



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
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No. NERPC/SE (O)/NETeST/2020/ **4325-4362**

Dated: February 10, 2021

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
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 (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
15. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, Dongtich-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. GM, NERLDC, Dongtich, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 19th NETeST Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 19th NETeST Meeting held at “Hotel Nandan, Guwahati” on the **20th January, 2021** for your kind information and necessary action. The minute is also available on the website of NERPC, **www.nerpc.nic.in**.

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

Encl: As above

भवदीय / Yours faithfully,

बि. लिं गखोइ / B. Lyngkhoi

निदेशक / **Director/ SE**

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.



निदेशक / Director/ SE

North Eastern Regional Power Committee

MINUTES OF THE 19th NER Telecommunication, SCADA & Telemetry

(NE-TeST) COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 20/01/2021 (Wednesday)
Time : 10:30 hrs
Venue : “Hotel Nandan”, Guwahati.

The List of Participants in the 19th NETeST Meeting is attached at ***Annexure-I***.

Member Secretary, NERPC welcomed the participants to the 19th NETeST meeting of NERPC. He noted the participation of all utilities except Mizoram and NTPC. Further he thanked all the members for their participation in this prevalent pandemic situation. Member Secretary, NERPC informed the forum of the transfer of Sh. M.K. Ramesh, Sr.GM(SL), NERPC to SRLDC. Thereafter the forum thanked Sh M.K. Ramesh for his contribution for improvement in power communication scenario in NER and felicitated him.

Thereafter Member Secretary, NERPC requested Sh B. Lyngkhoi, Director(O&P), NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF THE 18th MEETING OF “NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)” SUB COMMITTEE OF NERPC.

Deputy Director, NERPC informed that minutes of the 18th NETeST Meeting held on 26th September, 2020 at Shillong were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2020/1509-1545 dated 4th November, 2020.

The following comments were received from NERLDC against various items of the 18th NETeST meeting:

B.2 Communication availability of NER

The following was recorded in the minutes of the 18th NETeST meeting:

DD, NERPC requested NERLDC and all SLDCs to calculate the data availability according to the recommendation of the Special Committee held on 18th August,2020.

ED, NERLDC opined that NERLDC is not agreeing to the change of calculation in data availability and the recommendations of Special Committee.

DGM, NEEPCO informed the forum that NEEPCO is having offload tap changer in ICT and most of the station is not having OLTC panel causing difficulty in reporting OLTC data to RLDC online. He also highlighted the fact that OLTC tap changing operation rarely happen and it is monitored in OCC forum. So, providing real time for OLTC considering the constraints is not required as it is being provided offline.

Further there has not been any instruction from NERLDC in last few decades to operate OLTC online to compensate MVAR or voltage control. However, whenever required, it was operated offline. Accordingly, whenever operated, the tap position will be intimated to RLDC.

AGM(Communications), AEGCL informed the forum that in 9th NETeST meeting deliberations under Agenda item B.6 it was already discussed that under CERC regulation only ISTS links will be monitored for Communication Availability at Regional level. He also concurred with the decisions of the Special Meeting held on 18th August,2020.

MePTCL and TSECL representative informed the forum that even if isolators are closed manually the state estimator can be run which has been confirmed by M/s GE. The forum noted that data points like OLTC have not been neglected for System Operation as per new methodology. It has been included albeit indirectly, due to extremely rare instances of operation.

Member Secretary(I/C), NERPC informed the forum that the committee formed by Member Secretary had looked into all aspect in details and had given its recommendation within the ambit of regulation and keeping in view the difficulty faced by the constituents. It was highly inappropriate on part of NERLDC to refuse to participate in the Sub –committee as CERC/Court has not directed for any non-participation by RLDC for resolving issues before hand. He informed the forum that the recommendation must be implemented and NERLDC, SLDCs to calculate data

availability accordingly. Hence, all previous Communication availability data may be taken as reference purpose only.

Remarks from NERLDC for Amendment:

Quote

“ED, NERLDC opined that NERLDC is not agreeing to the change of calculation in data availability and the recommendations of special committee.”

