charging Equipment
   (xv) EPABX
   (xvi) Any other equipment/link agreed by the sub-group

5. A Web Portal named as "Communication System Outage Planning Portal" shall be developed by respective RLDCs. Log-in credentials shall be provided to all the ISTS connected entities/concerned entities.

6. Entities/Users/Owners shall add their communication links and the equipment to the Web Portal as soon as they are commissioned. The same has to be furnished to RPC Secretariat /RLDCs.

7. Entities/Users/Owners of the communication equipment shall upload the outage proposals of communication links and the equipment (in the prescribed format only) to be availed during subsequent month by 7th/8th of every month in the Web Portal.

8. RPC Secretariat consolidates the list of outage proposals received from various Entities/Users/Owners of the communication links and equipment by downloading from the Web portal and circulate the same among all the respective region entities by 15th of every month. Communication outages affecting other regions would be coordinated by respective RLDC through NLDC.

9. Communication System Outage Planning (CSOP) meeting shall be conducted during the third week of every month normally (preferably through VC) to discuss and approve the proposed outages of communication links and equipment.

10. The approved outages of Communication links and equipment in the CSOP meeting shall be published in the RPC website and respective RPCs Communication Outage Portal within 3 days from the date of CSOP meeting.

11. Outage of the approved communication links and equipment shall be availed by the respective owner /entities after confirming the same with RLDC on D-3 basis.
12. In case of any emergency outage requirement of communication links and equipment, Entities/Users/Owners may directly apply to respective RLDC with intimation to respective RPCs on D-2 basis. Confirmation of approval/rejection will be provided on D-1 basis by RLDCs in consultation with respective RPCs considering 24hrs processing window.
13. Entities/Users/Owners shall take the code from the respective RLDC before availing the planned outage of the communication links & equipment and before restoration of the same.
14. Entities/Users/Owners of the communication links and equipment shall submit the deviation report for the approved outages (approved dates & approved period) availed during the previous month and the report on planned / forced / other outage of communication links / equipment by 10th of the month to RPC Secretariat as per the format at **Annexure-I** .
15. In the monthly CSOP meetings, communication links and equipment whose outage duration (Planned / Forced / Others) more than 48 hours for the last 12 months of rolling period shall be deliberated for the measures to be taken in future for the better outage management. The date deviations and non-availing the outages that were approved in the previous CSOP meetings shall also be deliberated in the CSOP meetings.

Note: The manual for implementation of Communication System Outage Planning through web portal received from SRPC is attached at **Annexure-II** for ready reference.

***

Annexure: DCOA-I

Outage Deviation Report : List of outages of Communication Links, availed / deviated during the month of June, 2021

Dated :

A Details of Communication Links (Point to Point) availed :

SL	Name of Requesting Agency	Description of Link	Source	Destination	Channel Routing	Ownership	Reason for availing outage with the details of equipment attended	Approved Start Date : Time [dd-mm-yy<>hh:mm]	Approved End Date : Time [dd-mm-yy<>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<>hh:mm]	Outage availed End Date : Time [dd-mm-yy<>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	Back up Control Center (BCC) : Data	KAYATHAR 230 kV SS	MADURAI LDC	Data will be availble throu	TANTRANSCO	Shifting of FODB panel at Kayathar 230 KV SS	10-Mar-2021 09:00	10-Mar-2021 18:00	**09:00**	10-Mar-2021 14:07	10-Mar-2021 17:30	**03:23**	**N**

Annexure: DCOA-II

Outage Deviation Report : List of outages of Communication Equipment availed / deviated during the month of June, 2021

Dated : **00:00**

B Details of Communication Equipment availed :

SL	Name of Requesting Agency	Name of the communication equipment	Location of the Equipment / Name of Station	Name of the Link/Channel/Path / directions affected	Alternate Channel/Path available ? (Furnish details)	Ownership	Reason for availing outage with the details of faults	Approved Start Date : Time [dd-mm-yy<>hh:mm]	Approved End Date : Time [dd-mm-yy<>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<>hh:mm]	Outage availed End Date : Time[dd-mm-yy<>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	DC Charger -2, Amararaja, 48v	Edamon	Nil	Nil	KSEBL	Monthly maintenance. No interruption as alternate chargers available	16-Mar-21, 11:00	16-Mar-21, 16:00	**05:00**	16-Mar-21, 10:30	16-Mar-21, 16:00	**05:30**	**Y**

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 Availability of Communication System" under the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017.

Order

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

2. Regulation 7.3 of the Communication Regulations requires NPC to prepare Guidelines on "Availability of Communication System" in consultation with the stakeholders and submit the same for approval of the Commission.

3. Accordingly, NPC has submitted the "Guidelines on Availability of Communication System", after stakeholder consultation, for approval of the Commission.

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

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

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.

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Annexure B 2.14

सं.22/22/2023-ओ एम [268631]
भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power

F-Wing, 2nd Floor, Nirman Bhawan
New Delhi, the 12th March, 2024

To,

1. Chairperson, Central Electricity Authority, New Delhi
2. Principal Secretary/Secretary (Energy) of State Governments/UTs.
3. Secretary, Ministry of New and Renewable Energy, CGO Complex, New Delhi
4. Secretary, CERC, New Delhi
5. Secretary, State Electricity Regulatory Commissions.
6. Chairman, State Power Utilities/SEBs.
7. Chairman, CPSUs under Ministry of Power
8. Chairman, CPSUs under Ministry of New and Renewable Energy
9. Member Secretary, Regional Power Committees
10. CMD, Grid-India, New Delhi
11. ED, NLDC, New Delhi

Subject: Revised Guidelines/Procedure for Disbursement of Funds from Power System Development Fund (PSDF) -reg.

Reference: MoP OM No. 22/22/2023-OM dated 04.07.2023 (Copy enclosed).

Sir,

Revised Guidelines/Procedure for Disbursement of funds from Power System Development Fund (PSDF), approved by the Competent Authority, is enclosed for information and necessary action.

Encl: As Above

Yours faithfully

12/03/24

(Parveen Dudeja)
Director (OM)
Tel: 23062439
Email:parveen.dudeja@nic.in

Copy to:

1.Secretary, Department of Economic Affairs, Ministry of Finance, North Block, New Delhi.
2. Secretary, Department of Expenditure, Ministry of Finance, North Block, New Delhi.
3.Chief Executive Officer (CEO), Niti Aayog, Sansad Marg, New Delhi.

Copy for information to: PPS to Secretary (Power)/PSO to JS & FA/Sr. PPS to AS(AT)/All Joint Secretaries/Chief Engineers/Economic Adviser/Directors/Dy. Secretaries of Ministry of Power.

Copy to: Incharge, NIC, Ministry of Power for uploading the letter on the website of Ministry of Power under 'New Notices' with heading "Continuation of scheme for Operationalization of the Power System Development Fund (PSDF) for the 15th Finance Commission cycle from FY 2021-22 to FY2025-26".

12/02/24

(Parveen Dudeja)
Director (OM)
Tel: 23062439
Email:parveen.dudeja@nic.in

Guidelines / Procedure for Disbursement of Fund from Power System Development Fund

Table of Contents

** As per CERC PSDF regulation 2014, after the approval of project by the Appraisal committee the Project DPRs along with formats B1 & B2 where submitted to CERC for examination. CERC later issued the PSDF regulations 2019, wherein the Role of CERC was removed and hence these formats are not required now. Appraisal committee in its 30th Meeting asked to remove these formats from Guidelines.*

Guidelines / Procedure for Disbursement of Fund from Power System Development Fund

1. Background

1.1. These Guidelines/Procedure are issued in accordance with the following:

a. Ministry of Power Letter No.29/9/2010-R&R (Vol-II) dated 10th January, 2014, wherein the approval of the Cabinet was conveyed regarding the scheme for operationalization of the Power System Development Fund (PSDF), hereinafter referred as "MoP Communication dated 10th January, 2014"

b. Central Electricity Regulatory Commission (Power System Development Fund) Regulations, 2019 dated 28th August 2019, and as amended from time to time and hereinafter referred as "PSDF Regulations".

c. Ministry of Power Letter No.22/2/2023-OM (268631) dated 4th July, 2023 conveying the approval of the Cabinet for continuation of Scheme for "Operationalization of the Power System Development Fund (PSDF) for the 15th Finance Commission cycle from FY 2021-22 to FY 2025-26" hereinafter referred as "MoP Communication dated 4th July, 2023"

1.2. The procedure for disbursement of funds from the PSDF is envisaged to be consistent with the provisions of MoP Communication and the PSDF Regulations for utilization of funds. However, in case of any inconsistency due to literal interpretation of the Guidelines/Procedure, the provisions contained in MoP Communication and PSDF Regulations shall prevail.

2. Constitution of the Fund

2.1 As per PSDF Regulations, PSDF has been constituted for crediting balance amounts received under pool accounts maintained by the National Load Despatch Centre (NLDC) / Regional Load Despatch Centres (RLDCs) under various regulations of the CERC.

2.2 According to the PSDF Regulations, the authorized agencies for maintaining and operating the pool accounts with respect to Congestion Charges in real time, Deviation Settlement Charges, Reactive Energy Charges and Congestion Charges due to the explicit auction in transmission corridors are RLDCs, whereas the authorized agency for collecting the Congestion Amount through Power Exchanges is NLDC.

3. Transfer of Payments to the Fund

3.1 NLDC/RLDCs collect Congestion Charges, Congestion Amount, Deviation Settlement Charges, Reactive Energy Charges and such other Charges as may be notified by the Commission under the respective regulations and process the same in line with such regulations. The balance amounts in the respective account of these charges will be regularly transferred to the credit of the PSDF on Half Yearly basis, during the Financial year i.e. by 15th April and 15th October. Adjustments, if any, which could not be given effect to at the time of transfer of balance to PSDF in the previous semi-annual period will be carried out in the subsequent semi-annual period. In case of Reactive Pool Accounts,

which are settled at the end of financial year, the transfer of the small residual amounts to the Fund shall take place at that point of time.

32 A separate account shall be maintained by NLDC for receipt of money from the various Regulatory Pool Accounts maintained by the RLDCs and NLDC for subsequent transfer to PSDF.

4. Scope

4.1. NLDC has been designated as the Nodal Agency for implementation of schemes under this procedure.

4.2. The Regional Power Committees, Generating Companies, Transmission Licensees, Distribution Licensees, Load Despatch Centers, Public Sector Undertaking (PSUs) primarily working in Power and Renewable Energy Sector as the case may be, shall furnish necessary details of the projects, schemes or activities to the Nodal Agency for funding from PSDF. For the purpose of this Procedure, the above agencies shall be called the "project entities" and shall come within the scope of this procedure. The proposals received by the Nodal Agency which are complete in all respects as per the Guidelines/Procedure shall be forwarded to the Appraisal Committee.

4.3. In accordance with para 4.0 and 5.2 of MoP Communication dated 10th January, 2014 and in accordance with the PSDF Regulations, an Appraisal Committee headed by Chairperson, CEA has been constituted. The Appraisal Committee will carry out the scrutiny (techno-economic appraisal) and prioritization of the various project proposals to be funded from PSDF. The Appraisal Committee will undertake techno-economic appraisal of the project with the assistance of a Techno-Economic Sub Group (TESG) of PSDF comprising officers from CEA, CTU, POWERGRID, NLDC etc. The constitution of the Appraisal Committee is given in **Annexure - I**. The representatives from Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) shall also invited for the meeting of Appraisal Committee in order to avoid duplication of the proposals/schemes in PSDF with other schemes of Distribution Sector viz RDSS.

4.4 In accordance with the para 9.1 of the MOP Communication dated 10th January, 2014, the Appraisal Committee in consultation with Ministry of Power will evolve a mechanism to evaluate the implementation of the projects by laying down objective, quantifiable financial and technical outcome parameters for each category of projects funded under the scheme.

4.5 In accordance with para 9.2 of the MOP communication dated 10th January, 2014, a Project Monitoring Group (PMG) headed by Member (GO&D), CEA and comprising of officers from CEA and Powergrid has been constituted by the Appraisal Committee. PMG shall monitor the implementation of the projects/schemes and recommend action to be taken in case of default and delay in implementation. The constitution of the Project Monitoring Group (PMG) is given in **Annexure –I.** Nodal Agency shall provide the necessary assistance to PMG.

4.6 The Appraisal committee shall look into the various aspects of the proposal with respect to relevant clauses specified in the PSDF Regulations and extant PSDF guidelines and ascertain whether the proposed projects are in line with the principles

defined in PSDF regulations and prioritize the projects in accordance with the principles envisaged therein and recommends the proposal/scheme(s) for grant of fund from PSDF. The Nodal Agency shall inform the project entity who has submitted the proposal, about the recommendation of the Appraisal Committee.

4.7 In accordance with para 5.0 of the MOP communication dated 10th January, 2014 and the PSDF Regulations, an Inter-Ministerial Monitoring Committee under the Chairmanship of Secretary (Power), Government of India, has been constituted. The purpose of Inter-Ministerial Monitoring Committee is sanctioning of the projects/ schemes from PSDF and overall supervision and monitoring of the implementation of projects / schemes. Based on the recommendations of the Appraisal Committee, the Nodal Agency shall approach the Inter-Ministerial Monitoring Committee for sanction of the projects / scheme(s) from PSDF. The constitution of the Inter-Ministerial Monitoring Committee is given in **Annexure – II.**

4.8 Based on sanctioned amount by the Inter-Ministerial Monitoring Committee, the funds will be released to the project entities from the Budget of Ministry of Power in accordance with the extant rules/instructions for administrative sanction/approval and release of funds. The release of funds from PSDF will be regulated as per the extant instructions of the Ministry of Finance.

4.9 The Project cost will be examined by the Appropriate Commission at the time of filing of tariff petition by the project entity to ensure inter alia that the tariff in respect of such project/scheme is not claimed for the portion of grant from the PSDF

5. Utilization of the Fund

5.1. In accordance with the MoP Communication dated 4th July, 2023, the following categories of projects will be eligible for funding from PSDF with objective to bring in the improvement of security and reliability of Indian Power System:

a) Creating necessary transmission systems of strategic importance;

b) Installation of reactive energy generators for improvement of the voltage profile in the Grid;

c) Installation of standard and special protection schemes, pilot and demonstrative projects, any communication/ measurement/ monitoring scheme including installation of Phaser Measurement Units (PMUs) etc.

d) Renovation and Modernization (R&M) of transmission and distribution systems for relieving congestion.

e) Creating necessary support for integration of Renewable Energy (RE) like solar, wind, hybrid system and creation of adequate energy storage capacity.

f) Any other scheme/project in furtherance of the above objectives, such as, conducting technical studies and capacity building, etc.

Further, the illustrative list of new projects to be funded from PSDF is given in **Annexure-III**. The Category under which these projects will be considered is also written against the new project name.

52 Funds from PSDF may also be utilized for the projects proposed by the distribution utilities in the above areas which are incidental to inter-State transmission system and have a bearing on grid safety and security, provided that these projects are not covered under any other scheme of the Government of India or respective State Government(s).

53 Any Central Government scheme in the interest of development of power system and grid operation which require support as part of the scheme shall be eligible for assistance from PSDF.

54 Private sector projects are not eligible for assistance from the fund.

6. Funding Pattern

6.1. Funding towards projects/schemes shall be in the form of grant only and such assistance in the form of Grant in Aid will be subject to all the applicable terms and conditions prescribed under the General Financial Rules of Government of India and extant instructions issued by Ministry of Finance from time to time relating to Grant in Aid Assistance. Assistance through interest subsidy or grant of financial assistance at concessional rate of interest shall not be considered. Further, the Grant in Aid will be subject to compliance of guidelines and notification issued by the Government of India from time to time in regards to Make in India, CVC and Cyber security.

6.2. The minimum threshold levels of project outlays for schemes to be considered for funding from PSDF shall be ₹50 Lacs.

Subject to availability of Funds and admissibility, the quantum of grant towards the Project Cost Estimate as accepted by Appraisal Committee shall depend on the type of project/scheme as deliberated above under para 5.1(a) to 5.1(e) and shall be as follows:

i Upto 75% grant for schemes mentioned in para 5.1(a), 5.1(d) & 5.1(e) above
ii Upto 90% grant for schemes mentioned in para 5.I(b) & 5.1(c) above
iii Upto 100% grant for schemes mentioned in para 5.1(f) above.
iv Schemes from the States of North-Eastern region and other hilly States/UTs viz J&K, Ladakh, Sikkim, Himachal Pradesh and Uttarakhand shall be eligible for grant upto 100% for schemes mentioned in para-5.1(a), 5.1(b), 5.1(c), 5.1(d), 5.1(e) & 5.1(f) above.

6.3. The Appraisal Committee shall recommend the amount of grant to the various schemes based on the funding pattern as stated above and subject to availability of the funds in PSDF.

6.4. Grants will be sanctioned by the Inter-Ministerial Monitoring Committee on the basis of the type of project/scheme as stated above. Escalation, if any, in the cost of the schemes shall be borne by the project entity.

7. Submission, Scrutiny and Prioritization of schemes

7.1. The entities while submitting the schemes for funding from PSDF shall furnish necessary details of the projects/ schemes including DPR to Nodal Agency to facilitate identification, prioritization and appraisal of the schemes by the Appraisal Committee. Five (5) hard copies (including one original) and one soft copy of the required documents of the scheme shall be submitted to the Nodal Agency. The entities will upload the proposals documents on the PSDF portal.

7.2. The proposal of schemes submitted for funding from PSDF shall have the following details in the formats enclosed at format Al to A6:

a) Summary of proposal
b) Scheme details including detailed project report (DPR)
c) Financial implication of the scheme and BOQ
d) Project appraisal by CTU/ STU/RPC
e) Basis of Cost estimates and other parameters
f) Project Implementation plan including Time frame for implementation
g) An undertaking stating that:
   - No tariff shall be claimed for the portion of the scheme funded from PSDF.
   - Amount of grant shall be refunded in case of transfer/disposal of the facility being created under this proposal to any other scheme for funding.
   - Shall specifically mention if for the scheme under the proposal, the grant from any other agency is being taken / proposed to be taken.
   - The amount of grant shall be refunded back to PSDF in case of non-utilization of the grant within one year of release of installment.

7.3. The DPR should include Background, Project Objectives, Beneficiaries, On-going initiatives, Technology, Management arrangements, Cost Estimates, BOQ, Time Frame PERT chart, Success criteria and Sustainability. Any other specific requirement may be sought at any time by the Appraisal Committee.

7.4. The DPR should also include Single Line Diagram and other schematics clearly highlighting the proposed scheme equipment getting replaced / renovated.

7.5. Prioritization

7.5.1 While prioritizing the schemes, the intent would be to include those schemes which are planned with the objective to render special help towards power system development and not forming a part of business as usual.

7.5.2 Prioritization shall be done mainly on the criteria of the schemes (i) addressing grid safety and security concerns; (ii) being of national importance; (iii) being in the order of National/Multi utility/Regional/State importance; (iv) being inter-state in nature.

8. Monitoring

8.1. Monitoring and implementation of projects/schemes shall be carried out by Project Monitoring Group (PMG). This group shall meet once in two months and shall submit the Monitoring Reports along with the Action Taken Reports to the Appraisal Committee

and to the Ministry of Power on regular basis. This group shall also recommend action to be taken in case of default and delay in implementation of the schemes.

8.2. The Inter-Ministerial Monitoring Committee will also monitor implementation of the scheme in addition to issuing/amending Guidelines/Procedure from time to time. The committee will also be empowered to review and revise the benchmark cost norms. Utmost care and due diligence will be done to rule out any duplicity with any other existing scheme.

9. Disbursement

9.1. Nodal Agency shall open a separate Treasury Single Account (TSA) in Reserve Bank of India (RBI) for receiving the funds from Government Budgetary support and onward disbursement to project entities. The project Entities shall also open a TSA account in RBI for receiving funds from Nodal Agency.

9.2. Application for release of funds from the PSDF shall be accompanied by the documents and details as mentioned at Annexure - IV, depending on the stage of execution of the project.

9.3. The disbursement of the funds shall be carried out in a phased manner for Projects in all categories which are approved for funding from PSDF. As a normal practice, the release of the funds shall be made in five instalments as per the details given below:

(i) First instalment: 10% of the total sanctioned grant shall be released on signing of the Agreement.

(ii) Second instalment: The grant equivalent to 20% of the value of contract/contracts awarded/intent issued and fulfilment of all the requirements, including requisite legal formalities as per the sanction letter of project.

(iii) Third instalment: The grant equivalent to 30% of the value of contract/contracts awarded/intent issued, after 75% utilisation of the grant received in first and second instalments and consumption of corresponding self-contribution of the entity.

(iv) Fourth instalment: The grant equivalent to 30% of the value of contract/contracts awarded/intent issued, and after 75% utilisation of the grant received in first, second and third instalments and consumption of corresponding self-contribution of the entity.

(v) Final Stage: Balance 10% of the grant shall be released on completion of the scheme and submission of completion certificate.

However, if any other specific funding pattern different from the pattern mentioned above, is desired by the project entity, then entity shall mention the same at the time of submission of the proposal to the Nodal Agency. The Monitoring Committee may consider the same at the time of sanction of funds for the scheme submitted by entity.

9.4. Specific physical milestones which would be required to be achieved for the project for release of various instalments will be indicated in the project sanction order.

9.5. A TSA account will be maintained by the entity in RBI and PSDF grant will be deposited in the TSA account. Any unspent amount of the grant portion of PSDF shall be reduced while making demand for final instalment. Any residual amount including amount on account of deductions, interest, LD etc. if any, after completion of the project shall be returned to PSDF.

9.6. The fund flow will be tracked under the Public Financial management System (PFMS) platform right from the stage of disbursement by MOP to the Nodal Agency to the stage of disbursement of funds to the implementing agencies.

10. Ineligible Expenditures

Any expenditure which is not directly related and exclusively spent towards the implementation of the scheme shall not be counted as eligible expenditure. The ineligible expenditure shall include:

i) Cost of Land
ii) Interest during construction
iii) Administrative Expenditure including salary
iv) Contingent liabilities
v) Costs resulting from the deferral of payments to creditors

11. Execution, Operation & Maintenance of the Assets

The project entity shall be responsible for the execution as well as Operation & Maintenance of the projects during its useful life. Operation and Maintenance of the Project / scheme shall be governed in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 or tariff regulations of the Appropriate Commission as the case may be, as amended from time to time or any subsequent enactment thereof.

12. Annual Report, Review and Modification

An Annual Report of the fund including the projects undertaken during the year, together with the Balance Sheet and Audited Accounts shall be submitted to the Central Government and for information to the Central Commission. The Annual Report shall also be laid on the table of both Houses of Parliament through the Ministry of Power.

Monitoring Committee may review these Guidelines / Procedure from time to time.

Annexure-I

Constitution of the Appraisal Committee of PSDF:

1. Chairperson, Central Electricity Authority – Chairman
2. Joint Secretary (OM), Ministry of Power – Member
3. Secretary, CERC – Member
4. CMD, Grid-India – Member
5. Project Proponent – Special Invitee (For appraisal)
6. Representatives from Power Finance Corporation (PFC) - Special Invitee
7. Representatives from Rural Electrification Corporation (REC) - Special Invitee
8. An Officer of NLDC not below the rank of General Manager nominated by the Head of NLDC – Member Secretary

Constitution of the Project Monitoring Group of PSDF:

1. Member (GO&D) CEA: Chairperson
2. Chief Engineer (NPC) CEA: Member
3. Director, NPC, CEA: Member
4. GM (CMG), PGCIL: Member
5. GM, NLDC, Grid INDIA: Member Convener

Annexure-II

Constitution of the Inter-Ministerial Monitoring Committee:

1. Secretary, Ministry of Power –Chairman
2. Addl. Secretary, Ministry of Power – Member
3. Chairperson, Central Electricity Authority – Member
4. Principal Adviser (Energy), NITI Ayog – Member
5. Joint Secretary, Transmission/OM, Ministry of Power – Member
6. Joint Secretary, Ministry of Finance (Dept. of Expenditure) – Member
7. Joint Secretary, Ministry of New and Renewable Energy – Member
8. Joint Secretary & Financial Advisor (JS&FA), Ministry of Power – Member
9. CMD, Grid-India – Member Secretary

Annexure-III

The illustrative list of new projects to be funded from PSDF is under:

a) Battery Energy storage system at least till the cost of storage is high **[under clause 5.1(e)].**
b) Supporting Renewable Energy project development through market mechanisms by national agencies like SECI **[under clause 5.1(e)].**
c) Offshore wind project- underwater sea cable transmission portion **[under clause 5.1(e)].**
d) SLDC cum REMC at Ladakh, REMCs at 3 more locations & Disaster Recovery Center at RLDC-3 nos & NLDC-1 nos to be funded through PSDF **[under clause 5.1(c)].**
e) Security Operation Centre at SLDCs for real-time cyber security monitoring **[under clause 5.1(c)].**
f) Pilot project for dynamic line rating in each region **[under clause 5.1(c)].**
g) Communication scheme for AMR and real-time telemetry for 100% grid visibility **[under clause 5.1(c)].**
h) Supporting new technology development need for power sector **[under clause 5.1(f)].**
i) Supporting Grid/feeder monitoring **[under clause 5.1(c)].**

SUMMARY OF PROPOSAL

For Official Use - To be filled by the Nodal Agency	
Project Proposal Number :_____	Date of Receipt : _____

To be filled by the Requesting Organization / Project Entity	
1. Name of the requesting Organization / Utility :	
2. Short Summary of Project / Scheme / Activity	
a. Name and location of the Project / Scheme / Activity :	
b. Objective of the Project / Scheme / Activity:	_____
c. Authorized Person For this Project / Scheme / Activity	Name :_____ E-mail ID :_____ Land line No :_____ Mobile No. :_____ Fax No :_____
d. Nature of the Project / Scheme / Activity: Inter – State / Intra – State (Please Specify)	
e. Identified Beneficiaries	_____
f. Merits of the scheme	_____
g. Limitations, if any	_____
h. Time frame for Implementation	
i. Estimated Cost of Project / Scheme / Activity	
j. Category under which the project is classified (Please refer Para 5.1 of the Guidelines/Procedure)	

Date: _____

Signature:_____

Name:_____

(Authorized Representative)

DETAILED PROPOSAL (DP)

1. Details of the Requesting Organization / Project Entity

1.1 Details of Organization /Entity

Name of Organization / Entity	
Acronym or Abbreviation (if applicable)	

1.2 Details of Head of the Organization

Name (Mr / Ms / Mrs)	
Designation	
E-mail Address	
Landline No.	
Fax No.	
Address	
City	
Postal Code	

1.3 Details of Project Incharge / Project Manager (Authorized Person) for this project/ scheme/ activity (Not below the rank of Dy. General Manager / Superintending Engineer)

Name (Mr / Ms / Mrs)	
Designation	
E-mail Address	
Landline No.	
Mobile No.	
Fax No.	
Address	
City	
Postal Code	

Any Change in above mentioned details may be notified to the Nodal Agency of PSDF immediately.

2. Justification of the Proposal

This justification of proposal shall be the basis of procedure for scrutinization and sanction of the proposal to be funded through PSDF. Please fill the details from 2.1 to 2.6.

2.1 Analysis of the Objective

Please provide the concise technical analysis in such a way that it will give clear understanding of depth and intensity of the objective of the project. This may include:

- The problem / constraint to be addressed
- Objective of the project / scheme / activity
- How the problem / constraint would be addressed through the project / scheme / activity
- Required physical additions / equipment in the power system
- Financing and other commercial details
- Merits and limitations (if any) in the implementation of the project/ scheme/ activity.

The description should be specific & precisely elaborate on each issue.

Identify the specific beneficiaries of this project/ scheme/ activity. Explain specifically how they benefit from the project/ scheme/ activity implementation.

Signature: _____

Date: _____

Name: _____

(Authorized Representative)

2.3 *Identified Source of Funding*

Wherever the project is to be funded partly through self-contribution and partly through grant from PSDF as per categorization of the project, both internal and external sources of funding may be specified along with respective quantum of funding.

2.4 Details of Activities for Project / Scheme / Activity

Describe the activities that need to be undertaken in order to produce the desired results. The activities may include technical and feasibility studies, research etc., wherever they are applicable.

2.5 Executing Agency

Give the details of the executing agency including their performance record, justification behind the recommendation of the particular executing agency for implementing this project/ scheme/ activity.

2.6 Time line for Implementation of Project / Scheme / Activity

Describe the time line for implementing this project/ scheme/ activity including the target list of activities that need to be undertaken for the defined durations between timeline

Timeline of the Project / Scheme / Activity	
Duration of Project (in Months)	
Likely Start Date	
Likely Completion Date	

Timeline of Activities

S.No.	Description	Year	2014 – 15													
		Month	M1	M2	M3	M4	M5	M6	M7	M8	M9	M8	M9	M10	M11	M12
1.	Project Approval															
2.	Bid Preparation															
3.	Bidding Period															
4.	Evaluation, Contract Award and Mobilization															
5.	1st Disbursement															
6.	Project Status Report															
7.	2nd Disbursement															
8.	Project Status Report															
9.	3rd Disbursement															
10.	Project Status Report															
11.	4th Disbursement															
12.	Project Status Report															

Date: _____

Signature:_____

Name:_____

(Authorized Representative)

Summary of Detailed Project Report (DPR)

A Detailed Project Report (DPR) may be given which should include Background, Project Objectives, Beneficiaries, On-going initiatives, Technology, Management arrangements, Cost Estimates, Time Frame, Success criteria and sustainability.

A brief summary of DPR alongwith the Single Line Diagram (SLD) may also be provided

Summary of DPR given - Yes / No. **Copy of the DPR attached. – Yes / No.**

Sample Format for DPR Summary of Sub-station R & M is as below.
Similar formats have to be devised for any other scheme / project/ activity

Cost break-up of Sub-station equipment

Name of the Substation :

Sr.No.	Description of the equipment to be replaced(rating, type)	Unit (Nos./Sets)	Quantity	rate including taxes	total	spares	erection/civil works	total
400 kV								
220 kV								

Note : One table for each substation

	Abstract cost estimate Sub-station (Rs. In Lacs)						
Sr. No.	Description of equipment	Sub-station Name-1	Sub-station Name-2	Sub-station Name-3	.	.	Total
400 kV							
220 kV							

details of existing equipment

Name of the Substation :

Sl. No.	Name of Feeder	Equipment Name	year of Manufacturing and make	date of Commissioning	voltage	no. of cores available (in case of CT/PT)	type of insulation /operation	tagged for replacement (yes/no)	reason for replcement
400 kV									
220 kV									

Note : One table for each substation

·· stract Quantity estimat

Date: _____

Signature: _____

Name: _____

(Authorized Representative)

Sr. No.	Description of equipment	Sub-station Name-1	Sub-station Name-2	Sub-station Name-3	.	.	Total
400 kV							
220 kV							

Implementation schedule / milestones

target for physical milestones

Particular	Total	Quarter-1	Quarter-2	Quarter-3	Quarter-4	-	-	-	Last Quarter
No. of CB									
No of isolators									
no. CVT									
no of relays									
no. of CTs									
-									

target for financial milestones

	description of amount required	Total	Quarter-1	Quarter-2	Quarter-3	Quarter-4	-	-	-	Last Quarter

Date: _____

Signature:_____

Name:_____

(Authorized Representative)

Financial Implication of the Scheme

*(**Guidelines:** The financial implications of the proposal may be worked out as accurately as possible and should be detailed in this section. Further, the manner in which the expenditure is proposed to be borne may also be clearly indicated. Please provide the project cost estimate for its scheduled duration along with a break-up of year-wise, component-wise expenses segregated into non-recurring and recurring expenses.)*

1. Summary

S.No.	Item	Amount in Rs.
1.	Total Cost Estimate	
2.	Funding Proposed from PSDF	
3.	Contribution from Internal Sources	
4.	External Borrowings	

2. Details

2.1 Cost Estimate

Give the detailed cost estimate for implementing the project/ scheme/ activity and attach the management / government approval of the cost estimate and funding.

Basis for Cost estimates and Other parameters: The basis of calculations of the cost estimates on which the management / government approval has been given has to be detailed in this section. The supporting documents of the reliability of the cost estimate may be attached as Annexure

Any ineligible expenditures as per Guidelines/Procedure should be excluded from the Project Cost Estimate.

3. Funding

3.1 Funding Proposed from PSDF as grant

Give the details of amounts proposed from PSDF as grant

3.2 Contribution from Internal Sources

Give the details of contribution of your organization in implementation of this project/ scheme/ activity, if any

3.3 External Borrowings

Give the details of sources and amounts tied up through external borrowings, if any

Date: _____

Signature:_____

Name:_____

(Authorized Representative)

Brief Details of the Project Appraisal by CTU / STU / RPC

The applicant utility shall submit project appraisal by CTU / STU / RPC in the given format and a copy of the Appraisal Report should be attached at Annexure

Item	Details to be filled by Applicant Utility	
Appraisal By:	**CTU** ☐ **STU** ☐ **RPC** ☐	
Date of Submission to CTU / STU / RPC for approval		
Name of the Scheme		
Details of the Appraisal Report by CTU / STU / RPC (Attached at Annexure)	**Reference. No :** _____ **Date:** _____	
Summary of observations from CTU/ STU/RPC Appraisal Report	Summary of Proposal Appraised	
	Technical Observations	
	Financial Observations	
	Compliance of Grid Standards / Codes by the Applicant	
	Limitations / Shortcomings pointed out by CTU/STU/RPC if any	
	Recommendations of CTU/STU/RPC	

Date: _____

Signature: _____

Name: _____

(Authorized Representative)

UNDERTAKING

(On a Non-judicial Stamp paper of Rs. 50 only duly notarized and attested)

I, Dr./ Mr./ Ms.....son/daughter/wife of.....
resident
of.....
.....(full address) and presently working as ..... in
the.....
hereby undertake to comply with the following terms and conditions with regard to funding of the
.....(name of the scheme) with
disbursement from PSDF:

- **No tariff shall be claimed for the portion of the scheme funded from PSDF.**
- **Amount of grant shall be refunded in case of transfer/disposal of the facility being created under this proposal to any other scheme for funding.**
- **Shall specifically mention if for the scheme under the proposal, the grant from any other agency is being taken / proposed to be taken.**
- **The grant shall be refunded back to PSDF in case of non-utilisation of the grant within one year of release of installment.**

Date: _____

Signature:_____ Name:_____ (Authorized Representative)

Request for Release of Instalment

Format CI
Page 1 of 1

Project Proposal Number.....

Sanction Order No_____for sanction of grant from PSDF Sl. No.

of Instalment (First / Second / Third/Fourth/Final)

(Tick whichever is applicable)

Date of Submission•.....

To

PSDF Secretariat
National Load Despatch Centre
New Delhi - 110 016

1. On the basis of the above sanction from PSDF, it is requested to release instalment of grant with details as indicated below:

a) Total Accepted Project Cost Estimate is Rs.....

b) The total amount of grant sanctioned from PSDF is Rs.....

c) The total amount already claimed under sanctioned grant from earlier instalments is Rs.....which forms (%) of the sanctioned grant.

d) The total amount already invested as self-contribution in the project / scheme / activity is Rs.....which forms (%) of the Project Cost Estimate.

e) The amount requested as grant from PSDF against this instalment is Rs..... which forms..... (%) of the sanctioned grant.

2. We hereby certify and agree as follows:

a) The information given as above is correct as per records maintained for the purpose.

b) No claims have been submitted to PSDF Secretariat for payment earlier in respect of the invoices being submitted against above instalment.

c) The work to be carried out under the above project is as per the sanctioned scheme and is in line with Technical Standards / Guidelines issued by CEA or any other such Authority.

d) All claims for expenditure incurred are from the date of sanction of projects by Monitoring Committee

e) Treasury Single Account (TSA) in RBI shall be opened by the Project Entity for the PSDF Scheme. The grant for the Projects funded through PSDF shall be released to the Project entity through the RBI TSA system. The TSA is a non-interest-bearing account and the funds shall be made available in the form of a transfer limit assignment through the online Public finance Monitoring System (PFMS) Portal. The fund remaining un-utilized shall lapse at the end of the financial year.

Date_____

Signature•.....
Name•.....
Seale.....
(Authorized Representative)

Format C2
Page I of I

Utilization Certificate

Project proposal Number .....

Sanction Order No ..... for sanction of grant from PSDF

Sl. No. of Instalment (First / Second / Third/ Fourth/Final)

(Tick whichever is applicable)

Date of submission: .....

It is certified that:

A. In respect of the project / scheme / activity, the accepted Project Cost Estimate is Rs.....

B. The total amount of grant sanctioned is Rs.....

C. The amount already released from the sanctioned grant under earlier instalments is Rs. .....

D. The amount already utilized from the released instalments is .....which forms (%) .....of the already earlier disbursed grant.

E. The total estimated self-contribution in the approved scheme / project / activity is Rs.....out of which Rs.....has already been invested which forms (%) ..... of the Approved Project Cost Estimate.

F. I have satisfied myself that the conditions on which the grant was sanctioned during the financial year have been duly fulfilled and that I have exercised the checks as are found necessary to ensure that the money was actually utilized for the purpose for which it was sanctioned as per data furnished above.

Date: .....

Signature: .....

Name: .....

Seal: .....

(Authorized Representative)

Countersigned by the Head of the Organization / Utility

Date: .....

Name & Seal: .....

AGREEMENT

AMONGST

NODAL AGENCY OF PSDF,

GOVERNMENT OF.....[1]

AND

.....[2]

THIS AGREEMENT entered into this.....day of ..... Two Thousand ..... AMONGST

National Load Despatch Centre (NLDC) operated by Power System Operation Corporation Ltd. (POSOCO), a company incorporated under the Companies Act, 1956 having its registered office at B– 9, Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016 (hereinafter referred to as "Nodal Agency") as party of the First part.

AND

STATE OF .....[1], through SECRETARY, DEPARTMENT OF POWER, Government of .....[1] (hereinafter referred to as "Government of .....[1]" which expression shall include his successors in office") having its office at ..... as a party of the Second part.

AND

.....[1], a body constituted under the Electricity Act, 2003 duly owned by the Government of .....[1], having its Head Office at .....(hereinafter referred to as "ENTITY") which expression shall unless repugnant to the context or meaning thereof include its successors and assignee) as a party of the Third part.

OR

.....[2], a company incorporated under the Companies Act 1956 having its registered office at ..... (hereinafter referred to as "ENTITY" which expression shall unless repugnant to the context or meaning thereof include its successors and assignee) as a party of the Third part.

(Nodal Agency, Government of .....[1], and .....[1] collectively referred to as "Parties" and singularly as a "Party".)

A. AND WHEREAS GOVERNMENT OF .....[1] AND ENTITY intend to implement the project(s) for .....(objective of the Project to be filled) in the State (s) of .....[1] and whereas it has been agreed to finance the such project(s) from PSDF on the terms and conditions as may be stipulated in the Sanction Letter(s) issued by Ministry of Power.

B. AND WHEREAS the parties have agreed that the project(s), as posed by ENTITY and sanctioned by Monitoring Committee, under the PSDF Scheme commencing from the Financial Year ..... shall be deemed to have been covered under this agreement. The terms and conditions of sanction for a particular project, as contained in the Sanction Letter issued by the Ministry of Power, shall also form part and parcel of the present agreement. The sanction letter shall include supplementals and modifications issued by the Ministry of Power, if any, to the sanction letter.

C. AND WHEREAS the responsibility for formulation, development and implementation of the aforesaid project(s) rests with the ENTITY.

D. AND WHEREAS Funding from PSDF shall be considered for the projects proposed by ENTITY that have a bearing on grid safety and security, provided these are not covered under any other scheme of the Government of India, such as RAPDRP/RGGVY/NEF, etc.

E. AND WHEREAS, Monitoring Committee of the PSDF has sanctioned the aforesaid project(s) for release of funds to meet the expenditure to be incurred on implementation of the project(s) covered under the programme, directly to ENTITY through the Nodal Agency.

F. AND WHEREAS, a separate Treasury Single Account (TSA) for the development and implementation of such PSDF-funded projects shall be maintained by ENTITY

G. AND WHEREAS GOVERNMENT OF .....[1] and ENTITY commit that they shall ensure that the ENTITY shall file a tariff petition with the Appropriate Commission in respect of the scheme for funding from PSDF and also ensure that no tariff is claimed in the petition for the portion of the scheme funded from PSDF.

H. AND WHEREAS ENTITY shall be the owner of the assets created on implementation of the individual project(s), as sanctioned by PSDF.

Now, therefore, in consideration of the premises and mutual agreements, covenants and conditions set forth herein which shall form an integral part of this Agreement, it is hereby agreed by and amongst the parties as follows:

1. PROJECT FINANCING BY PSDF

1.1. **(a)** The ENTITY shall establish a dedicated organization within the utility and nominate a nodal officer of suitable rank, for speedy execution of the project(s) and shall be responsible for compliance of the provisions as stipulated. The nodal officer will also arrange to get the relevant clearance/orders from **GOVERNMENT OF**.....[1] and ENTITY expeditiously. The ENTITY will assign utmost priority to the works to be executed and also, help in the speedy execution of the project(s) by issuing necessary orders to avoid delay.

(b) Expenditure details will also be submitted by ENTITY to Nodal Agency for release of funds against progressive reimbursement claims in the manner prescribed herein under and the detailed Procedure for release of funds in accordance with the structured formats as may be prescribed by Nodal Agency.

(c) The ENTITY responsible for the execution of the scheme shall ensure timely submission of Project Status reports to NLDC along with the request for disbursal of funds from PSDF in accordance with the Detailed Procedure.

(d) Periodic review and monitoring of the Physical and Financial progress of the project(s) shall also be taken up by the Monitoring Committee of PSDF.

(e) Any expenditure which is not directly related and exclusively spent towards the implementation of the scheme shall not be counted as eligible expenditure.

(f) The fund allocation is subject to the condition that all the provisions of Public Procurement Policy (PPP) & Make in India (MII) orders and cyber security orders issued by the Government of India (GOI) must be complied with, in all the activities involved in the project(s) from start to completion.

1.2. **Mode of Release of Funds**

The release of funds from PSDF will be regulated as per the extant instructions of the Ministry of Finance. The funds for implementation of the project(s) shall be released by

the Ministry of Power, Government of India to ENTITY through the Nodal Agency and in the manner as indicated below: -

(vi) First instalment: 10% of the total sanctioned grant shall be released on signing of the Agreement.

(vii) Second instalment: The grant equivalent to 20% of the value of contract/contracts awarded/intent issued and fulfillment of all the requirements, including requisite legal formalities as per the sanction letter of project.

(viii) Third instalment: The grant equivalent to 30% of the value of contract/contracts awarded/intent issued, after 75% utilisation of the grant received in first and second instalments and consumption of corresponding self-contribution of the entity.

(ix) Fourth instalment: The grant equivalent to 30% of the value of contract/contracts awarded/intent issued, and after 75% utilisation of the grant received in first, second and third instalments and consumption of corresponding self-contribution of the entity

(x) Final Instalment: Balance 10% of the grant shall be released on completion of the scheme and submission of completion certificate.

13. TAXES AND DUTIES

All statutory taxes/levies, duties, cess, entry tax or any kind of imposition(s) whatsoever imposed/charged by any Government (Central / State) and/or any other local bodies/authorities on ENTITY and/ or its contractors in respect of the execution of the project(s) covered under this Agreement and Service Tax on service charge (including any variation thereof), not covered in the estimated cost of the project shall be paid by the ENTITY.

2. UTILIZATION CERTIFICATE

ENTITY shall provide utilization certificate(s) for the funds released by the Ministry of Power for the implementation of the project(s) in the manner prescribed by the Nodal Agency.

3. CONSTRUCTION / IMPLEMENTATION

3.1 ENTITY shall make all possible efforts to complete the project(s) within the approved time frame starting from the date of release of the First Installment of funds by the Ministry of Power, Government of India to ENTITY.

3.2 ENTITY and the Government of .....[1] shall specify quarterly milestones, and progress shall be reviewed with reference to these milestones by the Monitoring Committee.

3.3 The best cost and quality control measures shall be enforced by ENTITY during implementation through appropriate management and control systems.

3.4 A separate Treasury Single Account (TSA) in RBI shall be opened by the Project Entity for the PSDF Scheme. The grant for the Projects funded through PSDF shall be released to the Project entity through the RBI TSA system. The TSA is a non-interest-bearing account and the funds shall be made available in the form of a transfer limit assignment through the online Public finance Monitoring System (PFMS) Portal. The fund remaining un-utilized shall lapse at the end of the financial year.

4. TAKING-OVER OF THE PROJECT

ENTITY shall ensure taking over the completed project(s) after commissioning (in part or full, as the case may be). ENTITY shall be responsible for the operation & maintenance of the project(s) thereafter (in part or full, as the case may be) at their own expenses.

5. ARBITRATION

Any difference or dispute between the parties arising out of or in connection with this project shall be discussed and settled amicably amongst the parties. In the event of non-settlement of the difference or dispute within sixty (60) days, the same shall be referred to the Secretary to the Government of India in the Ministry of Power, for arbitration and whose decision shall be final and binding on the parties to this Agreement.

6. FORCE MAJEURE

The parties shall ensure due compliance with the terms of this Agreement. However, no party shall be liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of the Agreement to the extent that such a failure is due to force majeure events such as fire, rebellion, mutiny, civil commotion, riot, strike, lock-out, forces of nature, accident, the act of God and any other reason beyond the control of the concerned party. But, any party claiming the benefit of this clause shall satisfy the other party of the existence of such an event and give written notice of 15 days to the other party to this effect. The services covered under the agreement shall be started as soon as practicable by the parties concerned after such eventuality as come to an end or ceased to exist.

7. IMPLEMENTATION OF THE AGREEMENT

All discretions to be exercised and directions, approvals, consents and notices to be given and actions to be taken under these presents, unless otherwise expressly provided herein, shall be exercised and given by the signatories to this Agreement or by the Authorized representative(s) that each party may nominate in this behalf and notify in writing to the other party. Any other nomination of Authorized representative(s) and/or changes in a designation shall be informed likewise in writing to/by ENTITY and Nodal Agency within one month of the signing of the

Agreement. Any changes in designations / registered office address shall be intimated in writing to all concerned parties.

8. NOTICE

All notices required or referred to under this Agreement, shall be in writing and signed by the respective authorized signatories of the parties mentioned herein above unless otherwise notified. Each such notice shall be deemed to have been duly given if delivered or served by registered mail, speed post of Department of Posts or by Courier service with an acknowledgement due to the other parties.