Unquote

It was conveyed that all the parameters such as MW, MVAR, Tap-position status, Isolator Status Circuit Breaker status, etc. are required for real-time grid operation for many purposes like MVAR management, Voltage Control Black-start exercises, State Estimation and other EMS applications, etc. Only the ISTS end data will not suffice and hence the regulations and standards have been framed by CERC and CEA accordingly after considering the requirements of Load Despatch Centers. It was also acknowledged by NERLDC that providing real-time data of all such points immediately may be a concern for the NER constituents but a gradual approach for improvement needs to be adopted instead of manipulating the calculations as removing the isolators and Tap-Positions for time being also will serve no purpose and the same is not appropriate as it will reflect an incorrect picture of the ground reality. It was also mentioned that even after removing the Tap-Positions and isolators, there is not much improvement in the telemetry % availability as verified by NERLDC. NERLDC is not empowered to change the telemetry % availability as it is essential for grid operation purposes and any modifications will misguide the senior management of NER constituents and reflect a pseudo scenario of improvement. This aspect may please be suitably included in the Minutes of Meeting.

Quote

“It was highly inappropriate on the part of NERLDC to refuse to participate in the sub-committee as CERC/Court has not directed for any non-participation by RLDC for resolving issues before hand.....”

Unquote

It was humbly submitted in the 18th NETeST meeting that the reasons of non-participation in the meeting on 18th August 2020 along with the relevant inputs related to calculation methodology, supporting regulation and standards, etc. were explained in-person by NERLDC to MS-NERPC and Director (NERPC) on 06th- 07th August 2020 after which the letter was submitted corresponding to it. Moreover, it was

also stated that it has been the only meeting hosted by NERPC since last many years which was not attended by NERLDC and that too on some grounds which were prior informed to NERPC. The same can be referred with the attendance records of participation of NERLDC in the various meetings being conducted by NERPC. This aspect may please be suitably included in the Minutes of Meeting.

Moreover, the agenda of the meeting held on 18th August 2020 included just discussions on calculation methodology for which points from NERLDC side were given well in advance and no issues of data-availability improvement was part of the meeting. The complete minutes of aforesaid meeting were not shared with NERLDC, but only a small extract of the minutes was included as part of agenda referred above. There has been no intimation/response/record notes given by the sub-group on the points which were submitted by NERLDC vide letter dated 10th August 2020.

Quote

“..... all previous communication availability data may be taken for reference purpose only.”

Unquote

There has been no “communication availability data” put up by NERLDC or any other constituents in the NETeST forums which has been recorded in Minutes of Meeting as “to be taken for reference purposes only”. As per the information available with NERLDC, the same is under the responsibility of NPC/RPC itself as per regulation 7.3 of Central Electricity Regulatory Commission (Communication System for Inter-State transmission of electricity) Regulations, 2017 which got into effect from 01-07-2017-

Quote

- (i) NPC shall be responsible for issuance of the guidelines with the approval of the commission on “Availability of Communication System “in consultation with RPCs, RLDCs, CTU, CEA and other stakeholders within a period of two months from the date of notification of these regulations.
- (ii) The RPC Secretariat shall certify the availability of communication equipment for CTU, ISGS, RLDCs, NLDC, SLDCs based on the data furnished by RLDC.

Quote

“MePTCL and TSECL representative informed the forum that even if isolators are closed manually the state estimator can be run which has been confirmed by M/s GE”

Unquote

It was conveyed by MePTCL and TSECL that the State-Estimation can be run by manually closing the isolators at state-level for time being (which has been verbally consulted with GE but not implemented yet) till the SCADA data is available by establishing the necessary infrastructure. NERLDC stated that the switching arrangements of thousands of isolators cannot be manually replaced at NERLDC level (as well as states also in real-time) as it is not practically feasible and also not recommended for State-Estimation in real-time scenario. This aspect may be suitably included in the Minutes-of-Meeting.