9. TERMINATION

This agreement shall remain valid unless terminated with the consent of all the Parties.

10. The competent Courts of Delhi shall have exclusive jurisdiction in all matters relating to or arising out under these presents.

IN WITNESS WHEREOF the parties have executed these presents through their Authorized Representatives at New Delhi.

For and on behalf of Nodal Agency	**For and on behalf of Secretary, Department of Power, Government of .....[1]**	**For and on behalf of .....[2]**
Witness 1.....	**Witness 1.....**	**Witness 1.....**
Witness 2.....	**Witness 2.....**	**Witness 2.....**

Note: A tripartite agreement shall be signed in case the project entity is a state utility. However, in case the project entity is a company or any other corporate body under Central Government, a bipartite agreement would be signed between the Nodal Agency and the Project Entity.

Format C4
Page I of I

Checklist of Documents to be Submitted for Release of Funds

(First / Second/Third (Intermediate) Stage(s) / Final Stage)

(Tick whichever is applicable)

Application for release of funds from the PSDF shall be accompanied by the documents and details as mentioned below, depending on the stage of execution of the project.

S. No.	Document	Submitted (YIN)
Documents required to be submitted at the time of request for First Stage only		
1	PSDF Sanction Order	
2	Agreement duly signed by the entity (Format — C3)	
3	Authorized representative and TSA details to which the funds are to be transferred	
4	Request for release of instalment (Format-C1)	
5	Likely Statement of Expenditures (SOE) for the works to be taken up/ Statement of Expenditure in respect of the completed work	
Documents required to be submitted at the time of request for subsequent Instalments		
6	Letter of award	
7	Request Letter for release of instalment (Format — CI)	
8	Invoices	
9	Likely Statement of Expenditures (SOE) / Statement of Expenditure in respect of the completed work	
10	Inspection reports and certificates for completed portion of the scheme	
11	Utilization Certificate for the utilized portion of the already disbursed grant (Format — C2)	
12	Proof of expenditure/Auditor's certificate for expenditure incurred corresponding to the scheme.	
13	Bank Interest Certificate and LD Deduction certificate.	
14	Work completion (Indicating Qty & % of physical work completed) and commissioning certificates / Taking over Certificate (wherever applicable).	

Date: .....

Signature: .....

Name: .....

(Authorized Representative)

Telemetry Petitions by NERLDC – Order by CERC dated 04th August 2023

Sl. No.	Description	Status	Arunachal Pradesh	Mizoram	Nagaland	Tripura	NERLDC	NERPC	Remarks, if any
1	**Arunachal Pradesh, Mizoram, Nagaland and Tripura shall adhere to the timelines** finalized with NERLDC	Majorly not being adhered to.	Meeting for fixing timeline is done.					--	Funding issues with states.
2	**NERLDC shall make an interim arrangement,** wherever feasible, in consultation with the Respondents for data transfer at sub-stations	No interim arrangement possible.	--	--	--	--	--	--	Communication and RTU related issues which needs to be done by states itself.
3	**NERPC to monitor the work of the implementation of Communication facilities** by States, POWERGRID and Devi Energies Private Limited; subsequently submit a **quarterly progress report to the Commission**	Being taken up in RPC Forum such as NETeST and OCC meetings.	--	--	--	--	--	**Being Done**	Begin done from December 2023 after completion of 1st quarter since order of CERC.
4	**NERPC shall monitor implementation of standby communication channels.**	Being taken up in RPC Forum such as NETeST and OCC meetings.	--	--	--	--	--	Being Done.	--
5	**NERLDC shall monitor the establishment & maintenance of Communication facilities** by the users of the North-Eastern Region and update the **status of telemetry every month at their web-site.**		--	--	--	--	Being Done.	--	"User Name" and "Password" available with States to login and monitor real-time telemetry status on web-site of NERLDC.
6	States shall **identify one person from their top management as a nodal officer,** who shall **submit a monthly progress report** on the implementation of the communication facilities to the NERPC and NERLDC	**Nodal Officers:** Only done by Arunachal & Mizoram. **Monthly Progress Report:** Only being received from Mizoram.	**Not done for monthly Progress Report.**	Done.	**Not done for monthly Progress Report.**	**Not done for monthly Progress Report.**	**Not done for monthly Progress Report.**	--	--
7	**Devi Energies Private Limited to submit the monthly progress report** to NERPC and NERLDC.	"Voice" not provided.	--	--	--	--	--	--	Matter being taken up in RPC Forum such as NETeST.

(Source:** https://cercind.gov.in/2023/orders/197_MP_2020-Ors.pdf**)

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 197/MP/2020, 201/MP/2020, 263/MP/2020 and 556/MP/2020

Coram:

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

Date of Order: 04.08.2023

In the matter of:

Petition under section 28 (3) (e) of the Electricity Act, 2003 read with clause 1.5 of IEGC 2010 for establishment and maintenance of Communication facilities by the users of the North-Eastern Region in terms of Clause 4.6.2 of IEGC, 2010, read with Regulation 6(3) of CEA (Technical Standards for Connectivity to the Grid) Regulation, 2007 to ensure availability of reliable real time data at NERLDC.

And

In the matter of:

North Eastern Regional Load Despatch Centre (NERLDC), ……..Petitioner
Power System Operation Corporation Ltd. (POSOCO),
(A Govt. of India Enterprise).B-9, Qutub Institutional Area, 1st Floor,
Katwaria Sarai, New Delhi -110016

Versus

Petition No. 197/MP/2020

1. SLDC Arunachal Pradesh,
   Department of Power, Government of Arunachal Pradesh,
   Itanagar-791111
2. Power Grid Corporation of India Limited,
   NERSTS, Shillong- 793006
3. Devi Energies Private Limited,
   E-351, Rupa Vill & Town, Rupa Post,

West Kameng District, Arunachal Pradesh-79003

……..Respondents

4. NERPC,
   NERPC Complex, Dong Parmaw,
   Lapalang, Shillong-793006.

…… Proforma Respondents

Petition No. 201/MP/2020

1. Tripura State Electricity Corporation Limited (TSECL),
   Bidyuth Bhavan, North Banamalipur,
   West Tripura District, Agartala-799001
2. Power Grid Corporation of India Limited,
   NERSTS, Shillong- 793006
3. SLDC Agartala,
   TSECL, AG Quarter Road, 79-Tilla,
   Tripura (West)-799006

……..Respondents

4. NERPC, NERPC Complex, Dong Parmaw,
   Lapalang, Shillong-793006.

…… Proforma Respondents

Petition No. 263/MP/2020

1. Department of Power,
   Government of Nagaland, Electricity House, A.G. Colony,
   Kohima, Nagaland-797001
2. SLDC Nagaland,
   Electricity Colony, Full Nagarjan,
   Dimapur, Nagaland – 797112
3. Power Grid Corporation of India Limited,
   NERSTS, Shillong- 793006

……..Respondents

4. NERPC,
   NERPC Complex, Dong Parmaw,
   Lapalang, Shillong-793006.

……..Proforma Respondents

Petition No. 556/MP/2020

1. Power & Electricity Department,
   O/o Engineer in Chief, Kawlphetha,
   New Secretariat Complex, Khatla,
   Aizawl, Mizoram-796001
2. Power Grid Corporation of India Limited,
   NERSTS, Shillong- 793006

…….. Respondents

3. NERPC,
   NERPC Complex, Dong Parmaw,

Lapalang, Shillong-793006.

…….Proforma Respondents

Parties Present:
Shri S. P Barnwal, NERLDC
Ms. Himani Dutta, NERLDC
Shri Akhil Singhal, NERLDC
Shri Raj Singh Nirajan, Advocate, Dept. of Power, AP
Shri Rajni Patel, Advocate, Dept. of Power, AP
Shri Utham Harish, Advocate, Dept. of Power, AP
Shri Nangkong Perme, Dept. of Power, AP
Shri S. I Asangba Tikhir, Dept. of Power, Nagaland
Shri H. Zonunsanga, CE (RE), Mizoram
Shri Benjamin L. Tlumtea, SE (Comml), Mizoram
Shri Abhijit Daimari, PGCIL
Shri R. Debbarman, TSECL/TPTL
Shri Anil Debbarma, TSECL/TPTL

ORDER

North Eastern Regional Load Despatch Centre (NERLDC) has filed Petition Nos. 197/MP/2020, 201/MP/2020, 263/MP/2020, and 556/MP/2020, respectively, with each petition for a particular state of North-East India, under section 28 (3) (e) of the Electricity Act, 2003, read with Clause 1.5 of IEGC 2010, for establishment and maintenance of communication facilities by the users of the North-Eastern Region in terms of Clause 4.6.2 of IEGC, 2010, read with Regulation 6(3) of CEA (Technical Standards for Connectivity to the Grid) Regulation, 2007 to ensure availability of reliable real time data at NERLDC.

2. The Petitioner has made the following prayers in the present petition:

Prayer in Petition No. 197/MP/2020

i. *Department of Power, Govt. of Arunachal Pradesh may be directed to:*
   a. *Ensure data and voice availability of every grid connected station in Arunachal Pradesh to its SLDC and NERLDC within a stipulated time period.*
   b. *The top management of Department of Power, Govt. of Arunachal Pradesh to send periodic reports of the monthly progress to the Hon'ble Commission till there is 100% availability of data to its SLDC and NERLDC.*

c. *Ensure the availability of standby communication channel for data and voice.*
d. *To comply with pervious CERC orders, regulations and IEGC on the subject matter.*

ii. *Power Grid Corporation of India Limited, NERTS may be directed to:*
a. *Undertake immediate steps for establishing communication link between 132 kV Roing, Tezu, Namsai and NERLDC, Shillong.*

iii. *Devi Energies Private Limited, Hyderabad may be directed to:*
a. *Undertake immediate steps to integrate real-time data of Dikshi HEP and 132 kV Tenga Stations with SCADA system of SLDC Arunachal Pradesh.*

iv. *Pass any other order in this regard as the Hon'ble Commission may deem appropriate in the circumstances pleaded above.*

Prayer in Petition No. 201/MP/2020

i. *Tripura State Electricity Corporation Limited may be directed to:-*
a. *Ensure data and voice availability of every grid connected station in Tripura to its SLDC and NERLDC within a stipulated time period.*
b. *The top management of Tripura to send periodic reports of the monthly progress to the Hon'ble Commission till there is 100% availability of data at its SLDC and NERLDC.*
c. *Ensure the availability of standby communication channel for data and voice.*
d. *Provide execution time line for two (02) numbers of optical fibre links under NER FO expansion projects, for which requisite material is handed over to TSECL by POWERGRID-NERTS as stated in 14th NETeST meeting.*
e. *Provide detailed action plan for the stations, which are not covered in NER FO expansion project as, brought out in para 5.*
f. *Provide detailed action plan for the stations, which are connected on islanded link as brought out in para 6.*
g. *To comply with pervious CERC orders, Regulations and IEGC on the subject matter.*

ii. *Power Grid Corporation of India Limited, NERTS may be directed to:-*
a. *Expedite the projects of fiber optics on urgent basis of remaining four (04) number of central sector links and five (05) number of links of state ownership as brought out in Annexure B.*

iii. *Pass any other order in this regard as the Hon'ble Commission may deem appropriate in the circumstances pleaded above.*

Relevant extracts of Para 5 and Para 6 of this petition as referred to in the prayers are at Para 4(a) and Para 4(b), respectively. of this order. Further, Annexure B as referred to in the prayer consists of a list of 12 number of links, which are being executed by POWERGRID under the fiber optic projects in the State of Tripura, and their status of implementation..

Prayer in Petition No. 263/MP/2020

i. *Department of Power, Nagaland may be directed to:*
a. *Ensure data and voice availability of every grid-connected station in Nagaland to its SLDC and NERLDC within a stipulated time period.*
b. *The top management of Nagaland to send periodic reports of the monthly progress to the Hon'ble Commission till there is 100% availability of data at its SLDC and NERLDC.*
c. *Ensure the availability of standby communication channel for data and voice.*
d. *Provide detailed action plan for the stations, which are not covered in NER FO expansion project as, brought out in para 7.*
e. *Provide detailed action plan for the stations, which are connected on wideband link as brought out in para 8.*
f. *Identify a nodal officer who shall supervise and be in-charge of the progress in development of communication system.*

g. *Comply with pervious CERC orders, Regulations and IEGC on the subject matter.*

ii. *Power Grid Corporation of India Limited, NERTS may be directed to:-*
   a. *Provide a time bound action plan and expedite the projects of fiber optics on urgent basis of remaining three (03) numbers of links under FO Expansion works as brought out in Annexure B.*
   b. *Undertake all necessary steps to ensure prompt and accelerated development of reliable communication systems in all stations in Nagaland.*

iii. *Pass any other order in this regard as the Hon'ble Commission may deem appropriate in the circumstances pleaded above.*

Relevant extracts of Para 7 and Para 8 of this petition as referred to in prayer are at Para 5(a) and 5(b) of this order, respectively. Further, Annexure B as referred to in the prayers is the list of 8 number of links, which are being executed by POWERGRID under two (02) Fiber Optic projects: North-Eastern Region Fiber Optic (NER FO) expansion (3 links in State ownership and 3 links in Central ownership) and Microwave Vacation (MW Vacation) (2 links in State ownership) in the state of Nagaland, and the status of implementation of these projects.

Prayer in Petition No. 556/MP/2020

i. *Department of Power, Mizoram may be directed to:*
   a. *Ensure data and voice availability of every grid-connected station in Mizoram to its SLDC and NERLDC within a stipulated time.*
   b. *The top management of Mizoram to send periodic reports of the monthly progress to the Hon'ble Commission until there is 100% availability of data at its SLDC and NERLDC.*
   c. *Ensure the availability of standby communication channel for data and voice.*
   d. *Ensure dedicated work force for SCADA and communication related activities.*
   e. *Model and integrate all grid-connected station under control area of DoP, Mizoram in the SCADA of SLDC Mizoram.*
   f. *Provide detailed action plan for the stations, which are not covered in NER FO expansion project as, brought out in para 8.*
   g. *Provide detailed action plan for the stations, which are connected on wideband link as brought out in para 7.*
   h. *To comply with previous CERC orders, Regulations and IEGC on the subject matter.*

ii. *Power Grid Corporation of India Limited, NERTS may be directed to:-*
   a. *Expedite the projects of fiber optics on urgent basis of remaining three (03) number of links under FO Expansion and MW Vacation works as brought out in Annexure B.*

iii. *Pass any other order in this regard as the Hon'ble Commission may deem appropriate in the circumstances pleaded above.*

Relevant extracts of Para 7 and Para 8 of this petition as referred to in prayer are at paras 6(a) and 6(b) of this order respectively. Further, Annexure B as referred in the prayer is the list of 4 number of links, which are being executed by POWERGRID under two (02) Fiber Optic projects: North-Eastern Region Fiber Optic (NER FO) expansion (1 link in State ownership and 1 link in Central ownership) and Microwave Vacation (MW Vacation) (2 links in State ownership) in the state of Mizoram, and the status of implementation of these projects.

Submissions of Petitioner in all instant petitions

3. Petitioner has referred to previous Orders of the Commission vide order dated 11.10.2012 in Petition No. 217/MP/2011 along with IA 142/2012, Order dated 26.9.2012 in Petition No. 168/MP/2011 and Order dated 29.01.2016 in Petition No. 007/SM/2014. Vide the said Orders, it was held that there is an imperative need for all the users to establish the telemetry and associated communication system in time bound manner and directed NLDC to submit report about the status of implementation of the telemetry system. Further, the Commission vide Order dated 29.01.2016 in Petition No. 007/SM/2014, directed NLDC and respective RLDCs to up-date the status of telemetry every month at their web-site and persistent non-availability of data from the generating stations/sub-stations be taken up in RPC meetings for appropriate directions and action.

Submissions in Petition No. 197/MP/2020:

4. Petitioner has made the following submissions:

a) The real time data of all power system elements is essential for the successful operation of modern power system. The data should be provided using a reliable and redundant communication system. At some stations in Arunachal Pradesh, a temporary arrangement of GPRS communication (being done by POWERGRID-NERTS on special request by NER states) was getting installed till any permanent communication set-up such as OPGW, VSAT, etc. is established; but till date either it has not been completed or is facing issues related to SIM card signal problems in transmitting data. The stations under the jurisdiction of the Department of Power, Arunachal Pradesh, are neither covered under the Fiber-Optic Expansion project being done by POWERGRID-NERTS through the PSDF fund nor has any concrete action-plan been prepared by DoP-AP for establishing any type of communication link (such as Fiber-optic, PLCC, etc.) for real-time data transfer to the respective

SLDC and NERLDC. DoP-AP mentioned in the 15th NETeST (NORTH EASTERN TELECOMMUNICATION, SCADA, & TELEMETRY) meeting that it has proposed a plan of VSAT for eight (08) stations to the respective administrative authorities of Arunachal Pradesh, but only one (01) location has been approved.

b) Dikshi HEP and 132 kV Tenga Switching Stations are owned by Devi Energies Private Limited. Both stations were connected to the grid and first charged on 26th August 2019. The real time data of Dikshi HEP is not getting reported consistently since the first time charging to the SCADA system of SLDC Arunachal Pradesh. As per the undertaking dated 24.08.2019 by Devi Energies Pvt. Ltd., real time data from the Dikshi HEP /132 kV Tenga station were to be integrated by 27.08.2019. However, real time data from the above mentioned stations is yet to be integrated with the SCADA system of SLDC Arunachal Pradesh. NERLDC, POSOCO, vide letter dated 27.12.2019 has written regarding the non-availability of telemetry data of Dikshi HEP and 132 kV Tenga Station. Devi Energies Private Limited has replied to the above mentioned letter via letter dated 28.12.2019 stating that it will rectify the issue of Dikshi HEP and the 132 kV Tenga station within 7-10 days.

c) 132 kV Roing, Tezu, and Namsai substations are owned by PGCIL and are under the control area of NERLDC, POSOCO. 132 kV Roing and Tezu Substations were charged on 10th June 2017 and 132 kV Namsai Substation was charged on 11th June 2018. The real time data of substations is not available due to the absence of communication media between substations and NERLDC, Shillong. The issues were raised in various NERPC forums, such as NETeST and TCC. However, a temporary communication was established between the 132 kV Tezu substation and NERLDC via VSAT link on 27.08.2019, but the permanent communication link has yet to be established. However, real time data of 132 kV Roing and Namsai is still not being reported to NERLDC, Shillong.

d) In accordance with Section 2(54) of the Act, Regulation 6(3) of the Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations, 2007 and the detailed procedures of the Central Transmission Utility under the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access, and Medium-term open access in Inter-State Transmission and related matters)

Regulations, 2009 ('2009 Connectivity Regulations'), a user, who is getting connected to the grid is solely responsible for providing the telemetry to the Load Despatch Centre. The CTU/STU are to coordinate the required communication for voice and data. The associated communication system to facilitate data flow up to the appropriate data collection point on the CTU system shall also be established by the concerned user or STU as specified by CTU in the connection agreement. All users/STUs, in coordination with CTU, shall provide the required facilities at their respective ends as specified in the Connection Agreement. The provisions relating to communication systems for the power sector have been spelled out in the Central Electricity Regulatory Commission (Indian Electricity Grid Code), Regulations, 2010 and the Central Electricity Authority (Technical Standard for connectivity to the grid) Regulation.

e) Data availability in the North-Eastern region has been less than 50% (around 48.82%) since the inception of RLDCs. In view of the same, Regional as well as state operators are facing constraints in grid operations. The stations in Arunachal Pradesh are grid-connected stations, and any fault/disturbance in them can propagate to other parts of network leading to a Grid Disturbance. The restoration activities within the minimum possible time, in case of any major collapse of the transmission system, in Arunachal Pradesh can only be done if the real-time data visibility of its corresponding stations is available with its SLDC as well as NERLDC. The RTU availability status of stations owned by DoP, AP is tabulated below:

S. No.	Station Name	Reporting/ Non-reporting	% availability of data
1	Along	Non-reporting	Nil
2	Bhalukpong	Non-reporting	Nil
3	Daporijo	Non-reporting	Nil
4	Deomali	Non-reporting	Nil
5	Dikshi	Intermittent	Nil
6	Itanagar	Reporting	45.71%
7	Khupi	Non-reporting	Nil
8	Tenga	Non-reporting	Nil
9	Lekhi	Non-reporting	Nil
10	Pasighat	Non-reporting	Nil

The RTU availability status of stations owned by Devi Energies Pvt. Ltd.

S. No.	Station Name	Reporting/ Non-reporting	% availability of data
1	Dikshi HEP	Non-reporting	Nil
2	132 kV Tenga	Non-reporting	Nil

The RTU availability status of stations owned by PGCIL

S. No.	Station Name	Reporting/ Non-reporting	% availability of data
1	132 kV Roing S/s	Non-reporting	Nil
2	132 kV Tezu S/s	Reporting	100 (since establishment of temporary link)
3	132 kV Namsai S/s	Non-reporting	Nil

f) The data availability of Central Sector stations has improved over the period of time but the State-Sector data availability for Arunachal Pradesh has shown no/minimal improvement.

Real-time data availability percentage of stations under jurisdiction of Arunachal Pradesh	
Month/Year	**% availability**
October 2018	6.97 %
November 2018	6.97 %
December 2018	0.00 %
January 2019	0.00 %
February 2019	6.20 %
March 2019	6.20 %
April 2019	8.52 %
May 2019	7.36 %
June 2019	8.52 %
July 2019	8.52 %
August 2019	8.52 %
September 2019	3.87 %
October 2019	13.67 %
November 2019	6.74%

g) The current data-availability percentage of stations under the jurisdiction of the Department of Power, Arunachal Pradesh, is 6.74%, which is very low and a major hurdle in monitoring the grid in the respective area.

h) As per the CERC order dated 29.01.2016 in Petition No. 007/SM/2014, continuous efforts and persuasion are being made by NERLDC with the Dept. of Power, Government of Arunachal Pradesh, still relevant data from number of generating stations/sub-stations is not being telemetered to the NERLDC as well as the respective SLDC itself. The issues have been highlighted as follows:

i. Monthly Telemetry statistics: Posted on website and circulated to all utilities/users.

ii. Performance report in all OCC and NETeST meetings.

iii. Monthly report of availability under the categories:

   a. Telemetry not provided

   b. Telemetry provided but is not working/working intermittently

   c. Data telemetry provided over a single communication channel, hence the lack of reliability

iv. Letter to SLDC, Arunachal Pradesh, regarding the telemetry status of stations and an intimation for the filing of a petition.

v. Letter to Devi Energies Private Limited regarding the non-availability of telemetry at Dikshi HEP and 132 kV Tenga stations.