The Sub-committee confirmed the minutes of the 18th NETeST Meeting with no modifications as comments/observations from NERLDC were not agreeable by the constituents.

A.1 Status of FO works under different projects:

The current status as updated during the 19th NETeST are as follows:

Deliberation in the meeting

Project	States	Current Status	Comments/ Issues
MW Vacation & OPGW Project		Completed except 1 links. (Zemabawk2 end of Zemabawk2-Aizawl- Front not ready) Target Nov2020.	Completed and data is reporting. Zemabawk-II is the first station of Mizoram to report over FO link. The Forum extended appreciation to NERTS and PE&D Mizoram.
NER FO Expansion	Tripura	132kV Palatana - Udaipur	Completed and is data reporting.
		132kV Udaipur - Rokhia (GTP)	
		66kV Udaipur - Gumti HEP	
		66kV Gumti HEP - Amarpur.	

		132kV Rokhia - Surjamani Nagar	Construction of Transmission Line and associated OPGW is still under progress. Tentative target for completion given by TSECL is March 2021 .
		132kV Surjamani Nagar - Monarchak (NEEPCO)	
	Meghalaya	132kV NEHU - NEIGRIHMS	TCIL to start work soon. All necessary diversion of traffic may be taken care of while shutdown of the link. Target: March 2021 .
	Mizoram	Aizawl – Zemabawk I	Stringing work is under progress. Target: March 2021 .
	Nagaland	132kV Kohima - Wokha	Equipment at Kohima is commissioned. Equipment commissioning at Wokha is pending. Target: Feb. 2021 .
		132kv Kohima (132kV) - Kohima (220kV)	The scope now lies with NERPSIP for completion of line and OPGW. ▪ Agenda may be dropped for time being as monitoring of NERPSIP projects is being done directly from MoP level also.
		132kV Doyang-Sanis	Target: March 2021. (OPGW) In addition, DoP, Nagaland has issued PO for PLCC installation to ABB.

In addition to the above links the updated status of the links are given below:

	Link Name(Scope: NERTS)	Remarks
1	400kV Bongaigaon (PG) - 220kV Salakati - 220kV BTPS	Target completion is March/April 2021. Work started along Silchar-Pilatana.
2	400kV Mirza (Azara) – Byrnihat	
3	400kV Silchar – Palatana	
4	132kV Pare – Chimpu	
5	132kV P.K. Bari (TSECL) – Kumarghat(PG)	NERTS informed that P.K. Bari (TSECL) is connected to Kumarghat (PG) over OPGW.

		NERTS to remove LILO of (fiber) Palatana – Silchar at P.K. Bari. Forum requested TSECL to connect P.K. Bari over Fiber-Optic network.(PDH pending)
6	132kV Jiribam (PG) - Loktak (NHPC)	Completed and data is reporting.
Manipur State Sector		
1	132kV Imphal (State) – Karong	The line is under diversion by MSPCL. MSPCL will submit the tentative target of completion of diversion work by 29th January, 2021 to NERPC with a copy to NERLDC.
2	132kV Yaingangpokpi – Hundung	Completed and data is reporting.
3	132kV Loktak (NHPC) – Rengpang	
4	132kV Jiribam - Jiribam (State)	

NERTS to do the data migration from GPRS to OPGW in all stations where RTU is reporting over GPRS under EMS SCADA upgradation project.

The Sub-committee noted as above.

Action: State Utilities, NERTS, NERPC.

B. NEW ITEMS

B.1 Strengthening of PLCC System by NER States:

In 18th NETeST meeting Director, NERPC requested states to update the progress on strengthening of PLCC systems. The summary of discussion is mentioned below:

S N	States	Current Status
1.	Meghalaya	Digital PLCC project under PSDF completed. Almost all stations are having PLCC backup. Installation of Data-Concentrator at Mawlai Station delayed due to COVID-19.
2.	Tripura	Proposal for PLCC links for all important stations through PSDF funding. EE, NERPC requested TSECL to give the PLCC Scheme to the committee for concurrence. Based on that they can place the DPR to NLDC for PSDF funding.