Submissions in Petition No. 201/MP/2020

5. Petitioner has made the following submissions:

a) The real time data of all power system elements is essential for the successful operation of a modem power system. The data should be provided using a reliable and redundant communication system. There are twenty-five (25) grid connected stations in the state of Tripura. Out of twenty-five (25) stations:- eleven (11) number of stations are connected via state owned PLCC network; one (01) station is a local station connected directly to SLDC Tripura; one (01) station is connected via state owned fibre network and twelve (12) number of stations are not connected via any state owned network. At two (02) stations in Tripura, a temporary arrangement of GPRS communication (being done by POWERGRID-NERTS on special request by NER states) was installed till any permanent communication of wide band is established; but GPRS connected stations are facing issues related to SIM card signal problems in transmitting data. POWERGRID is executing the fibre optic projects in the state of Tripura, in which twelve (12) number of stations under jurisdiction of TSECL will be connected. Eleven (11) numbers of stations under the jurisdiction of TSECL are not covered under Fiber-Optic projects being done by POWERGRID-NERTS. TSECL has not submitted any concrete action-plan for

establishing any type of communication link for real-time data transfer to the respective SLDC and NERLDC. A total of seventeen (17) number of stations of TSECL out of twenty-five (25) stations are not reporting to SLDC and NERLDC, in which optical fiber links under the NER FO expansion project for three (03) number of stations are completed but the data for the same has not been made available yet.

b) POWERGRID-NERTS is executing two (02) numbers of Fiber Optic projects in the North-Eastern Region: North-Eastern Region Fiber Optic (NER FO) expansion and Microwave Vacation (MW Vacation), including the state of Tripura. A detail about links under the NER FO expansion project is tabled below:

Sl. No.	Ownership	Executing Agency	Number of Links in project	Remarks
1.	Central	POWERGRID NERTS	Four (04)	Completion- None. For redundant communication path
2.	State	POWERGRID NERTS	Ten (10)	Completion-Five (links)
3.	State	TSECL	Two (02)	Completion – None; Material hander over to TSECL by POWERGRID
Total number of fibre links in Tripura			**Sixteen (16)**	

In the 15th NETeST meeting, POWERGRID stated that five (05) number of FO links have been completed in Tripura, and further respective RTUs need to be integrated via these links with the joint cooperation of TSECL. One (01) number of link is islanded due to which communication path of respected RTUs is not terminating at SLDC Tripura. However, the target date for the completion of links is delayed and repeatedly deferred in various NERPC forums.

c) Current data availability for the North-Eastern region is less than 50% (around 49.11%). In view of the same, Regional as well as state operators are facing constraints in grid operations. Any fault/disturbance in grid-connected stations in Tripura can propagate to other parts of the network leading to a Grid Disturbance. The restoration activities within minimum possible time, in case of any major collapse of transmission system, in Tripura can only be done if the real-time data visibility of its corresponding stations is available with its SLDC as well as NERLDC. The data

availability of Central Sector stations has improved over the period, but the State-Sector data availability for Tripura has shown no/minimal improvement. A month-wise status of telemetry (real-time data) percentage available from stations under the jurisdiction of Tripura for the last one year is tabulated below:

Real-time data availability percentage of stations under jurisdiction of Tripura	
Month/Year	**% availability**
October 2018	21.46%
November 2018	21.46%
December 2018	24.21%
January 2019	21.95%
February 2019	24.54%
March 2019	17.51%
April 2019	26.07%
May 2019	27.03%
June 2019	26.07%
July 2019	23.41%
August 2019	25.75%
September 2019	27.85%
October 2019	27.92%
November 2019	21.55%
December 2019	14.56%

d) The current average data-availability percentage for the month of December'19 of stations under the jurisdiction of Tripura is 14.56%, which is very low and a major hurdle in monitoring the grid in the respective area.

e) As per the CERC order dated 29.01.2016 in Petition No. 007/SM/2014, continuous efforts and persuasion are being made by NERLDC with the Tripura State Electricity Corporation Limited. In spite of several efforts by NERLDC, relevant data from the number of generating stations/sub-stations is not being made available at NERLDC as well as the respective SLDC itself. The issues have been highlighted in the following ways:

i. Weekly Telemetry Reports: Sent via email to team of SCADA and communication regularly.

ii. Monthly Telemetry statistics: Posted on the website and circulated to all utilities/users.

iii. Performance report in all OCC and NETeST meetings.

iv. Monthly report of availability under the categories:

a. Telemetry not provided.

b. Telemetry provided but is not working/working intermittently.

c. Data telemetry provided over a single communication channel hence lacks reliability

v. Letter to SLDC Tripura regarding the telemetry status of stations.

vi. Letter to CMD, TSECL regarding the telemetry status of stations and an intimation for filing of a petition.

vii. Letter to POWERGRID regarding the Status of Fiber Optics projects in NER.

Submissions in Petition No. 263/MP/2020

6. Petitioner has made the following submissions:

a) There are seventeen (17) grid-connected stations in the state of Nagaland. The break-up of status related to the afore-mentioned 17 nos. of stations under the ownership of DoP, Nagaland is listed below:

- Six (06) number of stations are not connected to any network.
- Eleven (11) stations have a temporary arrangement for GPRS/Broadband communication (being done by POWERGRID-NERTS on special request by NER states). It was installed till any permanent communication in wide band is established; but GPRS connected stations are facing issues related to SIM card signal problems in transmitting data, resulting in partial reporting of the real-time data of five (05) stations and non-reporting of the rest of the six (06) stations out of eleven (11) stations.

POWERGRID is executing the fibre optic projects in the state of Nagaland, in which five (05) numbers of stations under jurisdiction of Department of Power, Nagaland, will be connected. However, twelve (12) numbers of stations under the jurisdiction of the Department of Power, Nagaland are not covered under Fiber-Optic projects being done by POWERGRID-NERTS. Department of Power, Nagaland has not submitted any concrete action-plan for establishing any type of communication link for real-time data transfer to the respective SLDC and NERLDC.

b) POWERGRID-NERTS is executing two (02) Fiber Optic projects in the North-Eastern Region: North-Eastern Region Fiber Optic (NER FO) expansion and Microwave Vacation (MW Vacation) including the state of Nagaland. A detailed list of links under the NER FO expansion project related to Nagaland State is tabulated below:

Sl. No.	Ownership	Project	Executing Agency	Number of Links in project	Remarks
1.	State	FO Expansion	POWERGRID NERTS	Three (03)	Not Completed– OPGW stringing work yet to start.
2.	State	MW Vacation	POWERGRID NERTS	Two (02)	Completed
3.	Central	FO Expansion	POWERGRID NERTS	Three (03)	Completed
Total number of fibre links being executed by POWERGRID-NERTS				Eight (08)	

In the 15th NETeST meeting, POWERGRID stated that two (02) number of FO links are completed in Nagaland and are connected to a wide band station, and further respective RTUs need to be integrated via these links with the joint cooperation of the Department of Power, Nagaland. The target date for completion of the rest of the links is delayed and repeatedly deferred in various NERPC forums.

c) Current data availability for the Northeastern region is less than 50% (around 49.70%). Regional as well as state operators are facing constraints in grid operations. A month-wise status of telemetry (real-time data) percentage available from stations under the jurisdiction of Nagaland for the last one year is tabulated below:

Real-time data availability percentage of stations under jurisdiction of Nagaland	
Month/Year	**% availability**
October 2018	2.95%
November 2018	2.95%
December 2018	1.97%
January 2019	1.38%
February 2019	3.35%
March 2019	5.72%
April 2019	18.90%
May 2019	0.00%
June 2019	18.90%
July 2019	8.28%
August 2019	22.28%

Real-time data availability percentage of stations under jurisdiction of Nagaland	
Month/Year	**% availability**
September 2019	40.83%
October 2019	35.30%
November 2019	34.30%
December 2019	36.80%
January 2020	35.13%

d) The current average data-availability percentage for the month of January-2020 of stations under the jurisdiction of Nagaland is 35.13%, which is very low and a major hurdle in monitoring the grid in the respective area.

e) As per the CERC order dated 29.01.2016 in Petition No. 007/SM/2014, continuous efforts are being made by NERLDC with the Department of Power, Nagaland. The issues have been highlighted in the following ways:

i. NERLDC has developed and provided facilities for real-time telemetry availability monitoring through its real-time data portal available at the NERLDC website (www.nerldc.in/ www.nerldc.org). All personnel, including senior members of any constituent, can login and monitor their historical data and real-time data of telemetry availability. Further, telemetry availability reports are also made available regularly at the NERLDC website.

ii. Weekly Telemetry Reports: Sent via email to team of SCADA and communication regularly.

iii. Monthly Telemetry statistics: Posted on the website and circulated to all utilities/users.

iv. Performance report in all OCC and NETeST meetings.

v. Monthly report of availability under the categories:

a. Telemetry not provided

b. Telemetry provided but is not working/working intermittently

c. Data telemetry is provided over a single communication channel hence lack of reliability.

vi. Minutes of Meeting between NERLDC and DoP, Nagaland at SLDC, Nagaland.

vii. Minutes of Meeting between NERLDC, PGCIL and DoP, Nagaland through VC.

viii. Letter to SLDC Nagaland regarding review meeting in accordance with MoM

ix. Letter to POWERGRID regarding the status of Fiber Optics projects in NER.

Submissions in Petition No. 556/MP/2020

7. Petitioner has made the following submissions:

a) There are fourteen (14) grid-connected stations in the state of Mizoram. The break-up of status related to the afore-mentioned 14 nos. of stations under the ownership of the DoP, Mizoram are listed below:

- Seven (07) number of stations at 132 kV and 33 KV levels are modelled in SCADA database of SLDC Mizoram.
- At present, four (04) stations; Bairabi, Luangmual, Sihhmui and Zuangtui, out of seven (07) are not connected over either the Fibre Optic or PLCC networks.
- One (01) station, Kolasib, is connected over Fibre Optic network but due to the non-availability of RTU at the station, real time data from the station is not telemetered to SLDC Mizoram and NERLDC.
- One (01) station, Tuirial HEP, is connected over PLCC, but data are not reporting due to communication failure.
- One (01) station, Indoor, is connected over Ethernet Cable as it is a local station.
- A project in which two (02) number stations (Luangmual and Zuangtui) out of seven (07) number of SCADA modelled stations were supposed to connect over a GPRS network. The GPRS project was not completed due to the non-availability of an appropriate configuration from the Internet Service Provider (ISP). SLDC Mizroam attended to the issue with ISP, but the issue is still not solved. This is a temporary arrangement for GPRS/Broadband communication (being done by POWERGRID-NERTS on special request by NER states). It is supposed to be installed till any permanent communication in wide band is established; but GPRS connected stations (in other states of NER) are facing issues related to SIM card signal problems in transmitting data, resulting in partial reporting or complete failure of the real-time data.

- Seven (07) stations of 132 kV and 66 kV level are not modelled in the SCADA database of SLDC Mizoram, although these stations are charged and connected to the grid also.

POWERGRID is executing the fibre optic projects in the state of Mizoram in which two (02) number of stations under the jurisdiction of the Department of Power, Mizoram, will be connected. One (01) number of station is already connected to the FO network. Eleven (11) numbers of stations under the jurisdiction of the Department of Power, Mizoram are not covered under Fiber-Optic projects being executed by POWERGRID-NERTS. Department of Power, Mizoram, has not submitted any concrete action-plan for establishing any type of communication link for real-time data transfer to the respective SLDC and NERLDC.

b) POWERGRID-NERTS is executing two (02) Fiber Optic projects in the North-Eastern Region: North-Eastern Region Fiber Optic (NER FO) expansion and Microwave Vacation (MW Vacation), including the state of Mizoram. A detailed list of links under the NER FO expansion project related to Mizoram State is tabulated below:

S. No.	Ownership	Project	Executing Agency	Number of Links in project	Remarks
1.	State Sector	FO Expansion	POWERGRID NERTS	One (01)	Not Completed – Administrative issue
2.	State Sector	MW Vacation	POWERGRID NERTS	Two (02)	Not Completed – Administrative issue
3.	Central Sector	FO Expansion	POWERGRID NERTS	One (01)	Completed
Total number of fibre links being executed by POWERGRID-NERTS				**Four (04)**	

The target date for the completion for rest of the links is delayed and repeatedly deferred in various NERPC forums

c) Current data availability for the Northeastern region is around 50% (around 51%). In view of the same, regional as well as state operators are facing constraints in grid operations. A month-wise status of telemetry (real-time data) percentage available from stations under the jurisdiction of Mizoram for the last one year is tabulated below:

Real-time data availability percentage of stations under jurisdiction of Mizroam	
Month/Year	**% availability**
October 2018	12.40%
November 2018	12.40%
December 2018	13.22%
January 2019	13.22%
February 2019	12.22%
March 2019	13.22%
April 2019	13.22%
May 2019	14.87%
June 2019	13.22%
July 2019	18.60%
August 2019	18.60%
September 2019	18.60%
October 2019	18.60%
November 2019	18.60%
December 2019	18.21%
January 2020	18.55%
February 2020	14.93%
March 2020	18.33%
April 2020	18.00%
May 2020	18.40%

d) The current average data-availability percentage for the month of May 2020 of stations under the jurisdiction of Mizoram is 18.40%, which is very low. There is no such dedicated work force for the SCADA and communication departments under SLDC Mizoram, which leads to insufficient coordination between NERLDC and SLDC in order to carry out various projects of SCADA and Communication.

e) As per the CERC order dated 29.01.2016 in Petition No. 007/SM/2014, continuous efforts are being made by NERLDC with the Department of Power, Mizoram. In spite of several efforts by NERLDC, relevant data from the number of generating stations/ sub-stations is yet to be made available at NERLDC as well as at the respective SLDC itself. The issues have been highlighted in the following ways:

i. Weekly Telemetry Reports: Sent via email to team of SCADA and communication regularly.

ii. Monthly Telemetry statistics: Posted on the website and circulated to all utilities/users.

iii. Performance report in all OCC and NETeST meetings.

iv. Monthly report of availability under the categories:

   a. Telemetry not provided

   b. Telemetry provided but is not working/working intermittently

   c. Data telemetry provided over a single communication channel hence lacks reliability.

v. Letter to POWERGRID regarding the status of Fiber Optics projects in NER.

vi. Letter to Mizoram regarding the Telemetry status (real-time data) of stations under the control area of P&E Department, Mizoram.

Hearing on 14.07.2020 and on 22.04.2021

8. Petition Nos. 197/MP/2020, 201/MP/2020, and 263/MP/2020, were admitted on 14.07.2020 and Petitioner was directed to implead concerned SLDC as a party in the respective Petitions. Petition No. 556/MP/2020 was admitted on 22.04.2021.

Submissions of Petitioner, NERLDC in Petition Nos. 197/MP/2020, 201/MP/2020, 263/MP/2020 and 556/MP/2023

9. Petitioner has filed an "Amended Memo of parties" vide affidavit dated 20.07.2020, in Petition Nos. 197/MP/2020, 201/MP/2020, and 263/MP/2020 by impleading the concerned SLDC as party in the respective Petitions and vide affidavit dated 03.05.023 in Petition No. 556/MP/2023 by impleading Engineer in Chief, Power & Electricity Department, Mizoram.

Submissions of Respondent PGCIL in Petition Nos. 201/MP/2020, 197/MP/2020 and 263/MP/2020

10. PGCIL, vide affidavit dated 10.08.2020 in Petition No. 201/MP/2020, has submitted as follows:

a) POWERGRID is implementing a fiber optic communication system for Tripura state to provide voice and data communication for 14 stations under the "Establishment of Fiber Optic Communication system under wide band communication expansion plan in NER" project. The Project consists of 4 nos. central sector links and 12 nos. state sector links, which are responsible for TSECL data/voice telemetry. Out of this, 02 nos. of state sector links have been deleted from the POWERGRID scope as the concerned transmission lines are still under construction by TSECL, and material pertaining to the same has been handed over to TSECL as TSECL is implementing these 2 nos. links. The DOCO of these two links will be done with consent from TSECL for supply part only.

b) Presently, 12 nos. of links have been completed out of 14 nos. links and delay in completion of balance links is mainly due to constraints in OPGW stringing due to Right of Way problems, non-availability of transmission line for OPGW stringing on 2 links, Flood, remoteness/critical terrain in NER, Bandh-Strikes, ROW-unrest due to socio-political issues like NRC-CAA-CAB, etc. which are beyond the control of POWERGRID. The same has been intimated from time to time to the NERPC main forum & sub-committee forum. Remaining 2 nos. links are expected to be completed by Dec'20.

11. PGCIL, vide affidavit dated 02.09.2020, in Petition No. 197/MP/2020, has submitted as follows:

a) Transmission scheme covering 132 kV Roing, Tezu, and Namsai Substations was approved as a part of the "Transmission System Associated with Pallatana GBPP and Bongaigaon TPS" in the North Eastern Region, catering power supply to far-reaching remote areas of Arunachal Pradesh.

b) A GPRS based communication system was established for these sub-stations as an interim arrangement for substation data connectivity with NERLDC in view of the delayed availability of regular communication connectivity. Constraints were being faced in having reliable communication for these stations due to service quality issues from telecom operators at these substations, which are situated in remote &

geographically far-flung locations. However, presently all three stations are reporting data to NERLDC with minor intermittency, as noticed.

c) Communication scheme for these stations was envisaged through OPGW based fibre optic (FO) connectivity planned under the "North Eastern Region (Additional) Scheme" and "Comprehensive Scheme for Arunachal Pradesh" projects. These projects are under implementation.

d) Since the establishment of Fiber Optic links for these stations has been planned under multiple projects with different implementation schedules and is anticipated to be completed only by mid-2021 tentatively, it was proposed to implement VSAT based communication at 132kV Roing, Tezu, and Namsai substations for reliable voice & data connectivity and faster implementation. The requirement of VSAT for these stations was discussed in the NETeST committee meeting and the 20th NERPC meeting held on 12.09.2019, and was agreed upon for implementation by POWERGRID only after a successful demo at one site.

e) POWERGRID has taken up the VSAT project to provide data & Voice connectivity for Roing, Tezu, & Namsai with NERLDC. Tendering activities for the same are in progress. However, due to COVID19 pandemic situation, issues are being faced in getting responses from bidders. It is expected that works will be awarded by Dec'20, and completion is expected by Jan'2021-Feb2021 tentatively. POWERGRID is committed to expediting the scope of work at the earliest possible date for the betterment of data/voice telemetry, and all-out efforts are being made despite various difficulties being faced that are beyond the control of POWERGRID.

12. PGCIL, vide affidavit dated 02.09.2020, in Petition No. 263/MP/2020, has submitted the following:

a) POWERGRID is implementing fiber optic communication system for Nagaland state for providing voice and data communication on 06 links under "Establishment of Fiber Optic Communication system under wide band communication expansion plan in NER", of which 3 nos. of links have been completed, and 02 links under

"Establishment of Fibre Optic Communication System in lieu of existing ULDC Microwave links in NER, which have been completed.

b) Delay in completion of balance links is mainly due to constraints in OPGW stringing due to Right of Way problems, non-availability of transmission line for OPGW stringing on 2 links, Flood, remoteness/critical terrain in NER, Bandh-Strikes, ROW-unrest due to socio-political issues like NRC-CAA-CAB, etc. which are beyond the control of POWERGRID. The same has been intimated from time to time to the NERPC main forum & sub-committee forum. Remaining 03 links are expected to be completed by Jan'21- Feb-21.

Petitioner's Rejoinder to Reply filed by PGCIL in Petition Nos. 201/MP/2020, 197/MP/2020 and 263/MP/2020

13. Petitioner NERLDC, vide rejoinder dated 27.08.2020 to the PGCIL reply dated 10.08.2020 in Petition No. 201/MP/2020, has submitted the following:

a) The NER FO expansion project was approved in the 15th RPC/TCC meeting dated 21st September 2015, and since then its status is being put up in RPC forums. The original target date for completion of the project was October-2017.The reason is not specific for the delay in completion of the remaining two links and does not in any way justify such a long delay in execution of fiber-optic expansion project works in the North-Eastern region by POWERGRID.

b) POWERGRID reply regarding reasons for delay in completion of balance two (02) number of links is not justifiable to explain indefinite delay (more than 972 days and continuing). Further, the reasons mentioned are general in nature and not specific to the remaining two links that are due for completion.

c) Effective status monitoring of NER FO expansion project was started since 7th NETeST meeting held on 17th August 2017 i.e. about two months prior to original target / schedule date of completion. In that meeting NERTS mentioned reasons like flood, un-rest in the states of NER for delay in execution of works and committed to complete the entire scope of work by November 2018. The same target date of November 2018 was maintained till 10th NETeST meeting held on 16th July, 2018.

However, the target date was again revised to March 2019 only in 11th NETeST meeting held on 13th November 2018 which was the scheduled month for completion. In every NETeST and RPC/TCC meeting, it became a regular phenomenon to revise the schedule dates.

d) The Fiber-Optic Expansion Project in the North-Eastern Region being executed by POWERGRID had been awarded to different contractors as separate packages for different areas, and there seems to be no correlation or dependency of one package on another. All the fiber-optic contract packages are supposed to be executed by different gangs of vendors, and hence the works are expected to be undertaken in parallel. The reasons for floods, strikes, curfew, etc. in other states such as Arunachal Pradesh, Manipur, and Meghalaya, as pointed out by POWERGRID in its reply, should not have any impact on the progress of works in Tripura for the remaining two links.

e) There is no record substantiating the transfer of materials & associated scope of work and the modality of execution of work for two (02) links, i.e. 132 kV Rokhia-Surajmani Nagar (TSECL) and 132 kV Surajmani Nagar (TSECL) -Monarch from POWERGRID to TSECL, furnished in the RPC forum. Since these two links are also part of the approved NER FO Expansion project assigned to POWERGRID, any ambiguity in subject approach between POWERGRID & TSECL may hamper the completion of these two critical FO links. POWERGRID shall ensure taking up at the senior management level of TSECL and Technical & commercial modalities shall be consented & recorded in the forums like NERPC TCC / Board meetings.

14. Petitioner NERLDC, vide rejoinder dated 16.09.2020 to the PGCIL reply dated 02.09.2020 in Petition No. 197/MP/2020, has submitted the following:

a) Initially, the 132 kV Roing and Tezu were charged with GPRS as a communication medium to telemeter the real-time data as well as voice communication. However, due to the unsatisfactory performance of GPRS, the charging of 132 kV Namsai S/s was carried out based on an undertaking dated 20th July 2018 submitted by POWERGRID that dedicated and reliable communication will be established for real-time data and voice at the earliest. In the undertaking, POWERGRID submitted that

during the initial stage of the project, a viable communication scheme was not envisaged, and the OPGW/FO project for Roing, Tezu,, and Namsai was approved in the18th RPC/TCC meeting held on 10th October 2017. However, the progress report or status of such projects was never submitted in any RPC forums. POWERGRID also submitted via undertaking that forum of the 10th NETeST (held on 16th July 2018) has consented to providing a VSAT communication link for Roing, Tezu, and Namsai, which will be further put up for approval in the next RPC forum. However, the VSAT proposal was only approved at the 20th RPC/TCC meeting held on 12th September 2019, thereby further delaying the establishment of the communication link between stations and NERLDC. Since their first time charging, the above-mentioned stations have not reported consistently to NERLDC.

b) POWERGRID replied that all three stations are reporting to NERLDC with minor intermittency, which is not acceptable. POWERGRID has restored real-time data reporting for 132 kV Roing and 132 kV Namsai on 14th May 2020 and 08th May 2020 through an internet lease line. The scheme of reporting real-time data over an internet lease line is highly intermittent. The average availability of data for 132 kV Roing S/s from the month of May-2020 to August-2020 is 17% only, and for 132 kV Namsai S/s from the month to May-2020 is 28% only.

c) There was a delay in the implementation of the demo project regarding VSAT implementation by POWERGRID. In the 12th NETeST meeting held on 10th January 2019, POWERGRID informed the forum that VSAT will be proposed as a link for Roing, Tezu, and Namsai. In the 10th NETeST meeting the proposal for VSAT was already approved. In the 13th NETeST meeting held on 09th April 2019, POWERGRID informed the attendees that the demo of VSAT will be completed by May'2019 and if it is successful

d) I the purchase order will be placed by June 2019. In the 14th NETeST meeting held on 11th July 2019, POWERGRID informed the attendees that equipment for the demo of VSAT will be dispatched by 22nd July 2019. The demo for telemetering real-time data and voice using VSAT technology was successfully setup between 132 kV Tezu and NERLDC in the month of September 2019. During the demo period, the average availability of data was more than 95%. The VSAT implementation was approved in the 20th RPC/TCC meeting held on 12th September 2019. Thereafter, the

postponement of the targets for the commissioning of the VSAT at the aforesaid stations became a regular phenomenon.

15. Petitioner NERLDC, vide rejoinder dated 30.09.2020 to the PGCIL reply dated 02.09.2020 in Petition No. 263/MP/2020, has submitted as follows:

a) POWERGRID is implementing a fiber-optic communication system for Nagaland State, which will cover five (05) existing substations owned by DoP-Nagaland and one (01) under-construction substation owned by DoP-Nagaland.

b) POWERGRID's reply regarding the non-completion of one (01) link i.e. 132 kV Kohima–Wokha, is not justifiable to explain an indefinite delay in the execution of related works. Further, as the OPGW stringing of Wokha-Kohima is already complete, the end equipment at both ends should also be commissioned at the earliest, which will facilitate the integration of associated real-time data and voice-data from grid-connected Wokha stations. The LILO portions of "Kohima -New Kohima" and "New Kohima-Wokha" should also be taken up immediately once the necessary tower infrastructure is made ready by DoP-Nagaland.

c) The reason cited by POWERGRID for not integrating the grid-connected 132 kV Wokha substation (for which only installation and commissioning of the end equipment part is pending) in view of the non-commissioning of another substation, i.e. 220 kV New Kohima (Jadima) of which there is no definite time schedule for completion, does not seem to be justifiable and logical. POWERGRID committed in the 16th NETeST Meeting held on 20th February 2020 that Wokha substation would report to Nagaland-SLDC by March 2020.

d) POWERGRID's reply regarding the non-completion of one (01) link, i.e. 132 Doyang–Sanis, is not justifiable. The aforesaid link was approved in the 18th TCC/RPC meeting held on 10th October 2017. Given the fact that the approved length of the link is very short (of the order of around 10 kilometers only), the OPGW stringing as well as end equipment are not yet completed and installed even after completion of thirty-five (35) months from date-of-approval, which shows the snail-paced approach of POWERGRID towards completion of the said works. The effective monitoring of said link in RPC forums was started in the 12th NETeST meeting held on 10th January 2019; thus, the work progress between October 2017 and January

2019 is not submitted in relevant RPC forums. In the 12th NETeST meeting held on 10th January 2019 NERTS mentioned the reason of non-supply of materials for delay in execution of works and committed to completing the entire scope of work by July 2019. The same target date of July 2019 was maintained till the 13th NETeST meeting held on 09th April 2019. The target date was again revised to December 2019 in the 14th NETeST meeting held on 11th July 2019 which was the scheduled month for completion. In every NETeST and RPC/TCC meeting, it has been a regular phenomenon to revise the scheduled dates by POWERGRID.

e) The RTU is being installed at the 132 kV Sanis station under the "Up-gradation and Expansion of SCADA/EMS system of NERLDC and SLDCs" project, which is also under responsibility of POWERGRID-NERTS. The 14th NETeST held on 11th July 2019, referred to the meeting between NERLDC, POWERGRID-NERTS and DoP-Nagaland; POWERGIRD-NERTS apprised the forum that a purchase-order for the RTU of Sanis station was placed with a delivery schedule in August'19, but the RTU at Sanis station has not been installed and commissioned till date.

Respondent PGCIL reply to Rejoinder in Petition Nos. 197/MP/2020, 201/MP/2020 and 263/MP/2020

16. PGCIL, vide affidavit dated 02.11.2020 in reply to the Rejoinder dated 16.09.2020 in Petition No. 197/MP/2020 has submitted as follows:

a) Original power system scheme for Roing, Tezu, & Namsai was approved without considering feasible communication connectivity with NERLDC. In the original connectivity, there were multiple PLCC hops through states, which were not reliable. Hence, for these stations, GPRS scheme was only viable, and so they opted for it. These substations were commissioned with the GPRS connectivity scheme after obtaining the necessary clearance from NERLDC. NERLDC, after verifying the same, issued a charging clearance. The GPRS scheme adopted at these substations is a standard type as per CEA technical standards for locations where OPGW is not available. GPRS connectivity was also discussed in the 9th NETEST meeting.

b) Constraints were being faced in having reliable communication for these sub stations due to service network quality issues from telecom operators in these substations

which are situated at remote & geographically far-flung locations. This network issue resulting in intermittency in data reporting was beyond control of POWERGRID.

c) POWERGRID proposed VSAT as a redundant connection for providing data & Voice connectivity for Roing, Tezu, & Namsai with NERLDC. The same was discussed in various NETeST meetings and then finally approved in the 20th NERPC meeting held on 12.09.2019 with the condition of completion of implementation only after a successful demo at one site. POWERGRID contacted the relevant agencies for the required VSAT demo at the site. However, agencies were hesitant to provide demos at such a remote site, citing the unrest in the North Eastern Region. After lots of persuasion, demo was successfully completed in Oct'2019. Subsequent to the successful VSAT demo, the VSAT project was put up for POWERGRID management approval, which was approved for implementation. Presently, tendering activities for the VSAT installation are in progress.

d) OPGW's Communication scheme for Roing, Tezu, Namsai substation connectivity with NERLDC was envisaged partly under the "North Eastern Region (Additional) Scheme". Further, some fibre optic links for the above connectivity are envisaged in the Comprehensive scheme of Arunachal Pradesh, which is still under implementation.

e) The "special Subgroup meeting of NERPC" was held by NERPC on 18.08.2020 with major constituents regarding petitions filed by NERLDC. During the meeting, it was discussed and deliberated that the completion of NER region projects within the time line is very challenging due to various reasons.

f) NERPC is being apprised of the progress on regular basis. Procedure for submission of progress report of telecommunication regional projects was discussed and finalised during the 1st NETeST meeting held on 06.11.2015. As far as monitoring of communication project issues is concerned, NERPC and NETeST is being apprised of the progress on regular basis.

17. PGCIL, vide affidavit dated 03.11.2020 in reply to the Rejoinder dated 27.08.2020 in Petition No. 201/MP/2020 has submitted as follows:

a) Silchar - Pallatana link was not envisaged in the original scope of the project approved in the 14th NERPC dated 04.09.2013 and was later added as additional scope in the 15th NERPC meeting held on 21.08.2015. LILO of Silchar-Pallatana at Belonia was added in the18th NERPC meeting held on 11.10.2017. The above links got delayed as they were not part of the original scope. Presently both Silchar & Pallatana sub-stations are connected to the NER FO network, and necessary data from both ends is reported to NERLDC.

b) The "special Subgroup meeting of NERPC" was organized by NERPC on 18.08.2020. It was agreed that completion of NER region projects within the timeline is very challenging due to various reasons. POWERGRID has also faced similar problems during the implementation of communication links covered under the "Establishment of Fiber Optic Communication system under wide band communication expansion plan in NER.

c) 400 kV Silchar - Pallatana link was required mainly to connect Pallatana Substation with a wide band network. The purpose has already been achieved with the completion of the Pallatana – SM Nagar link, and Data & Voice of Pallatana Substation are already reporting to NERLDC.

d) Delay reasons were considered at the time of preparation/approval of the Revised Cost Estimate (RCE) of the project, and therefore the completion schedule of the project has been revised to June'2020 in the RCE.

e) Despite facing the adverse situation during the implementation, POWERGRID is trying its level best and making all possible efforts to complete the above-mentioned Links by Feb-March'2021.

f) Regarding the 132 kV Rokhiya (GBPP) ~ Surajmaninagar (TSECL) & 132kV Surajmaninagar (TSECL) ~ Monarchak (NEEPCO) links, matter was discussed in the 16th & 17th NETeST and it was decided that materials are to be handed over to TSECL as fronts are not ready (execution will be taken up by TSECL, Tripura). The same was also well-explained to NERLDC during the meeting with NERLDC & TSECL dated 04.05.2020.

18. PGCIL, vide affidavit dated 27.11.2020 in reply to the Rejoinder dated 30.09.2020 in Petition No. 263/MP/2020 has submitted as follows:

a) POWERGRID is implementing a fiber optic communication system for Nagaland state to provide voice and data communication as follows:

Project	Total links	Links completed
Establishment of Fiber Optic Communication system under wide band communication expansion plan in NER	06	04 Balance links - 02
Establishment of Fibre Optic Communication System in lieu of existing ULDC Microwave links in NER	02	02

b) Reasons for delays in communication links are as follows:

i. Delay reasons attributed to specific links are given below:

a. 132kv Kohima - Wokha: Part of Line i.e. LILO part of Wokha-Kohima is under construction by the state in another project. OPGW work shall be taken up by POWERGRID after tower erection done by Nagaland. POWERGRID has communicated a letter to the State requesting the completion of the abovementioned LILO portion at the earliest. Further, it was also requested to remove the LILO portion of the OPGW work from the POWERGRID scope if the link gets further delayed.

b. 132 kV Doyang (NEEPCO) – Sanis: This link was not mentioned in the original scope, and the same was added much later by the DOP, Nagaland after approval in the 18th NERPC meeting held on Oct'2017 (whereas other links were approved in Jan'2014). Accordingly, implementation of the same was taken up.The instant project was being implemented by M/s TCIL (a Central Govt CPSU, under the administrative control of the Department of Telecommunications (DOT), Ministry of Communications, Government of India). M/s TCIL agreed to execute the work of OPGW stringing on an instant link after long persuasion. M/s TCIL cited various issues with work in remote areas of the Sanis - Doyang link and also same was not in the original scope. POWERGRID provided the June'20 target in the 16th NTEST meeting held on 20.02.2020 and since March, almost all the works has been on halt due to the COVID19 Pandemic. Accordingly, different targets were revised due to constraints beyond their control. It was discussed,

and the necessary decision was taken that Sanis may be connected over the PLCC link

Hearing on 16.02.2023 and on 27.03.2023

19. The Petitioner, vide RoP of hearing dated 16.02.2023 in Petition Nos. 197/MP/2020, 201/MP/2020, 263/MP/2020 and vide RoP of hearing dated 27.03.2023 in Petition No. 556/MP/2020 was directed to identify the list of sub-stations of the Respondents that impact the ISTS grid and to provide the latest status of the communication facility at these substations and the current status of RTU availability & real-time data availability percentage of these identified sub-stations. Respondents under the respective Petition were also directed to provide the current status of work done for the establishment and maintenance of communication facilities at their respective sub-stations.

Submission of NERLDC in Petition no.197/MP/2020, 201/MP/2020, 263/MP/2020 and 556/MP/20220

20. NERLDC, vide affidavit dated 09.03.2020 in Petition Nos. 197/MP/2020, 201/MP/2020, 263/MP/2020 and vide affidavit dated 06.04.2023 in Petition No. 556/MP/2020 has submitted as follows:

197/MP/2020

Status of DoP-Arunachal Pradesh Owned Stations as on 26.02.2023

Status of DoP-Arunachal Pradesh Owned Stations as on 26.02.2023										
S. No	Name of station	Operating Voltage Level (in KV)	RTU availability	Existing Type of data communication link (state owned)	Status of real-time power system operational data		Whether connected to ISTS/IS GS station?	Whether adversely impacting critical real-time grid operation?	Major Impact(s)	Availability (in%)
					as filed in Petition	as on 26.02.2023				
A.	**Stations impacting ISTS Monitoring and critical Grid Operation**									

1.	Daporijo	132	Yes	Not available	Not reporting due to unavailability of communication channel	Not reporting due to damaged RTU (after a fire Incident)	Yes	Yes	Daparijo station is connected to ziro (ISTS). It is important to monitor ISTS element.	0
2.	Deomali	220	Yes	VSAT	Not reporting due to unavailability of communication channel	Inconsistently reporting as UPS supply to VSAT system is not extended	Yes	Yes	Deomali station is connected to Kathaiguri(ISTS).Thus, data is required to monitor ISTS element	0
3.	Khupi	132	Yes	VSAT	Not reporting due to unavailability of communication channel	Inconsistently reporting as UPS supply to VSAT system is not extended	Yes	Yes	Khupi is connected to Kameng Hydro (ISGS owned by NEEPCO). Thus, data availability is important for monitoring ISGS element.	0
4.	Pasighat	132	Yes	VSAT	Not reporting due to unavailability of communication channel	Not reporting due to non-availability of proper DC supply to RTU	Yes	Yes	Pasighat area is not being monitored. Moreover, data availability is important to monitor ISTS element as it is connected to Roing (PG) station.	0
5.	Itanagar (Chimpu)	132	Yes	Local LAN connected on Ethernet Cable	Partial data available through local connection	Reporting being a local station adjacent to SLDC	Yes	Yes	Monitoring of station is important as ot feeds to capital and connected to two ISGS stations and one ISTS station	95.24
6.	Tenga	132	Yes	VSAT	Not reporting due to unavailability of communication channel	Reporting as VSAT communication had been established	Yes	Yes	Tenga is connected to Balipara (ISTS)	100
7.	Lekhi	132	Yes	VSAT and Fiber	Not reporting due to unavailability of communication channel	Reporting as VSAT and fiber communication had been established	Yes	Yes	Monitoring of station is important as it feeds to the capital and connected to Pare (ISGS station owned by NEEPCO) and Nirjuli(ISTS station owned by POWERGRID)	100
8	Bhalukpong	132	Yes	VSAT	Not reporting due to unavailability of communication channel	Inconsistently reporting as UPS supply to VSAT system is not extended	Yes	Yes	Bhalukpong is connected to ISTS station i.e Balipara (Powergrid owned) via a T connection, Bhalukpong area is not being monitored	0
9	Dikshi	132	Yes	VSAT	Not reporting due to unavailability of communiction channel	Inconsistently reporting over VSAT communication	No	Yes	Dikshi is only hydro station of state, thus the station data is important for demand management of the state.	100
B.	**Stations not impacting ISTS Monitoring and critical Grid Operation**									
10.	Along	132	Yes	VSAT	Not reporting due to unavailability of communication channel	Inconsistently reporting as UPS supply to VSAT system is not extended	No	No	Grid operators unable to monitor Along area. In near future this station will be part of important 132KV loop after the charging of 132KV Roing-Chpakhowa (AS) line.	0
11.	Basar	132	Yes	Not available	Station has not charged at the time of petition	Not reporting due to unavailability of communication channel	No	No	Grid operators unable to monitor Basar area. In near future, this station will be part if important 132Kv loop after the changing 132Kv Roing-Chpakhowa (AS) line.	0

Status of Tripura (or TSECL) Owned Stations as on 26.02.2023										
Sl. No	Name of station	Operating Voltage Level (in KV)	RTU availability	Existing Type of data communication link (state owned)	Status of real-time power system operational data		Whether connected to ISTS/ISGS station?	Whether adversely impacting critical real-time grid operation?	Major Impact(s)	Availability (in%)
					as filed in Petition	as on 26.02.2023				
A.	**Stations impacting ISTS Monitoring and critical Grid Operation**									
1.	Ambassa	132	Yes	PLCC till PK Bari and subsequently Fiber-Optic link to SLDC	Not reporting because Fiber-Optic link between P.K Bari and SLDC is not functional due to PDH failure at P.K Bari station	Inconsistently reporting due to improper maintenance of PLCC link	Yes	Yes	Connection to PK Bari (ISTS) station, thus the availability of station is important for real time drawl calculation and monitoring of ISTS elements	3.45
2.	Dharmanagar	132	Yes	GPRS	Reporting over GPRS and Fiber-Optic link between P.K Bari and SLDC is not functional due to PDH failure at P.K. Bari station.	Not Reporting	Yes	Yes	Connection to Dullavcherra (Assam) station, thus the availability of station is important for real time drawl calculation and monitoring of ISTS elements	0
3.	Agartala(79-Tilla)	132	Yes	Local station (Fiber-Optic Cable)	Reporting	Reporting	Yes	Yes	Agartala station is most important station for feeding load to state capital.	28.85
4.	Budhjunagar	132	Yes	PLCC	Not Reporting over PLCC and work of RTU integration is pending with Fiber-Optic link (as Fiber-Optic link had been completed)	Reporting	Yes	Yes	Budhjungnagar station is connected to SM Nagar (TSECL) station which is important as SM Nagar is connected to Comilla (Bangladesh)	28.26
5.	PK Bari	132	Yes	Fiber Optic	Intermittently reporting over GPRS. Fiber-Optic link between P.K. Bari and SLDC is not functional due to PDH failure at P.K. Bari.	Reporting	Yes	Yes	PK Bari is connected to PL Bari (ISTS) station; thus the availability of station is important for real-time drawl calculation and monitoring of ISTS elements	64.52
6.	Surajamaninagar	132	Yes	FiberOptic	Reporting over Fiber-optic (owned by Powergrid under ULDC scheme)	Reporting	Yes	Yes	SM nagar is connected to Palatana Generating station and Comilla (Bangladesh); thus the availability of station is important for real-time drawl calculation and monitoring of ISTS/international elements.	86.25
7.	Udaipur	132	Yes	Fiber Optic	Reporting over PLCC and work pending in Fiber-Optic project	Reporting	Yes	Yes	Udaipur is important station connected to two major generating stations (i.e Palatana & Monarchak) of Tripura	34.85

8	Barmura	132	Yes	PLCC	Reporting over Fiber-Optic (owned by POWERGRID under ULDC scheme)	Reporting	No	Yes	Baramura is an important gas based plant of sate. Non-availability had earlier caused inconvenience in accurate monitoring of state demand and generation.	33.33
9	Monarchak	132	Yes	Fiber Optic	Reporting over PLCC Fiber-Optic link handed over to TSECL by POWERGRID. Fiber-Optic project to be executed by TSECL	Reporting	No	Yes	Monarchak is an Important gas based plant of state. No-availability had earlier caused inconvenience in accurate monitoring of state demand and generation.	76.92
10	Rokhia	132	Yes	PLCC	Reporting over PLCC Fiber-Optic link handed over to TSECL by POWERGRID. Fiber-Optic project to be executed by TSECL	Reporting	No	Yes	Rokhia is an important gas based plant of state.Non-availability will cause inconvenience in accurate monitoring of state demand and generation	22.34
11	Dhalabil	132	Yes	Fiber Optic	Not Reporting over PLCC and work of RTU integration is pending with Fiber-Optic link(as Fiber-Optic link had been completed)	Inconsistentl y reporting due to improper maintenance of fiber-optic link	No	Yes	Dhalabil is an important station for connecting Baramura generating station to the grid	0
12	Gamaitila	132	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	Yes	Gamaitilla is important for connecting Baramura generating station to the grid.	0
13	Jirania	132	Yes	PLCC	Not Reporting over PLCC and work pending in a Fiber-Optic project (being executed by POWERGRID)	Not Reporting	No	Yes	Jirania is important station for connecting Baramura generating station to the grid	0
14	Kamaipur	132	Yes	Not available	Not Reporting due to no communication link connectivity	Not Repoting	No	Yes	Kamaipur is important station connecting major generating station of Tripura state with capital of Agartala.	0
15	Mohanpur	132	Yes	Fiber Optic	Station was not commissioned	Intermittently reporting	No	Yes	Mohanpur is important station connecting major generating station of Tripura state with capital of Agartala	0
16	Rabindran agar	132	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	Yes	Rabindranagar is important station connected to two major generating stations (i.e Rohkia &Monarchak) of Tripura	0
17	Amarpur	66(under upgrade to 132KV)	Yes	Not available	Not Reporting due to work pending in Fiber-Optic project	Not Reporting due to non-availability of communication channel	No	Yes	Amarpur is pooling station for hydro station Gumti.Amarpur area is not being monitored, station is under upgrade to 132KV under North Eastern Region Power System	0

									Improvement Project (NERPSIP)	
18	Gumti	66	Yes	PLCC	Not Reporting over PLCC and work pending in a Fiber-Optic project (being executed by POWERGRID)	Not Reporting	No	Yes	Gumti is hydro generating station of Tripura; its monitoring is important for demand and generation management of the state	0
B.	**Stations not impacting ISTS Monitoring and critical Grid Operation**									
19.	Gournagar	132	Yes	Not available	Not reporting due to no communication link connectivity	Not Reporting	No	No	Gournagar area is not being monitored	0
20.	Ompi	66	Yes	Not available	Not reporting due to no communication link connectivity	Not reporting	No	No	Ompi area is not being monitored	0
21	Sabroom	66 (under upgrade to 132KV)	Yes	Not available	Not Reporting over PLCC and work is pending in Fiber-Optic project (being executed by POWERGRID)	Not Reporting	No	No	Sabroom area is not being monitored. Station is under upgrade to 132KV under NERPSIP	0
22	Belonia	66 (under upgrade to 132KV)	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	No	Belonia area is not being monitored. Station is under upgrade to 132KV under NERPSIP	0
23	Bogafa	66	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	No	Bogafa area is not being monitored	0
24	Boxanagar	66	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	No	Boxanagar area is not being monitored	0
25	Satchand	66 (under upgrade to 132KV)	Yes	GPRS	Not Reporting over PLCC and work is pending in Fiber-Optic project (being executed by POWERGRID)	Not Reporting	No	No	Satchand area is not being monitored, Station is under upgrade to 132KV under NERPSIP.	0
26	Badhargh at	66 (under upgrade to 132KV)	Yes	GPRS	Not Reporting over PLCC and work of RTU integration is pending with Fiber-Optic link (as Fiber-Optic link had been completed)	Reporting	No	No	Badharghat area is not being monitored. Station is under upgrade to 132KV under NERPSIP	37.78

263/MP/2020

Status of Nagaland Owned Stations as on 26.02.2023:

Status of Nagaland Owned Stations as on 26.02.2023										
Sl. No	Name of station	Operating Voltage Level (in KV)	RTU availability	Existing Type of data communication link (state owned)	Status of real-time power system operational data		Whether connected to ISTS/ISGS station?	Whether adversely impacting critical real-time grid operation?	Major Impact(s)	Availability (in%)
					as filed in Petition	as on 26.02.2023				
A.	**Stations impacting ISTS Monitoring and critical Grid Operation**									
1.	Dimapur Nagarjan	132	Yes	Fiber	Partial data points are reporting over GPRS network. Fiber-Optic link between SLDC and Nagarjan has been completed. The RTU connection to be shifted to FO network by DoP network by DoP, Nagaland and POWERGRID	Partial data points are reporting (over Fiber-Optic) link	Yes	Yes	Station is important as it is connected to Dimapur (ISTS) and feeds to a large city of Dimapur	40.26
2.	Kohima	132	Yes	Fiber	Partial data points are reporting over GPRS network. ICTs and few lines' analog and digital data are not reporting.	Partial data points are reporting over fiber optics communication via Dimapur	Yes	Yes	Station feeds to Capital of Nagaland	58.14
3.	Sanis	132	Yes	PLCC	Not reporting due to no communication link connectivity	Partial data points are reporting over PLCC and Fiber-Optic link	Yes	Yes	Sanis is connected to Doyang (ISGS): thus its monitoring is important for real-time drawl calculation.	95.65
4.	Mokokchung	132	Yes	Fiber	Prtial data points are reporting over Broadband. Fiber-Optioc link between SLDC and Mokokchung is completed. The RTU connection to be shifted to fiber-Optic network by DoP Nagaland and POWERGRID	Not reporting due to faulty RTU at Mokockchung	Yes	Yes	Mokokchung is connected to Mokokchung (ISTS): thus data availability is important for real-time drawl calculation	3.19
5.	Kiphire	132	Yes	GRPS	Intermittently reporting due to weak GPRS signal strength	Partial data points reporting over GPRS communication medium	No	Yes	Station is connected to only hydro plant of Nagaland state i.e Likhimro Hydro	0
6.	Meluri	132	No	Not available	Not reporting due to no connectivity	Not Reporting due to non-availability of communicati	No	Yes	The station is important as it connects the state hydro plant with State capital Kohima	0

						on link and RTU				
7.	Wokha	132	Yes	Fiber	Not reporting due to weak GPRS signal	Partial data points are reporting over FO link	No	Yes	Wokha station is the part of an important loop which connects Kohima capital and Dimapur load area. Further, Wokha area load also not being monitored properly	45
8	Chiephouzou	132	No	Not available	Station was not commissioned	Not reporting due to non-availability of communication channel and RTU	No	Yes	Chiephouzou stations is the part of an important loop which connects Kohima capital and Dimapur load area. Chiephouzou area is not being monitored	0
9	Longnak	132	Yes	Not available	Station was not commissioned	Not reporting due to non-availability of communication channel and RTU	No	Yes	Longnak area is not being monitored, In near future, this station will be connected to Mariani (Assam) station	0
10	Likhimro Hydro Electric Project (LHEP)	66	Yes	GPRS	Not Reporting due to weak GPRS signal	Not Reporting due to non availability of communication link	No	Yes	LHEP is only hydro plant of state, thus data availability is important for demand management of the state	0
11	Tuensang	66(Under upgrade to 132KV level)	Yes	GPRS	Not Reporting due to weak GPRS signal	Not Reporting	No	Yes	Tuensang station is the part of an important loop which connects Kohima capital and Dimapur load area, Station will be upgraded to 132KV under NERPSIP	0
12	Power House	66	Yes	GPRS	Partial data are reporting over GPRS network	Partial data points reporting over GPRS communication medium	No	Yes	Station is important as it feeds load of large city of Dimapur	75.73
13	Singrijan	66	Yes	Not available	Not Reporting due to no communication link connectivity	Not Reporting	No	Yes	Station is important as it feeds load of large city of Dimapur	0
B.	**Stations not impacting ISTS Monitoring and critical Grid Operation**									
14	Mon	66	Yes	GPRS	Not Reporting due to no communication link connectivity	Not Reporting due to non-availability of communication link	No	No	Mon area is not being monitored	80
15	Nagnimora	66	Yes	Not Available	Not Reporting due to no communication link connectivity	Not Reporting due to non-availability of communication link	No	No	Naginmora area is not being monitored	0
16	Tizit	66	Yes	Not Available	Not Reporting due to no connectivity	Not Reporting	No	No	Tizit area is not being monitored	0
17	Tuli	66	Yes	GPRS	Not Reporting due to weak GPRS signal	Partial data points reporting over GPRS communication medium. But all data are reporting	No	No	Tuli area is not being monitored	75.68

						wrong values				
18	Zuhenoboto	66 (Under upgrade to 132KV level)	Yes	GPRS	Not Reporting due to weak GPRS signal	Not Reporting	No	No	Zuheneboto area is not being monitored, Station will be upgraded to 132KV under NERPSIP	0

556/MP/2020

Status of P&ED- Mizoram Owned Stations as on 05.04.2023

Status of P&ED-Mizoram Owned Stations as on 05.04.2023										
Sl. No	Name of station	Operating Voltage Level (in KV)	RTU availability	Existing Type of data communication link (state owned)	Status of real-time power system operational data		Whether connected to ISTS/ISGS station?	Whether adversely impacting critical real-time grid operation?	Major Impact(s)	Availability (in%)
					as filed in Petition	as on 14.03.2023				
A.	**Stations impacting ISTS Monitoring and critical Grid Operation**									
1.	Kolasib	132	Yes	Fiber	Due to non-availability of RTU at station, real time data of station is not telemetered to SLDC Mizoram and NERLDC	Partial reporting over Fiber network	Yes	Yes	Kolasib is connected to two hydro station of Mizoram Namenly; Tuirial and Biarabi. It is also connected to two ISTS station Aizawal (PG) and Badarpur (PG). Thus, the data is important for real-time drawl calculation as well as demand management.	52.9
2.	Shimmui	132	Yes	Fiber	Station was not charged at the time of petition	Partial reporting over Fiber network	Yes	Yes	Shimmui is connected to ISTS station Melriat (PG). Thus, real time data is very imperative real time drawl calculation	0
3.	Zuangtui	132	Yes	Fiber	Not reporting due to unavailability of data communication channel	Partial reporting over Fiber network	Yes	Yes	Zuangtui is connected to ISTS station Melriat (PG). Zuangtul is part of only one important 132Kv loop of Mizoram: Aizawl (PG)-Melirat (PG)-Zuangtui-Serchhip-Lunglei-Melriat (State)-Lungmual-Aizawl (PG). Thus real time date is very imperative for Mizoram grid stability and real time drawl calculation	47.4
4.	Tuirial	132	Yes	PLCC	Data are not reporting due to communication failure	Reporting over PLCC communication network	Yes	Yes	Tuirial is an important Hydro station of Mizoram, thus the telemetry data is required for monitoring of real time demand of state	100
5.	Lungmual	132	Yes	Fiber	Not reporting due to unavailability of data communication channel	Partial reporting over Fiber network	Yes	Yes	Lungmul is connected to ISTS station Aizwal (PG). Lungumal is the part of only one important 132KV loop of Mizoram:Aizwal (PG)-Melirat(PG)-Zuangtul-Serchhip-Lunglei-	85.2

									Melrial(State)-Lungmual-Aizawl(PG).Thus, real time date is very imperative for Mizoram grid stability and real time drawl calculation	
6.	Lunglei	132	No	Not available	Station was not modeled in SCADA/EMS system of SLDC	Not Reporting due to unavailability of data communication channel and RTU	No	Yes	Lunglei is part of only one important 132KV loop of Mizoram: Aizawl (PG)-Melriat (State)-Lungmual-Aizawl (PG). Thus, real time date is imperative for Mizoram grid stability	0
7.	Melriat	132	No	Not available	Station was not modeled in SCADA/EMS system of SLDC	Not reporting due to unavailability of data communication channel and RTU	No	Yes	Melriat is the part of only one important 132KV loop of Mizoram; Aizawl (PG)-Melirat (PG)-Zuangtui-Serchhip-Lunglei-Melriat (State)-Lungmual-Aizawl (PG). Thus, real time date is very imperative for Mizoram grid stability.	0
8	Serchhip	132	No	Not available	Station was not modeled in SCADA/EMS system of SLDC	Not reporting due to unavailability of data communication channel and RTU	No	Yes	Serchhip is the part of only one important 132KV loop of Mizoram; Aizawl (PG)-Melirat (PG)-Zuangtui-Serchhip-Lunglei-Melriat (State)-Lungmual-Aizawl (PG). Thus, real time date is very imperative for Mizoram grid stability.	0
9	Vankal	132	No	Not available	Not reporting due to unavailability of data communication channel	Not reporting due to unavailability of data communication channel and RTU	No	Yes	Vankal substation is connected to 20MW Solar Park. Thus real time data is important for demand management of state.	0
10	Serlui B	33	No	Not available	Not Reporting due to unavailability of data communication channel.	Not Reporting due to unavailability of data communication channel.	No	Yes	Serlui B is an important Hydro station of Mizoram, thus monitoring of real time demand of state.	0
11	Vankal Solar	33	Yes	VSAT	Station is not charged at the time of petition	Reporting over PLCC VSAT	No	Yes	Vankal Solar is an important Solar station of Mizoram, thus the telemetry data is required for monitoring of real time demand of state.	100
B.	**Stations not impacting ISTS Monitoring and critical Grid Operation**									
12	Champhal	132	No	Not available	Not Reporting due to unavailability of data communication channel and RTU	Not Reporting due to unavailability of data communication channel and RTU	No	No	Champhai area is not being able to monitor	0
13	Khawzawl	132	No	Not Available	Not reporting due to unavailability of data communication channel and RTU.	Not reporting due to unavailability of data communication channel and RTU.	No	No	Khawzawl area is not being able to monitor	0

14	Saitul	132	No	Not Available	Station was not modelied in SCADA/EMS system of SLDC	Not Reporting due to unavailability of data communicati on channel and RTU	No	No	Saitual area is not being able to monitor	0
15	Bairabi	132	No	Not available	Not Reporting due to unavailability of data communication channel and RTU.	Not reporting due to unavailability of data communicati on channel and RTU	No	No	Bairabi area is not being able to monitor	0

Submission of Respondents in Petition Nos. 263/MP/2020, 556/MP/2020, and 197/MP/2020

21. Respondents, Department of Power (DoP) Nagaland and SLDC, Nagaland, vide affidavit dated 14.04.2023 in Petition No. 263/MP/2020 has submitted the following:

a) Upgradation of GPRS Modems from 2G to 4G Modems was done on December 2022 for the following sub-stations to improve real-time Data availability at SLDC Nagaland, and the action taken report 05.12.2022 is attached with the affidavit:

i. 66/33kV Ganeshnagar Sub-station

ii. 66/33kV Tuli Sub-station

iii. 66/33kV Mon Sub-station

iv. 66/33kV Tuensang Sub-station

v. 66/33kV Zunheboto Sub-station

b) The DPR for "Establishment of Reliable Communication System for 66kV and above Network in Nagaland State" has been submitted to the Power System Development Fund (PSDF). The Ministry of Power, Government of India has also accorded approval for 90% funding for the OPGW-based reliable communication project for NER States. The department is awaiting the sanction of the project from the PSDF.

c) The DPR for the below mentioned projects has been submitted to the concerned authorities as under:

i. Upgradation of Hardware, Software and Associated Systems for SCADA-EMS in Load Despatch Centres of North Eastern Region (NER).

ii. Procurement and Installation of Remote Terminal Units in selected stations of the North Eastern Region (NER).

iii. Establishment of VSAT Communication System in Stations at Hilly and Remote Terrain locations in the North Eastern Region (NER).

d) The current Status Report regarding the comments and actions taken by the power department is attached to the affidavit.

22. Respondent, P&E Department Mizoram vide affidavit dated 21.04.2023 in Petition No. 556/MP/2020 has submitted as follows:

a) To ensure data and voice availability of every grid connected sub-station in Mizoram to Mizoram SLDC & NERLD, DPRs are prepared for up-gradation of SCADA-EMS and installation of RTUs in 14 Nos. of 132 kV Sub-Stations and V-SAT communication in 17 Nos. of grid Sub Stations with the help of NERPC & NERLDC for 100% funding under PSDF. For the establishment of Optic Fibre network in 132 kV and 33 kV lines within Mizoram, a sanction of Rs 50 Crores has already been obtained under Part-V of the 'Scheme for Special Assistance to States for Capital Investment for 2022-23' which is to be executed by the Information & Communication Technology Department, Mizoram, in collaboration with the Power & Electricity Department on the poles and towers owned by the Department. The scheme shall provide both Fiber Optic and Satellite communication, which can be utilized as either primary or standby channel for data and voice communication.

b) The formation of dedicated team for SCADA and Communication related activities can be done by selecting personnel with experience in this field.

c) At present 132KV Sub-stations connected to ISTS are integrated into the SCADA of SLDC-Mizoram. Integration of intra grid Sub-Station, Action plane for the stations which are not covered in the NER FO expansion project and Action plans for stations, which are not covered in the NER FO expansion project will be done after the implementation of the scheme for special Assistance to states for Capital Investment for 2022-23.

d) The financial position of the state is not sound enough to immediately meet the new technological developments demanded in the power sector.

23. Respondent, DoP Arunachal Pradesh vide affidavit dated 24.04.2023 in Petition No. 197/MP/2020 has submitted as follows:

a) The Arunachal state gird has been operated and maintained as a dedicated entity since 2015 with a few radial segments of 132KV and 220KV transmission lines constructed by PGCIL. All these transmission lines did not have any communication media for telemetry and control apart from the non- functional PLCC at the time of taking over from the Distribution wing of the Department of Power, Arunachal Pradesh. Until the coming into existence of the transmission zone of the Department of Power, which is the deemed State Transmission Utility (STU), the state transmission was operated and maintained by the distribution wings. The Arunachal Pradesh grid could not be given the needed and adequate attention due to the circumstances of those days.

b) Prior to 2020 and after 2015: SCADA system was coming up in the NE region, and under the implementation of the POWERGRID, DOP AP had to opt for GPRS technology for telemetry data from EHV sub-stations to the Arunachal Pradesh State Load Despatch Centre. This was the only fast and cheapest means available to us, and it was executed through PGCIL on their advice. It failed because of the inefficient cellular service network around sub-stations.

c) Post 2020: Installation of OPGW on the upcoming transmission systems under the Comprehensive Scheme is being implemented by POWERGRID. Since no communication medium existed on the existing transmission system, the decision was taken to install the OPGW on the existing lines as well. Installation of OPGW is underway with the POWERGRID and as per information obtained from reliable sources, that they have erected OPGW on the following existing segments:

i. Basar-Aalo 132KV Line

ii. Lekhi-Chimpu 132KV Line

iii. Pare-Chipu 132KV Line

iv. Holongi-Chimpu 132KV Line

d) As we anticipated during 2018-19 that installation of OPGW on existing lines would take a long time, we decided to use VSAT for Telemetry in the Power System of DoP A.P on an experimental basis after learning from other states like Andhra Pradesh that VSAT technology is being used for power system telemetry. Due to the outbreak of Covid-19, the implementation could not happen due to widespread and prolonged lockdown. Only in April- May 2022 could we commission the VSAT system, and since then it has been functioning satisfactorily, though with occasional hiccups due to reasons beyond our control, like:

i. link failure

ii. Fire incident at Daporijo Sub-station

iii. Inability for timely maintenance and attending issues of the system in the remotely located sub-stations due to road surface bottlenecks and difficulties during monsoon for frequent landslides and road blockades.

iv. Long grid outage

e) Primary cause of data Outage:

i. Lack of back-up Power Supply: The VSAT were installed with the power supply from the sub-station sharing the power supply resources of the grid sub-station and did not have back up. Whenever there is a prolonged power cut, reporting of telemetry data to the SLDC Control Centre fails. To do away with this, an order for procurement of a suitable backup system has been placed which is likely to be commissioned within three months.

ii. Lack of Adequate and Trained Manpower: The manpower was managed from the existing sanctioned post of the entire department of power with three divisions and one circle office initially that consisted of few engineers apart from the Chief Engineer as the zonal head and Superintending Engineer as the Circle head, which are not enough to operate and maintain efficiently the transmission lines and sub-stations. A proposal to augment the manpower of the transmission sector, keeping in view the assets that are coming up under the comprehensive Scheme, has been submitted and is under active consideration by the government.

Hearing on 25.04.2023 and 08.06.2023

24. Petition Nos. 197/MP/2020, 263/MP/2020 ,556/MP/2020 were reserved for order in the matter on hearing dated 25.04.2023 and the Commission, vide the RoP of this hearing, directed the Petitioner and Respondents, namely the Department of Power, Arunachal Pradesh, Nagaland, the Department of Power & Electricity, Mizoram, to conduct a meeting within one month and formulate an implementation plan along with a time line (priority-wise) for establishment & maintenance of communication facilities at the sub-stations identified by the Petitioner in compliance with the CEA Grid Standards and relevant provisions under IEGC, and the Respondents to submit the same. The Commission also directed the Petitioner to make an interim arrangement in consultation with the Respondents for data transfer at these sub-stations till the communication facilities are developed.

25. The Commission, vide RoP of hearing dated 25.04.2023 in Petition No. 201/MP/2020 directed TSECL and the Petitioner to conduct a meeting within a month and formulate an implementation plan along with timeline (priority-wise) for the establishment and maintenance of communication facilities in sub-stations identified by the Petitioner to ensure the availability of reliable real time data at NERLDC, and accordingly, the Respondent TSECL to file the same on affidavit.

26. During hearing in Petition No. 201/MP/2020 on 08.06.2023, the representative of Tripura State Electricity Corporation Limited (TSECL) /Tripura State Power Transmission Limited (TPTL) submitted that TSECL, which was responsible for power generation, distribution, and transmission for the State of Tripura, has been unbundled and a separate transmission company, namely, TPTL, has been formed on 3.1.2023. He submitted that in terms of the Commission's directions vide RoP dated 25.4.2023,

a joint meeting of TSECL, TPTL, the Petitioner and other beneficiaries was held on 31.5.2023 to formulate an implementation plan and timelines for the establishment and maintenance of communication facilities in sub-stations identified by the Petitioner to ensure the availability of reliable real time data at NERLDC. Further, the representative of TSECL submitted that there are 25 RTUs, and one more RTU has been added, so the number of RTUs with TSECL and TPTL is now 26. In response to a query of the Commission regarding the status of RTUs, the representative of TSECL/TPTL submitted that 11 RTUs are operational through PLCC, 7 RTUs will be implemented by PGCIL by 31.7.2023 and 4 RTUs will be implemented by PGCIL by 31.12.2023 and the remaining 4 RTUs will be implemented by TSECL and TPTL. After hearing the representative of TSECL/TPTL, the Commission reserved the order in the matter and directed the Respondent TSECL to submit the Minutes of the meeting (MoM) held between TSECL, TPTL and the Petitioner regarding the establishment of communication facilities in sub-stations identified by the Petitioner and the detailed implementation plan (priority-wise) for the establishment of communication facilities in sub-stations identified by the Petitioner.

Submission of the Respondents in Petition No. 201/MP/2020

27. TPTL on behalf of the Respondent TSECL vide affidavit dated 06.06.2023 in Petition No. 201/MP/2020 has submitted as follows:

a) At two (02) stations in Tripura, a temporary arrangement of GPRS communication was installed till any permanent communication in wide band is established for the purpose of transmitting data. As per the GPRS Scheme, communication was subsequently set up at eleven (11) stations owned by TSECL. However, RTU Data reporting through GPRS was moderately consistent for seven (07) stations. The remaining four (04) stations connected through GPRS communication were inconsistent due to a signal strength issue. At present, the total GPRS

Communication System has collapsed as the Internet Service Provider (ISP) has changed the IP Address that was allotted to the GPRS Communication System Server at SLDC Tripura. Moreover, PMAS (an agency selected by Power Grid Nodal) has stopped providing any support for the restoration of the GPRS communication system at SLDC Tripura.

b) TSECL has not submitted any action-plan because the eleven (11) stations are to be covered under the NERPSIP (North Eastern Region Power System Improvement Project) fibre-optic project through Nodal POWERGRID. The scheduled completion of the NERPSIP project was due by June-2022, which is getting delayed because of which, the real-time data telemetry is hampering at the concerned SLDC & NERLDC. Under the NERFO project carried out by POWERGRID, a total ten (10) stations have been connected to SLDC Tripura till date. However, presently, seven (07) stations are reporting. A detailed status, for connectivity and data reporting of each station jointly prepared by TSECL & NERLDC, GCIL on 31-05-2023 at SLDC Tripura is attached to this affidavit. Microwave Vacation (MW Vacation) is not included for the state of Tripura. The detailed NERFO communication link status is also attached with this affidavit.

c) There are twenty-five (25) RTUs installed under TSECL and only twenty-one (21) RTUs have been reporting to date. The remaining four (04) RTUs are non-reporting because these four (04) numbers of RTUs have not been considered under any communication network project for data telemetry. However, Tripura SLDC calculates the real-time data telemetry under TSECL jurisdiction, considering the stations having established communication links with the SLDC in Tripura. The real time percentage telemetry availability calculation of the Tripura system was done from TSECL's end based on data availability at the Tripura SLDC Control Centre considering eleven (11) reporting RTU stations out of a total of twenty-one (21) RTUs (including Mohanpur). Telemetry availability calculated from TSECL's end comes to 60.06% at present.

d) With the completion of the NERFO & GPRS projects the connectivity status by October 2020 was:

NERFO = 09, Local RTU = 01, GPRS = 07, PLCC = 02, Total = 19

Remaining five (05) Stations not yet established any communication.

e) As a consequence of discussions in various NERPC Forums by TSECL, the NER Wide Band Communication Scheme (NERFO & NERPSIP) along with GPRS Projects through Nodal POWERGRID came into existence for data reporting from Generating Stations/Sub-Stations that are not yet connected by any means of communication with SLDC & NERLDC. However, in the year 2020, GPRS Project & NERFO expansion Project were completed but the NERPSIP is still on-going. Currently, in the absence of the GPRS System and the delay in the NERPSIP completion, only eleven (11) stations are reporting.

28. TPTL on behalf of the Respondent No. 1 TSECL vide, affidavit dated 19.06.2023 in Petition No. 201/MP/2020 has submitted the Minutes of Meeting (MoM) held among NERLDC and TPTL at Agartala on 31.05.2023. In the meeting, TPTL assured that it would be taking all the necessary measures to restore all analog points (including MW, MVAR, kV, Hz and ICT-Tap-position) and digital points (incl. Circuit Breaker and Isolator ON/OFF status) in all the stations under its jurisdiction. TPTL will also go ahead with the VSAT project with self-funding to establish the communication network for stations where there is currently no communication link available. The relevant extracts of the Minutes of the Meeting held on 31.05.2023 regarding the deliberation and decision on the tentative timeline for implementation of the communication facility are as under:

"A. Communication/SCADA/Telemetry related Agenda: -

1.0 Availability of real-time power system operational data for Tripura SLDC at NERLDC

NERLDC mentioned that availability of real-time power system operational data is very low as far as Tripura is concern which accounts for 22% approx. (incl. Analog and Digital status data) which is becoming a hindrance in maintaining a secure grid operation of North Eastern region.

Deliberation: *NERLDC presented to forum about the areas on which TPTL can improve the telemetry in the state. NERLDC stated that low real-time availability of digital data is one of the main reasons behind the overall low availability.*

Further, NERLDC also emphasized that even after infrastructure is available in some stations (Communication network and RTU), then also real-time data is not reporting at SLDC and NERLDC.

TPTL assured that it would be taking all the necessary measures to restore all analog points (including MW, MVAR, kV, Hz and ICT-Tap-position) and digital points (incl. Circuit Breaker and Isolator ON/OFF status) in all the stations under its jurisdiction. TPTL will also go ahead with VSAT project with self-funding to establish the communication network for stations where currently there is no communication link available.

TPTL also requested POWERGRID-NERPSIP to expedite the ongoing projects, which in turn strengthen the communication network of the state. Station wise action plan with completion time-lines is attached as ***Annexure-1A*** *(status of data reporting) and* ***Annexure-1B*** *(timeline for implementation of Communication facility).*

……..

Annexure-1A consist of list of sub-stations with status of data reporting or not reporting.