3.	Manipur	Approval for PLCC strengthening proposal is pending.
4.	Nagaland	PLCC installation work completed. Commissioning delayed due to COVID-19.

All new Utilities as are being connecting in NER grid like KMTL, STERLITE etc., are also requested to keep a redundant path of data through PLCC wherever feasible.

Deliberation in the meeting

S N	States	Current Status
1.	Meghalaya	Digital PLCC project under PSDF completed. Necessary data and voice are also integrated with PLCC. Voice integration of generating stations is pending, which will be taken by Meghalaya in coming days.
2.	Tripura	Tripura will submit the proposed scheme of PLCC by 29th January 2021 to NERPC via email or letter which will be discussed further in coming NETeST forum.
3.	Manipur	Approval for PLCC strengthening proposal is pending with higher authorities of MSPCL. Manipur will submit latest status of PLCC by 29th January 2021 to NERPC.
4.	Nagaland	<p>Nagaland informed the forum that PLCC at proposed station is already installed. But ABB is not visiting the state even after continuous persuasion of DoP, Nagaland. NERPC and NERTS decided to extend help to bring ABB to the state for early completion of the PLCC links.</p> <p>Forum requested Nagaland to submit the DPR of reliable communication scheme so that same can be studied and necessary modification can be suggested to DoP, Nagaland.</p> <p>NERPC also informed that since DoP, Nagaland is going for R&U of 66 kV stations, they can think for inclusion of PLCC wherever PLCC is not present.</p> <p>DoP-Nagaland agreed to submit DPR to NERPC by 29th January 2021.</p>

The Sub-Committee noted as above.

Action: All State Utilities & NERPC.

B.2 Status of URTDSM

The status on various issues related to URTDSM and other PMU related matters needs to be updated to the forum as listed below:

AEGCL:

- PMU in Agia station is not reporting to Assam-SLDC due to SAS upgradation activities.

NERTS:

- Installation of pending analytical application: 1 analytical application for Control schemes for improving system security is still pending. NERTS mentioned that it will take up the matter with NR-1 RHQ team of POWERGRID.

Deliberation in the meeting

Update regarding various issues related to URTDSM is listed below:

AEGCL: AEGCL informed the forum that all necessary cable-laying and termination related work for SAS upgrade is completed. But M/s ERL, vendor, is not coming for commissioning of BCUs and gateways. AGECL has written to M/s ERL number of times but M/s ERL is not responding at all. Thus, AEGCL has decided to re-tender the commissioning related work, which will take another two months of time.

NERTS: NERLDC informed that the forum that IIT Bombay is working on the application and will deploy a prototype of it either in WRLDC or NLDC within two (02) months for monitoring and observations on its functionality. After which its further deployment in rest of associated LDCs will be done.

The Sub-Committee noted as above.

Action: NERTS. & AEGCL.

B.3 GPRS connectivity for Substations and Leased line for SLDC:

Many stations which are still working on GPRS for real-time data transfer are: –

Tripura: PK Bari, Dharmanagar, Gamitilla, Ambassa, Rabindranagar, Satchand, Belonia, Bogafa and Amarpur (Note: These configured stations are not reporting consistently at NERLDC)

Manipur: Tipaimukh and Jiribam (Note: These configured stations are not reporting consistently at NERLDC)

Nagaland: Nagarjan, Mokokchung, Kohima and Powerhouse (Note: These configured stations are not reporting consistently at NERLDC)

Mizoram: Luangmual and Zuangtui (Note: These configured stations are not reporting consistently at NERLDC)

As per the Technical Standards for Communication System released in 2020 by CEA, the following major points need to be followed –

- Cellular communication may be used for data acquisition system, where feasibility of access to wideband network is not possible.
- Cellular communication shall be adopted after ensuring the available signal level up to the required strength and dual or more Subscriber Identification Module (SIM) with different service provider with automatic changeover to ensure 99.5 per cent link availability for interruption free operation of the communication system.
- Router shall be capable of handling Virtual Private Network (VPN) based security by assuming a fixed IP issued by the Multi Wide Area Network Virtual Private Network (WAN VPN) concentrator at the supervisory control and data acquisition (SCADA) end.
- Device shall have capability to decide and act according to the best available link in redundant mode configuration with automatic switch over.
- Design shall be for satisfactory and continuous operation in open environment with operating temperature range of -10 deg. C to 55 deg. C and humidity up to 95 per cent. Non-condensing.
- Other technical and cyber security compliances.