Annexure-1B

SL NO	*Name of Station*	*Existing Communication Path*	*Proposed type of data communication link (state owned)*	*Tentative Time Line for Fiber Availability*
A.	*Stations impacting ISTS Monitoring and critical Grid Operation*			
1	*Ambassa*	*Ambass→PK Bari (PLCC)→Kumargarh→RC Nagar→Agartala →SLDC Tripura*	*Fiber connectivity: 1.Ambassa→PK Bari (ISTS)→SLDC Tripura (NERPSIL)*	*31.07.2023*
2	*Dharmanagar*		*Fiber connectivity: 1.Dharmanagar→ PK Bari(state)→SLDC Tripura (NERPSIP)*	*31.07.2023*
3	*Agartala (79-Tilla)*		*Not Project*	*Not Required*
4	*Budhjungnagar*	*BJ nagar→SM Nagar (state)→ SLDC Tripura*	*Not required*	*Not Required*
5	*PK Bari*	*PK Bari→Kumargarh →RC Nagar→Agartala →SLDC Tripura*	*Not required*	*Not required*
6	*Surjamaninagar*	*SM nagar→Agartala*	*Not Required*	*Not Required*
7	*Udaipur*	*Udaipur→Palatana→SM Nagar→Agartala →SLDC Tripura*	*Not required*	*Not required*

8	*Barmura*	*Baramur→Agartala→SLDC Tripura*	*Fiber connectivity: 1.Teliamura-Barmura*	*Not required*
9	*Monarchak*	*Monarchak(PLCC)→Rokhia(PLCC) →Udaipur→Palatana→SM Nagar→Agaratala →SLDC Tripura*	*Fiber connectivity: 1.Monarchak-Rabindranagar-Rokhia-Agartala (NERPSIP)*	*31.12.2023*
10	*Rokhia*	*Rokhia→Udaipur →SM Nagar→Agaratala →SLDC Tripura*	*Not Required*	*Not Required*
11	*Dhaiabil*	*Dhalabil→Mohanpur→Agaratala→ SLDC Tripura*	*Not required*	*31-07-2023*
12	*Gamaitila*		*Fiber connectivity: 1.Telimura/gamitialla →Barmura→SLDC Tripura (NERPSIP)*	*31.07.2023*
13.	*Jirania*		*Fiber connectivity: 1.LILO at Jiriani over 132KV Agartala-Baramura (State Reliable Scheme-PSDF Project Proposed) VSAT Project (State)*	*31.12.2023 (for VSAT)*
14.	*Kamalpur*		*Fiber connectivity: 1.Kamalpur-Dhalabil (NERPSIP)*	*31.07.2023*
15	*Mohanpur*	*Mohanpur→Agaratala→SLDC Tripura*	*Not Required*	*Not Required*
16.	*Rabindranagar*		*Fiber connectivity: 1.Ranindranagar-Rokhia-Agartala (NERPSIP)*	*Not Required*
17.	*Amarpur*	*Amarpur→Gumti →Udaipur→Palatana→SM Nagar→Agartala →SLDC Tripura*	*Fiber connectivity: Amarpur-Udaipur (NERPSIP)*	*31.12.2023*
18.	*Gumti*	*Gumti→Udaipur →Palatana→SM Nagar→Agartala →SLDC Tripura*	*VSAT Project (State)*	*31.12.2023 (for VSAT)*
B. Stations not impacting ISTS Monitoring and critical Grid Operation				

19.	*Gournagar/Kailashar*		*Fiber: Kailasher→PK Bari (State)→SLDC Tripura (NERPSIP)*	*31.07.2023*
20.	*Ompi*		*Fiber: LILO at Ompi of 66KV Amarpur-Gamaitilla (State Reliable Scheme-PSDF Project) VSAT Project (State)*	*31.12.2023 (for VSAT)*
21.	*Sabroom*		*Fiber connectivity: Sabrom-Satchand-Bagafa-Udaipur (NERPSIP) VSAT State*	*31.12.2023*
22.	*Belonia*		*Fiber connectivity: 1.Belonia-Bagafa-Udaipur (NERPSIP)*	*31.12.2023*
23	*Bogafa*		*Fiber connectivity: 1.Bagafa-Udaipur (NERPSIP)*	*31.07.2023*
24.	*Boxanagar*		*Fiber: Rokhia-Boxnagar (State Reliable Scheme-PSDF Project) VSAT Project (State)*	*31.12.2023 (for VSAT)*
25.	*Satchand*		*Fiber connectivity: 1.Satchand- Bagafa-Udaipur (NERPSIP) VSAT Project (State)*	*31.12.2023 (for VSAT)*
26.	*Badharghat*	*Badarghat→Agartala→SLDC Tripura*	*Not Required*	*Not Required*

……."

29. TPTL, on behalf of the Respondent No. 1, TSECL, vide affidavit dated 19.06.2023 in Petition No. 201/MP/2020 has also requested to make the following changes in point no. 3 of the RoP of hearing dated 08.06.2023:

a. Change 'PLCC' to 'OPGW'.

b. Change '7 RTUs will be implemented by PGCIL by 31.7.2023' to '7 RTUs will be implemented by NERPSIP-PGCIL by 31.07.2023'.

c. Change ‘RTUs will be implemented by PGCIL by 31.12.2023’ to ‘4 RTUs will be implemented by NERPSIP-PGCIL by 31.12.2023.

Submission of DoP Nagaland in Petition No. 263/MP/2020

30. Respondent DoP Nagaland, vide affidavit dated 03.06.2023 in Petition No. 263/MP/2020, has submitted the Minutes of Meeting (MoM) held among NERLDC and Department of Power, Nagaland, on 23.05.2023, extracted as follows:

> “***1.0 Identifying list of stations impacting ISTS monitoring and critical grid operation***
>
> *NERLDC mentioned that a list of stations impacting ISTS monitoring and critical grid operation functions had been submitted to CERC DoP-Nagaland agreed to discuss upon the list submitted by NERLDC to CERC.*
>
> *DoP-Nagaland informed that there is no sub-station at Singrijan location and same is only a pooling point where double-circuit line is getting converted to single-circuit lines and requested NERLDC to remove it from the list which was agreed by NERLDC.*
>
> *The list was modified as per the latest updates available with NERLDC and DoP-Nagaland and many new information were added to make it comprehensive in nature. The timelines for some of the works was not readily available with Nagaland-SLDC which would be completed in discussion with their transmission-wing counterparts before submission to CERC and a copy to NERPC and NERLDC for reference purposes. The list is attached as Annexure-I.*
>
> ***2.0 Stations with voltage level 66kV in Nagaland****.*
>
> *NERLDC mentioned that 66kV stations of DoP-Nagaland are also important as most of its grid-network is 66kV in present scenario. SLDC conveyed that in order to prioritize the activities in action-plan, firstly all the 132kV and above stations along-with important 66kV level stations can be taken up for improvement in telemetry. Later, focus can be shifted to other 66kV Sub-stations as per requirements of NERLDC and SLDC Nagaland.*
>
> ***3.0 Low availability of analog and digital data in sub-stations of DoP-Nagaland***
>
> *Nagaland-SLDC stated that many of its stations are partial reporting to SLDC and causing low telemetry percentage availability as being projected in NERPC forums.*
>
> *NERLDC mentioned that it will submit a detailed station-wise list (refer Annexure-2) in which all unavailable analog/digital points will be mentioned (as being circulated in weekly telemetry status report also) which can be analysed by Nagaland-SLDC for planning of further course of action.*
>
> ***4.0 Communication Infrastructure on Fiber-Optic network***
>
> *DoP-Nagaland mentioned that many fiber-optic links are under "North Eastern Region Power System Improvement Project (NERPSIP)" being executed by POWERGRID on behalf of state-utilities and also under a "Reliable Communication Scheme — State" being executed by DoP-Nagaland with PSDF funding.*

It was pointed out that w.r.t Optical Ground Wire (OPGW) DOP Nagaland has submitted to PSDF secretariat for funding. Any additional requirement for OPGW, DOP Nagaland shall prepare the DPR and submit the same to PSDF Secretariat for funding as indicated in Minutes of 74th meeting [issued vide eOffice File No. CEA-GO-15-11/2/2020-NPC Division-Part(I)) of the Techno-Economic Subgroup (TESG) of PSDF held on 17th March 2023 at NLDC for TESG Members and for entities through online MS Teams platform.

5.0 Interim arrangement for data transfer by DoP-Nagaland

NERLDC conveyed that in above referred ROP by CERC, it was also directed that NERLDC and DoP Nagaland need to make an interim arrangement in mutual consultation for data transfer at required sub-stations till the communication facilities are not developed. It was also mentioned that GPRS technology being used in some stations of DoP-Nagaland is not reliable and causing high intermittency in data availability.

With mutual discussion, it was decided that VSAT and PLCC communication will be explored in the required stations (as main path or alternate path, as applicable) to maintain redundancy till dual fiberoptic physically redundant communication paths are established. It was also conveyed by DoP Nagaland that DPR for VSAT communication is several stations has already been submitted to PSDF secretariat which is under analysis.

6.0 Charging of new stations under NERPSIP project

NERLDC mentioned that many new stations will be under commissioning stage in NERPSIP project and subsequently it will be handed over to DoP-Nagaland for operation and maintenance. It should be ensured by DoP-Nagaland that real-time power system operational data from these stations is integrated and made available in SCADA-EMS system of SLDC before charging instructions are issued by grid operator. DoP-Nagaland agreed to be more vigilant of this aspect.

……
……."

31. Respondent DOP Nagaland has furnished list of sub-station with timelines as called for during meeting held on 23.5.2023 as follows:

Status of Nagaland Owned Stations

S. No.	Name of Station	Proposed type of data communication link (state owned)	Tentative Time Line for			
			RTU Availability	DCPS Availability	Fiber Availability	UPS to Comm equip.
A.	Stations impacting ISTS Monitoring and critical Grid Operation					
1	Nagarjun, Dimapur	Not required	Available	Available	Available	Available
2	Kohima	Not required	Available	Available	Available	Available
3	Sanis	Not required	Available	Available	Available	Available
4	Mokokchung	Not required	Available	Available	Available	Available
5	Kiphire	Fibre connectivity: 1.Kiphire-Meluri (State Project to be funded by PSDF)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and	

		2.Meluri-Pfutsero New - Kohima (NERPSIP Project) PLCC connectivity:			above Network in Nagaland State." by PSDF.	
6	Meluri	Fiber connectivity: 1.Meluri-Pfutsero New-Kohima (NERPSIP Project)	24 months from the date of Sanction of fund for DPR for "Procurement and Installation of Remote Terminal Units in selected stations of North Eastern Region (NER)" by PSDF.		Fiber connectivity covered under NERPSIP project and under execution by NERPSIP.	
7	Wokha	Not required	Available	Available	Available	Available
8	Chiephobozou	Fiber connectivity 1.Wokha-Chiephobozou-Kohima (State Project to be funded by PSDF)	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.			
9	Longnak	Fiber connectivity: 1.Longnak LILO Point-Mokokchung (State Project to be funded by PSDF) 2. PLCC on interim solution: Longnak-Mokokchung (MD-50 to be developed at site)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
10	Likhimro Hydro Electric Project (LHEP)	VSAT (State Project) Fiber Project:LHEP-Kiphire (State Project to be funded by PSDF)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
11	Tuensang	Fiber connectivity: 1.Tuensang-Mokokchung (NERPSIP) 2.Tuensang-Kiphire (State Project to be funded by PSDF)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
12	Power House	Fiber connectivity: 1.Powerhouse-Nagarjan (State Project to be funded by PSDF)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	

Analysis and Decision

32. We have considered the submissions of the Petitioner, and the Respondents and perused all relevant documents on record and the relevant regulations of the Commission. The main issue raised by the Petitioner NERLDC, through these Petitions is to seek directions to the respective Respondents under each Petition for the establishment and maintenance of Communication facilities by the users of the North-Eastern Region power system in terms of Clause 4.6.2 of IEGC, 2010, read with Regulation 6(3) of CEA (Technical Standards for Connectivity to the Grid) Regulation, 2007 to ensure the availability of reliable real time data at NERLDC and SLDC.

33. Petitioner NERLDC has submitted that data availability in the North-Eastern region is less than 50%, because of which, Regional as well as state operators are facing constraints in grid operations. The stations in Arunachal Pradesh, Tripura, Nagaland, and Mizoram States are grid-connected stations, and any fault or disturbance in them can propagate to other parts of the network leading to a grid disturbance. The restoration activities within the minimum possible time in case of any major collapse of the transmission system can only be done if the real-time data visibility of its corresponding stations is available with its SLDC as well as NERLDC. The current data-availability percentage of stations under the jurisdiction of the Department of Power in Arunachal Pradesh for the month of November 2019 is 6.74%, Tripura for the month of December, 2019 is 14.56%, Nagaland for the month of January 2020 is 35.13% and Mizoram for the month of May 2020 is 18.40%, which is very low and a major hurdle in monitoring the grid in each area.

34. The Petitioner submitted that POWERGRID is executing the fibre optic projects in the state of Arunachal Pradesh, Tripura, Nagaland and Mizoram, and many of the links to these projects have been delayed and are still not completed by POWERGRID.

35. Petitioner has referred to the Commission's order dated 11.10.2012, in Petition No. 217/MP/2011 with IA 142/2012 and the order dated 29.01.2016, in Petition No. 007/SM/2014 and has submitted that continuous efforts are being made by NERLDC with the Respondents through letters enclosing the Telemetry status of stations under their control area, weekly Telemetry Reports; circulating the monthly telemetry statistics to all entities, and posting of the same on the website. In spite of several efforts by NERLDC, relevant data from a number of generating stations and sub-stations is not yet made available at NERLDC as well as at the respective SLDC.

36. Respondent POWERGRID submitted that 12 links out of the remaining 14 links have been completed in Tripura. POWERGRID is also implementing a fiber optic communication system for Nagaland state for providing voice and data communication on 06 links out of which 03 links have been completed and 02 links under "Establishment of Fibre Optic Communication System in lieu of existing ULDC Microwave links in NER" have also been completed. Delay in completion of balance links is mainly due to constraints in OPGW stringing due to Right of Way problems, non-availability of transmission line for OPGW stringing on 02 links, floods, remoteness/critical terrain in NER, Bandh-Strikes, ROW-unrest due to socio-political issues like NRC-CAA-CAB. Similarly, implementation of the VSAT project in the State of Arunachal Pradesh for providing data & Voice connectivity for Roing, Tezu, & Namsai with NERLDC was delayed due to the COVID-19 pandemic situation. Further, the OPGW Communication scheme for Roing, Tezu, and Namsai substations

connectivity with NERLDC was envisaged partly under the "North Eastern Region (Additional) Scheme" and some fibre optic links for the above connectivity are envisaged in the Comprehensive scheme of Arunachal Pradesh, which is still under implementation.

37. Petitioner has submitted the list of Substations, under the respective Respondents in each petition, that impact the ISTS grid and the latest status of the communication facility at these substations. As per the list, many of the sub-stations that impact the ISTS grid are either not reporting or inconsistently reporting the real-time power system operational data to the Control Centres.

38. TSECL & TPTL (Respondents under Petition No 201/MP/2020) and the Department of Power, Government of Nagaland (Respondents under Petition No. 263/MP/2020) conducted meetings with the NERLDC on 23.05.2023 and 31.05.2023 to finalise the tentative timeline for that implementation of communication facilities at the substations identified by the Petitioner. The timeline, as agreed in the mentioned meetings, for the substations where communication links are to be implemented, is as under:

Petition No. 201/MP/2020 (Tripura)

SL NO	Name of Station	**Tentative Time Line for** Fiber Availability
A	Stations impacting ISTS Monitoring and critical Grid Operation	
1	Ambassa	31.07.2023
2	Dharmanagar	31.07.2023
3	Monarchak	31.12.2023
4	Dhaiabil	31-07-2023
5	Gamaitila	31.07.2023
6	Jirania	31.12.2023 (for VSAT)
7	Kamalpur	31.07.2023
8	Amarpur	31.12.2023
9	Gumti	31.12.2023 (for VSAT)
B. Stations not impacting ISTS Monitoring and critical Grid Operation		
10	Gournagar/Kailashar	31.07.2023

11	Ompi	31.12.2023 (for VSAT)
12	Sabroom	31.12.2023
13	Belonia	31.12.2023
14	Bogafa	31.07.2023
15	Boxanagar	31.12.2023 (for VSAT)
16	Satchand	31.12.2023 (for VSAT)

Petition No. 263/MP/2020 (Nagaland)

SL NO	Name of Station	**Tentative Time Line for**			
		RTU Availability	DCPS Availability	Fiber Availability	UPS to Comm equip.
A	Stations impacting ISTS Monitoring and critical Grid Operation				
1	Kiphire	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
2	Meluri	24 months from the date of Sanction of fund for DPR for "Procurement and Installation of Remote Terminal Units in selected stations of North Eastern Region (NER)" by PSDF.		Fiber connectivity covered under NERPSIP project and under execution by NERPSIP.	
3	Chiephobozou	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.			
4	Longnak	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
5	Likhimro Hydro Electric Project (LHEP)	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
6	Tuensang	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.	
7	Power House	Available	Available	33 months from the date of Sanction of fund for DPR for "Establishment of	

				Reliable Communication System for 66KV and above Network in Nagaland State." by PSDF.

39. We have considered the submissions of the Petitioner and Respondents and have also perused the facts on record. The various relevant sections of the Act, Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations, 2007, and the Indian Electricity Grid Code Regulations, 2010 are as follows:

40. Sub-section (3) of the Section 28 of the Electricity Act, 2003 is extracted as under:

> ***"Section 28. (Functions of Regional Load Despatch Centre):***
> *……...*
> *(3) The Regional Load Despatch Centre shall –*
> *(a) be responsible for optimum scheduling and despatch of electricity within the region, in accordance with the contracts entered into with the licensees or the generating companies operating in the region;*
> *(b) monitor grid operations;*
> *(c) keep accounts of quantity of electricity transmitted through the regional grid;*
> *(d) exercise supervision and control over the inter-State transmission system; and*
> *(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the region through secure and economic operation of the regional grid in accordance with the Grid Standards and the Grid Code."*

As per the above, sub-section (3) of Section 28 of the Electricity Act, 2003 provides the details of the responsibility of the RLDC, which inter-alia includes carrying out of real time operations for grid control and despatch of electricity within the region through secure and economic operation of the regional grid in accordance with the Grid Standards and the Grid Code.

41. Regulation 1.5 of the Indian Electricity Grid Code Regulations, 2010 provides as under:

> *"**1.5 Compliance Oversight***
> *(i) RLDCs shall report to the Commission instances of serious or repeated violation of any of the provisions of the IEGC and incidences of persistent non-compliance of the directions of the RLDCs issued in order to exercise supervision and control required for ensuring stability of grid operations and for achieving the maximum economy and efficiency in the operation of the power system in the region under its control.*

(ii) The Regional Power Committee (RPC) in the region shall also continuously monitor the instances of non-compliance of the provisions of IEGC and try to sort out all operational issues and deliberate on the ways in which such cases of non-compliance are prevented in future by building consensus. The Member Secretary RPC may also report any issue that cannot be sorted out at the RPC forum to the Commission. The RPC shall also file monthly reports on status of UI payment and installation of capacitors by states vis-à-vis the requirement/targets, as decided in the RPC.

(iii) The Commission may initiate appropriate proceedings upon receipt of report of RLDCs or RPCs referred to in (i) and (ii) above respectively.

(iv) In case of non-compliance of any provisions of the IEGC by NLDC, RLDC, SLDC, RPC and any other person the matter may be reported by any person to the CERC through petition.

(v) Notwithstanding anything contained in these regulations, the Commission may also take suo-motu action against any person, in case of non-compliance of any of the provisions of the IEGC."

As per the above, the RLDCs shall report instances of serious or repeated violations of the provisions of the IEGC and persistent non-compliance with the RLDC's directions, to the Commission. Further, RPC shall also monitor instances of non-compliance, try to sort-out all operational issues at the RPC forum, and may also report such issues that cannot be sorted out at the RPC forum to the Commission. The Commission may initiate proceedings upon receipt of such report from RLDCs and RPCs.

42. Regulation 4.6.2 of Indian Electricity Grid Code Regulations, 2010 provides as under"

"4.6.2. Data and Communication Facilities
Reliable and efficient speech and data communication systems shall be provided to facilitate necessary communication and data exchange, and supervision/ control of the grid by the RLDC, under normal and abnormal conditions. All Users, STUs and CTU shall provide Systems to telemeter power system parameter such as flow, voltage and status of switches/ transformer taps etc. in line with interface *requirements and other guideline made available by RLDC. The associated communication system to facilitate data flow up to appropriate data collection point on CTU's system shall also be established by the concerned User or STU as specified by CTU in the Connection Agreement. All Users/STUs in coordination with CTU shall provide the required facilities at their respective ends as specified in the Connection Agreement."*

As per the above, all Users, STUs and CTU need to provide systems to telemeter power system parameters in line with interface requirements and other guidelines

made available by RLDC, and further, the concerned User or STU needs to establish the associated communication system to facilitate data flow up to the appropriate data collection point on the CTU's system.

43. Regulation 6(3) of the Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations, 2007 provides as under:

> ***"6. General Connectivity Condition***
> *……...*
> *(3) 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."*

As per the above, the requester, which seeks Connectivity to the Grid, needs to provide the necessary facilities for voice and data communication and the transfer of online operational data to the Load Dispatch Centre.

44. Central Electricity Regulatory Commission (Communication System for Inter-state transmission of electricity), Regulations, 2017 provide as under:

> ***"7.2 Role of CTU***
> *(i) The CTU shall in due consideration of the planning criteria and guidelines formulated by CEA, be responsible for planning and coordination for development of reliable National communication backbone Communication System among National Load despatch Centre, Regional Load Despatch Centre(s) and State Load Despatch Centre(s) and REMCs along with Central Generating Stations, ISTS Sub-Stations, UMPPs, inter-State generating stations, IPPs, renewable energy sources connected to the ISTS, Intra-State entities, STU, State distribution companies, Centralised Coordination or Control Centres for generation and transmission. While carrying out planning process from time to time, CTU shall in addition to the data collected from and in consultation with the users consider operational feedback from NLDC, RLDCs and SLDCs.*
> *…….*
> *(iv) The CTU shall integrate communication planning with transmission and generation project planning in a comprehensive manner.*
> *…….*
> *(x). The CTU shall extend the required support to Control Centres for integration of communication system at respective ends.*
>
> *7.5 Role of RLDCs*
> *(i) The Regional Load Despatch Centre shall be nodal agency for integration and supervision of Communication System of the ISTS, ISGS, SLDCs and IPPs at RLDC end*

for monitoring, supervision and control of Power System and adequate data availability in real time.

……

7.6 Role of SLDCs

(i) The State Load Despatch Centres shall be nodal agency for integration of Communication System in the intra-State network, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in real time.

……

7.7 Role of STUs

(i) The STU shall be responsible for planning, coordination and development of reliable communication system for data communication within a State including appropriate protection path among State Load Despatch Centre, Area LDC, Sub-LDC and DISCOM LDC including Main and backup as applicable along with STU Sub Stations, intra-State Generating Stations.

(ii) The STU shall also plan redundant communication system up to the nearest Inter-State Transmission System wideband communication node for integration with the inter-State communication system at appropriate nodes.

……

(v) The STU shall extend the required support to Control Centres for integration of communication system at respective ends.

7.8 Role of Users:

(i) The Users including renewable energy generators shall be responsible for provision of compatible equipment along with appropriate interface for uninterrupted communication with the concerned control centres and shall be responsible for successful integration with the communication system provided by CTU or STU for data communication as per guidelines issued by NLDC.

(ii) Users may utilize the available transmission infrastructure for establishing communication up to nearest wideband node for meeting communication requirements from their stations to concerned control centres.