NERLDC request all the constituents using GPRS or other cellular communication technologies to please submit compliance on the above-mentioned regulations.

Deliberation in the meeting

The forum requested NERTS to shift the data transmission over OPGW from GPRS as soon as stringing is complete and end equipment are commissioned. The forum also requested TSECL to cover those stations which are not been included under NERFO in the reliable communication scheme for Tripura.

The Sub-Committee noted as above.

Action: P&ED Mizoram, DoP Nagaland, DoP AP, TSECL and NERTS.

B.4 Selected cases of sub-stations for rectification of corresponding data/communication related issues:

Utility	Station	Latest Status/ Issues
NEEPCO	Ranganadi-2nd channel	BNC link completed. NEEPCO to connect PLCC link up to BNC wide-band node.
NTPC	BgTPP	No VOIP at unit control room (3 no.) NTPC to extend telephone inside their premise and discuss with NERTS (for any port) and get it done. NTPC had given assurance in 18th NETeST that it will be completed soon.
OTPC	Palatana	OTPC to ensure 2nd channel up to next wide band node (Silchar) through PLCC as discussed in earlier NETeST. For configuration of 2nd port of RTU, OTPC will take up with BHEL.
NHPC	Loktak	RTU procurement underway.

Deliberation in the meeting

Utility	Station	Latest Status/ Issues
NEEPCO	Ranganadi-2nd channel	Target: 15 th February, 2021.
NTPC	BgTPP	Communication till unit control room was extended in the month of October 2020 with help of NERTS, NERLDC.(two (02) nos. of phones givento BGTPP). BgTPP has given 29th January 2021 as target date over phone to NERLDC.
OTPC	Palatana	2nd channel up and running as on 15.01.2021.
NHPC	Loktak	Completed.

The Sub-Committee noted as above.***Action: All utilities.***

B.5 VSAT For Roing Tezu Namsai:

In the 18th NETeST meeting, NERTS mentioned that after repeated extension of bid and persuasion, with help & intervention of NERPC (matter taken up with highest authority of bidder), the party has ultimately quoted in bid floated. Earlier, the party mentioned various reasons due to COVID19, difficulty faced in NER and bids were extended multiple times. The same will be evaluated soon for LOA placement. Target for award is Nov'20. Completion by 4 months w.r.t LOA (as per party).

Deliberation in the meeting

LoA was placed in the month of January, 2021. NERTS has given timeline for completion by May, 2021.

The Sub-Committee noted as above.

Action: NERTS.

B.6 Integration of Dikshi HEP real time data and pending Voice communication:

M/s Devi Energies Private Limited informed that purchase-order was placed for PLCC equipment to be placed in Dikshi, Tenga and Balipara (PG) stations but it delayed due to COVID-19 pandemic situations.

NERLDC apprised the forum that M/s Devi Energies Private Limited informed NERLDC via letter as attached Annexure-B.12 (of 17th NETeST meeting MoM) that they would install Session Initiated Phones (SIP) for establishing voice-communication between Dikshi/Tenga and Arunachal Pradesh-SLDC until the PLCC equipment is commissioned.

Deliberation in the meeting

SE(SO&PSC), DoP, AP informed the forum regarding Non-compliance (by M/s Devi Energies Private Limited) of undertakings, discussions and various requests made from NERPC forum. He requested NERPC to intervene in the matter for early establishment of voice and PLCC for Tenga and Dikshi.