(iii) The Users shall also be responsible for expansion /up-gradation as well as operation and maintenance of communication equipment owned by them.

As per the above, the responsibility of CTU, STUs, RLDCs, SLDCs and the Users has been clearly specified to provide communication systems for uninterrupted communication of real time power system data to Control Centers.

45. We note that Tripura Power Transmission Limited (TPTL) has made a submission, vide affidavit dated 06.06.2023, representing TSECL under Petition No. 201/MP/2020. However, TPTL is not impleaded as a Respondent, only the TSECL, SLDC Tripura, and PGCIL NERTS are impleaded as Respondents under Petition No. 201/MP/2020. We further note that in the hearing on 08.06.2023, the representative of TSECL / TPTL submitted that TSECL, which was responsible for power generation,

distribution, and transmission for the State of Tripura, has been unbundled and a separate transmission company, namely, TPTL, has been formed on 3.1.2023. Considering the unbundling of TSECL and subsequent the formation of a separate transmission company as TPTL, we are of the view that the submission made by TPTL can be considered a submission made on behalf of TSECL.

46. We observe that the non-availability of real time telemetry data from the grid connected substations to SLDCs and RLDC is a serious concern for reliable grid operation. In the absence of real time data, the corresponding SLDC or RLDC will not be in a position to monitor, supervise, and take appropriate action, and any incident in the grid can have a catastrophic effect on the grid. In view of the critical importance of telemetry of power system parameters to control centers and associated systems for ensuring reliability in the operation of the grid and optimization of the transmission system, there is an imperative need for all the users to establish the telemetry and associated communication system in a time bound manner so that the power system can be operated in a reliable manner.

47. We note that the Respondent, DoP Government of Arunachal Pradesh, and the Power & Electricity Department, Mizoram, under Petition No.197/MP/2020 and 556/MP/2020 respectively, have yet to conduct the meeting with NERLDC to finalize the tentative timeline for implementation of communication facilities at the substations identified by the Petitioner.

48. Considering the above, we hereby direct;

a. TSECL & TPTL and Department of Power, Government of Nagaland, shall adhere to the timelines mentioned at Para 38 of this Order, which have been finalised in their meetings with the NERLDC.

b. DoP, Government of Arunachal Pradesh, and the Power & Electricity (P&E) Department, Mizoram, shall without fail conduct a meeting with NERLDC within a month of issuance of this order to finalise the timelines for implementation of communication facilities at the substations identified by the Petitioner. Further, the P&E Department, Mizoram, shall also discuss in this meeting and finalise the implementation plan for the integration of grid connected substations under their control area with the SCADA of SLDC Mizoram.

c. The Petitioner shall make an interim arrangement, wherever feasible, in consultation with the Respondents for data transfer at sub-stations identified by the Petitioner that impact ISTS grid, till the communication facilities are developed.

d. POWERGRID shall implement the remaining links, of the fibre optic projects being executed by POWERGRID in the North Eastern Region adhering to the timelines so as to ensure early establishment of communication facilities for real time data communication to Control Centers.

e. NERPC shall monitor the work of the implementation of Communication facilities by Department of Power, Govt. of Arunachal Pradesh; Tripura State Electricity Corporation Limited; Department of Power, Nagaland; P&E Department, Mizoram; POWERGRID and Devi Energies Private Limited, and shall submit a quarterly progress report to the Commission till the establishment of the Communication facilities at the substations identified by the NERLDC. Any issue faced during the implementation of Communication facilities shall be discussed at the RPC forum and sorted out.

f. NERLDC shall monitor the establishment & maintenance of Communication facilities by the users of the North-Eastern Region and update the status of telemetry every month at their web-site.

g. Department of Power, Govt. of Arunachal Pradesh; Tripura State Electricity Corporation Limited; Department of Power, Nagaland, and P&E Department, Mizoram shall finalize the implementation plan and timelines for the development of standby communication channels in coordination with NERPC and NERLDC to

ensure transfer of data and voice communication between the concerned SLDC and NERLDC. NERPC shall monitor implementation of standby communication channels.

h. Department of Power, Govt. of Arunachal Pradesh; Tripura State Electricity Corporation Limited; Department of Power, Nagaland and P&E Department, Mizoram shall identify one person from their top management as a nodal officer, who shall submit a monthly progress report on the implementation of the communication facilities to the NERPC and NERLDC, till the availability of 100% data to their respective SLDC and NERLDC.

i. The Respondent, Devi Energies Private Limited, in Petition No. 197/MP/2020, shall take immediate steps for the integration of real-time data from Dikshi HEP and 132 kV Tenga Stations with the SCADA system of SLDC Arunachal Pradesh and submit the monthly progress report to NERPC and NERLDC till the completion of this integration work.

49. The Petition Nos.197/MP/2020, 201/MP/2020, 263/MP/2020 and 556/MP/2020 are disposed of in terms of the above.

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

Gaurav Bhattacharjee (गौरव भट्टाचारजी)

From: PSDF
Sent: 22 August 2024 16:36
To: NERLDC SCADA; Gaurav Bhattacharjee (गौरव भट्टाचारजी)
Cc: ms-nerpc@gov.in; kb.jagtap@gov.in; nerpc@ymail.com; Amaresh Mallick (अमरेश मल्लिक); S P Barnwal (एस पी बर्नवाल); Saugato Mondal (सौगाता मंडल); T Bheemesh (टी. भीमेश); Gargi Dutta (गार्गी दत्ता); Neeraj Kumar (नीरज कुमार)
Subject: RE: Submission of Scanned Copies of Part A DPR (ULDC Phase-III SCADA/EMS Upgradation of NER States) & Part B DPR (Construction of Backup SLDC)

Sir,

Kindly upload Part B DPR (Construction of Backup SLDC) on given PSDF portal

https://psdf.grid-india.in/

Regards

NLDC-PSDF-Secretariat,
Grid Controller of India Limited (Grid-India),
(formerly known as POSOCO)

From: NERLDC SCADA
Sent: 19 August 2024 17:25
To: PSDF <psdf@grid-india.in>
Cc: ms-nerpc@gov.in; kb.jagtap@gov.in; nerpc@ymail.com; Amaresh Mallick (अमरेश मल्लिक) <amareshmallick@grid-india.in>; S P Barnwal (एस पी बर्नवाल) <spbarnwal@grid-india.in>; Saugato Mondal (सौगाता मंडल) <saugato@grid-india.in>; T Bheemesh (टी. भीमेश) <tbheemesh@grid-india.in>; Gargi Dutta (गार्गी दत्ता) <gargi@grid-india.in>; NERLDC SCADA <nerldc.scada@grid-india.in>
Subject: Submission of Scanned Copies of Part A DPR (ULDC Phase-III SCADA/EMS Upgradation of NER States) & Part B DPR (Construction of Backup SLDC)

आदरणीय महोदय/महोदया,
/ Respected Sir/Madam,

हमें आपको सूचित करते हुए प्रसन्नता हो रही है कि एनईआर राज्यों के भाग ए डीपीआर (यूएलडीसी चरण-III स्काडा/ईएमएस उन्नयन)

और एनईआर राज्यों के भाग बी डीपीआर (बैकअप एसएलडीसी का निर्माण) की स्कैन की गई प्रतियाँ एनईआरएलडीसी द्वारा साझा की जा रही हैं।

दस्तावेज़ों को निम्नलिखित गूगल ड्राइव लिंक के माध्यम से एक्सेस किए जा सकते हैं:
https://drive.google.com/drive/folders/1BVqhaXzmae7NEAZQrO1NFWZKn13EtLes?usp=sharing

इसके अतिरिक्त, हमें यह सूचित करना है कि सभी डीपीआर की कागज़ी
प्रतियां एनईआरपीसी द्वारा पहले ही समेकित तरीके से पीएसडीएफ सचिवालय को जमा कर दी गई हैं।

इस मामले में आपका ध्यान देने के लिए धन्यवाद। कृपया आपके संदर्भ और आवश्यक जानकारी के लिए।

We are pleased to inform you that the scanned copies of Part A DPR (ULDC Phase-III SCADA/EMS Upgradation of NER States) and Part B DPR (Construction of Backup SLDC) of NER States are being shared by NERLDC.

The documents can be accessed via the following Google Drive link:
https://drive.google.com/drive/folders/1BVqhaXzmae7NEAZQrO1NFWZKn13EtLes?usp=sharing

Additionally, we wish to inform you that all the hard copies of the DPRs have already been submitted by NERPC, in a consolidated manner to the PSDF secretariat.

Thank you for your attention to this matter. For your kind reference and needful please.

सादर / Regards,

गौरव भट्टाचार्य / Gaurav Bhattacharjee

एनईआरएलडीसी स्काडा टीम की ओर से / On behalf of NERLDC SCADA Team

Item Number	Item Name	Item Description	Item Quantity	Item unit Cost in Rupees including all [supply+erection+F&I+taxes etc]
1	Next Generation Security Information and Event Management (NG SIEM)	SOC Software Component	1	**14160000.00**
2	Security Orchestration, Automation and Response (SOAR)	SOC Software Component	1	**15930000.00**
3	Network Behaviour Anomaly Detection (NBAD)	SOC Software Component	1	**16638000.00**
4	User and Entity Behaviour Analytics (UEBA)	SOC Software Component	1	**14160000.00**
5	EDR for 25 end point devices	End point Security Solution	1	**2124000.00**
6	Servers	48 Core Gold Processor, 128 GB RAM, 4 x 3.84 TB NVMe SSD	2	**1752300.00**
7	SAN Storage	10 x 7.68TB SAS M2 SSD	1	**3388960.00**
8	Server Virtualization Software	VMware vSphere Standard - 3-Year Prepaid Commit - Per Core	96	**23364.00**
9	Windows Server 2022 Standard	Server Operating System	4	**100300.00**
10	Microsoft SQL Server 2022 Standard	Database Server	4	**103840.00**
11	Additional Storage Array for log retention (NAS)	NAS : 32 GB RAM, 10TB Usable Space	1	**2832000.00**
12	Network Firewall	Next Generation Firewall UTM	2	**3045462.00**
13	Network Switch	Managed Gigabit Network Switch	2	**569940.00**
14	Associated peripheral like Smart Server Rack, Switches, UPS, mounting & Patch panels etc	Smart Rack and required accessories and Vertiv 10KVA Online UPS with 30 mnts Backup	1	**8118400.00**
15	52-inch Video Wall with CPU	Video wall with controller for real time monitoring	4	**129800.00**
16	24x7 Workstation Computer	Work Station with 32GB RAM, Core i9 or equivalent processor, 512 SSD	4	**159300.00**
17	Face recognition Biometric Access Control System	Face Recognition Device CPU: 1.2G Dual-Core, RAM: 256M DDR3L, Camera: Real Sensor 1/2.9 inch FOV HD Camera with WDR wide dynamic Sensor, Face Capacity: 5,000, Log Capacity: 500,000	1	**76700.00**
18	SOC room setup	Surveillance System, Comfort AC, Fire Extinguishers, Computer desks and Chairs, Video Wall mounting, Electrical and LAN wiring, room colouring etc.	1	**885000.00**
19	L1 Resource Cost (Cost per month for 1 Resource)	Manpower Cost for 24 x 7 Monitoring	60	**182900.00**
20	L2 Resource Cost (Cost per month for 1 Resource)	Manpower Cost for 24 x 7 Monitoring	60	**277890.00**
21	L3 Resource Cost (Cost per month for 1 Resource)	Manpower Cost for 24 x 7 Monitoring	60	**372682.94**
22	Installation & Configuration	Installation, Testing and Commissioning of SOC	1	**5569387.60**
23	Training & Handholding	Training & Handholding to the SLDC Engineers	1	**1838812.88**
24	Comprehensive AMC for 5 years	Comprehensive AMC of all IT equipment with parts for 5 years from the date of Go Live	5	**7274620.70**
25	ISO 27001 Audit for SLDC (along with manpower cost associate)	Audit and ISO Certification of SOC (Gap Analysis, Risk Assessment, Controls Evaluation, Compliance Verification, Document Review, Testing & Validation, Reporting & Recommendations)	1	**4158532.40**

Annexure C 3.6

CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 30.08.2024)

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
1	Preparation and approval of Cyber Crisis Management Plan (CCMP) for SLDCs	Final CCMP approved by CERT-In. Rev-1 to be issued after incorporation of the comments from CERT-GO.	Final CCMP approved by CERT-In. 3rd Revised version of CCMP issued on 14-09-22 and approved by CERT-In.	Final CCMP approved by CERT-In. 2nd Revision under progress	Final CCMP approved by CERT-In. Revision under process.	Final CCMP approved by CERT-In. Revision under process.	Final CCMP approved by CERT-In.	Final CCMP approved by CERT-In.
2	Implementation status of Information Security Management System (ISMS) i.e., ISO 27001 and certification audit for ISO-27001	Implemented. Arunachal SLDC received certification for ISMS (ISO 27001:2013) on 19.09.2023. Rev1 dtd. 06.10.2023. Expiry of certificate 31.10.2025.	Implemented. Assam SLDC has received certification for ISMS (ISO 27001: 2013) on 09.07.22. 1st Surveillance Audit has been carried out in 4th July'23. Report received and Certificate of First Surveillance Audit received on 08.07.2023. 2nd Surveullance audit conducted, reports expected within 07.09.2024	Final stage of implementation. Surveillance audit planned in Oct 2024.	Implemented. Meghalaya SLDC has received certification for ISMS (ISO 27001: 2013) on 08.07.22. 1st Surveillance Audit has been carried out in June'23 and certificate received.. Certification validity extended up to 8.07.2024.	ISO 27001 stage 1 audit completed. Certification in progress.	Implemented. Nagaland SLDC has received certification for ISMS (ISO 27001: 2013) on 01.06.23.	Certification for ISO/IEC 27001:2013 compliant ISMS for Tripura SLDC, TPTL received from STQC on 26.04.2023
3	Status of VA-PT on OT systems	Done for FY 23-24.	Done for FY 23-24	Done for FY 23-24.	OT audit completed on January 2024.	Done for FY 23-24.	Done for FY 23-24	Done for FY 23-24.
	i) Date of Last VA-PT (OT):	06/02/2024 to 08/02/2024	13-05-2024-14.05.2024	17/01/2024-17/01/2024	45322	23-01-2024	10th Jan' 2024 - 13th Jan' 2024	31-01-2024
	Submission of latest VA-PT report carried out on OT systems of SLDC for onward submission to MoP	Reports Received and will be submitted	Reports received; shall be submitted to MoP	Reports received and will be sumitted for onward submission to MoP very soon.	Reports received and will be submitted to MoP	Submitted on 25/6/2024	Reports received and sumitted for onward submission to MoP.	Reports received on 22-04-2024 and sumitted for onward submission to MoP.
	ii) Due date for Next Audit / Plan for next audit (OT) :	09-02-2025	01-02-2025	01-01-2025	01-01-2025	01-10-2024	Jan' - Feb' 2025	January 2025
4	Status of VA-PT on IT systems (**to be done once in every six months**)	VAPT of SAMAST carried out on 9th to 12th July 2024.	done on 28-06-2024	Phase -1 of VAPT for IT systems has been completed. Phase -2 completed for web application. But Phase-2 final report pending for network devices and workstations	Last VAPT completed in August 2024(08/08/24 to 14/08/24) When the reports are received the mitigation will be carried out.	VAPT completed on Jan' 24	VAPT on IT Systems done in August 2024	Done in 2023. Reports recieved from CDAC
5	Notification of identified systems at SLDCs as Critical Information Infrastructure (CII)	NCIIPC has reverted the application seeking some more informations i/c Details ofnewly launched SAMAST Scheme.	Identified Systems of SLDC, Assam had been declared as CII by NCIIPC on 10.06.2022. Notification of CII as Protected Systems has been issued by State Govt. on 11.08.2023.	All the queries have been answered and incorporated in document. As per communication with NCIIPC Kolkatta, the approval is pending at NCIIPC headquarters.	Identified Systems of SLDC, Meghalaya had been declared as CII by NCIIPC on 31.12.2021. Notification of CII as Protected Systems has been issued by State Govt. on 18.04.2022.	Latest revision of CII document was submitted to NCIIPC (East Zone) on 26/4/2024. Coordinator East Zone has stated that the document has been forwarded to their HQ.	Identified Systems of SLDC, Nagaland had been declared as CII by NCIIPC on 31.12.21. Notification of CII as Protected Systems still pending with the State Govt. Since January 2021.	The CII has been submitted in final shape with due consultation of NCIIPC. Approval is awaited.
6	Date of last Risk Assessment by NCIIPC (once in every 2 years):	Not done	Not done	Not done	Not done	Not done	Not done	Not done
7	Compliance of advisories from CERT-In, NCIIPC & other statutory agencies.	Being complied for OT	Being complied	Being complied	Being complied	Complied	Being complied	Being complied
i	To be updated in Portal for monthly complaince by 10th of every month.	Not updated in the portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal
ii	For CERT-In weekly advisories to be complied within 5 days: To be uploaded in the portal after completion.	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal
ii	Compliance of advisories from Cyber Swachhta Kendra (CSK)	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	No new alerts.
8	Compliance of Recommendations of CERT-GO as per SLDC Maturity Model assessment:					Complied		
9	Status of Nomination of CISO:	Done	Done	Done	Done	Done	Done	Done
	Alternate CISO (if any):	Not Done.	Yes	Yes	Yes	Yes	Yes	Yes
10	Cyber Security Certification: (Training attended)	No	Yes. Basic level training and certification on Cyber Security for Power Sector Professionals completed by 7 officers.	Yes. (2 Officials) *1 Officials trained in Basic Level Training and Cyber security Program on Cyber Security * 1 official trained in	Yes. (11 officials undergone Basic level certification course from NPTI)	Yes (9 Official trained in Two Weeks Basic Level Training and Certification Program on Cyber Security)	1 Official trained for Basic Level Certification Course in Sep 2023.	Yes. 1 Official (Attended by Alternate CISO)
11	IT - OT Integration:	Present between SCADA and SAMAST	Present between SAMAST and SCADA	Present Between SAMAST and SCADA * Between SCADA and website	Present between SAMAST and SCADA. As discussed with NCIIPC during ISSC meeting, the same will be discontinued.	Integration done for SAMAST and ADMS systems.	Present between SAMAST anmd SCADA	Not present
12	SOC Implementation status:	DPR under preparation	Draft DPR prepared and submitted to BoD for approval	Under discusson with the Management.	Under discussion with Management. (However, main concerns are regarding AMC funding and manpower.)	Under cosideration	Discussed with the Head Management and may agree on the condition 100% AMC is funded.	

Additional Communication Scheme (by ULDC-NERTS) approved in 17th TCC/RPC

Sl. No.	Name of the link	From (A-end)	To (B-end)	Length of OPGW	Status as in 28th NETeST Meeting (only blank cells needs to be filled)									Status as in 29th NETeST Meeting (only blank cells needs to be filled)								
					OPGW Status	Approach cable between Gantry and FODB status (A-end)	FOTE Status (A-end)	DCPS Status (A-end)	Interpatching with existing FOTE A-end (If any)	Approach cable between Gantry and FODB status (B-end)	FOTE Status (B-end)	DCPS Status (B-end)	Interpatching with existing FOTE B-end (If any)	OPGW Status	Approach cable between Gantry and FODB status (A-end)	FOTE Status (A-end)	DCPS Status (A-end)	Interpatching with existing FOTE A-end (If any)	Approach cable between Gantry and FODB status (B-end)	FOTE Status (B-end)	DCPS Status (B-end)	Interpatching with existing FOTE B-end (If any)
1	132 kV Silchar - Hailakandi (Part of line)	Silchar	Hailakandi	17 KM	Completed									Completed								
2	132 kV Roing – Pasighat	Roing	Pasighat	103 KM	101/103		Completed		Done		Completed			101/103		Completed		Done		Completed		
3	132 kV Roing – Tezu	Roing	Tezu	73 KM	Completed	Completed	Completed		Done	Completed	Completed			Completed	Completed	Completed		Done	Completed	Completed		
4	132 kV Tezu – Namsai	Tezu	Namsai	96 KM	Completed	Completed	Completed			Completed	Completed			Completed	Completed	Completed			Completed	Completed		
5	132 kV Tuirial – Kolasib	Tuirial	Kolasib	44 kM	Material Delivered				Material Delivered					Material Delivered				Material Delivered				
6	400 kV Balipara – Kameng	Balipara	Kameng	75 KM	Completed	Completed	Completed		Done	Completed	Completed		Done	Completed	Completed	Completed		Done	Completed	Completed		Done
7	400 kV Bongaigoan – Killing (Brynihat)	Bongaigoan	Killing	200 KM	Completed		Completed				Completed			Completed		Completed				Completed		
8	400 kV Silchar – Killing (Brynihat)	Silchar	Killing	217 KM	126/217 kM completed									126/217 kM completed								

Annexure C 3.10B

List of Links to be implemented for replacement of old FO under Reliable Communication Scheme in NER region

SN	Name of Link	FROM	TO	KM	28th NETeST (only blank cells needs update)								
		A -end	B- end		OPGW Status	Approach cable between Gantry and FODB (A-end)	FOTE Status at A end	DCPS Status at A end	Interpatching with existing FOTE at A end (if any)	Approach cable between Gantry and FODB (B-end)	FOTE Status at B end	DCPS Status at B end	Interpatching with existing FOTE at B end (if any)
1	NEHU-Shillong UNDER GROUND FO	NEHU	Shillong UNDER GROUND FO	6.23									
2	Khliehriat(MESEB)-Khliehriat(PGCIL)	Khliehriat(MESEB)	Khliehriat(PGCIL)	7.791									
3	Khliehriat-Khandong(PGCIL)	Khliehriat	Khandong(PGCIL)	40.99									
4	Khandong(PGCIL)-Kopili(PGCIL)	Khandong(PGCIL)	Kopili(PGCIL)	11.191	1.3 kM completed. WIP								
5	Misa(PGCIL)-Kopili(PGCIL)	Misa(PGCIL)	Kopili(PGCIL)	73.186	Completed	completed	Completed			Completed	Completed		Completed
6	Misa(PGCIL)-Balipara(PGCIL)	Misa(PGCIL)	Balipara(PGCIL)	94.046	Completed	Completed	Completed			Completed	Completed		
7	Misa(PGCIL)-Dimapur(PGCIL)	Misa(PGCIL)	Dimapur(PGCIL)	119.192	Completed	completed	Completed			Completed	Completed		
8	Badarpur(PGCIL)-Khliehriat(PGCIL)	Badarpur(PGCIL)	Khliehriat(PGCIL)	73.183									
9	Badarpur(PGCIL)-Kumarghat(PGCIL)	Badarpur(PGCIL)	Kumarghat(PGCIL)	117.519	43 kM completed.WIP								
10	Agartala Gas(PGCIL)-Kumarghat(PGCIL)	Agartala Gas(PGCIL)	Kumarghat(PGCIL)	99.817									
11	Agartala(PGCIL)-Agartala Gas(PGCIL)	Agartala(PGCIL)	Agartala Gas(PGCIL)	7.416									
12	Dimapur (PGCIL)-Kohima(PGCIL)	Dimapur (PGCIL)	Kohima(PGCIL)	59.8									
13	Kohima(NAG)-Imphal(PGCIL)	Kohima(NAG)	Imphal(PGCIL)	105.64									
				816.001									

List of Links to be implemented new under Reliable Communication Scheme in NER region