Further, it was deliberated that M/s Devi Energies should take proper maintenance of VSAT as irregularities in the link is being observed in last two (02) months. SIP phones are also not installed yet at Dikshi and Tenga even after continuous request made through NERPC forum.

The Sub-Committee noted as above.

Action: DoP, AP/NERLDC/NERPC.

B.7 Automatic Generation Control (AGC) in Indian Grid:

NERLDC informed the forum that as per the CERC order on AGC, all the ISTS stations need to get connected with NLDC for receiving AGC signals. The status is as follows:

Sl. No.	Station Name	Present Status
1.	BgTPP	AGC operational for Unit 1 & 3. For Unit #2 C&I works along with wiring to be done. By Nov'20
2.	AGBPP	Siemens requested for some data from DVR of each unit. Units are of Mitsubishi and BHEL/GE-make and require OEM visit. Have received offer from BHEL. Delayed due to COVID-19.
3.	Loktak	Purchase-order has been placed to Andritz Hydro. Target Date: By Oct. 2020.

Deliberation in the meeting

NERLDC informed the forum that as per the CERC order on AGC, all the ISTS stations need to get connected with NLDC for receiving AGC signals. The status is as follows:

Sl. No.	Station Name	Present Status
1.	BgTPP (Unit -2)	For Unit #2 C&I works along with wiring to be done. By Nov'20. NTPC representative absent.
2.	AGBPP	The forum requested NEEPCO to explore possibility of AGC implementation for BHEL/GE units and submit detailed plan to the forum.
3.	Loktak	Material has been received on site and associated Installation and commissioning activities will begin by February, 2021.

The Sub-Committee noted as above.

Action: All concerned utilities.

B.8 Status of RGMO to the Load Dispatch Centers:

NERLDC requested that all generating stations of NER needs to provide the RGMO related "ON/OFF" status to the SLDCs/NERLDC which is required for real-time grid operation as well as post-dispatch analysis.

In the 18th NETeST meeting, NTPC representative informed the forum that RGMO status of Unit 1 & 3 is going to NLDC through AGC line. NERLDC requested NTPC to extend the RGMO status of Unit 2 to NERLDC.

DGM, NEEPCO informed the forum that they require visit from OEM, BHEL and Mitsubishi. BHEL has not responded till now and visit by Mitsubishi Japan will take time due to COVID19.

Deliberation in the meeting

	Station Name	RGMO Status	FGMO Status
1.	Kameng (3 units)	Completed.	Completed
2.	Khandong (2 units)	Target date: March, 2021	Target date: March, 2021
3.	Kopili Extension (1 unit)	Target date: March, 2021	Target date: March, 2021
4.	Ranganadi (3 units)	Target date: NEEPCO will submit the target dates to NERPC with a copy to NERLDC for information purposes.	Target date: NEEPCO will submit the target dates to NERPC with a copy to NERLDC for information purposes.
5.	Pare (2 units)		
6.	AGBPP (9 units)		
7.	AGTCCPP (6 units)		
8.	OTPC (4 units)	Target date: May, 2021.	Target date: May, 2021.
9.	BgTPP (3 units)	BgTPP Representative was not present.	BgTPP Representative was not present.
10.	Loktak (3 units)	Target date: Will be done during integration of new RTU i.e. Feb'21.	Target date: Will be done during integration of new RTU i.e. Feb'21.

The NERLDC will share Input-Output (I/O) list related to RGMO and FGMO points to all power plants by February, 2021.

The Sub-Committee noted as above.

Action: NTPC, NEEPCO, NHPC & NERLDC.

B.9. Status of FSC in stations of NER:

NERLDC mentioned that the real-time ON-OFF status of FSCs in Balipara station is required for grid operation purposes.

NERTS requested NERLDC to provide a list of signals required from the site corresponding to FSC set-up and the same data will be configured and provided after

checking the requirement at the site (as per practice followed in the other region). The list of required points was provided by NERLDC to NERTS.

Deliberation in the meeting

NERTS informed that the matter is still under discussion with M/s Siemens and M/s GE T&D India Limited for tendering process which may take another two (02) months. The target dates will be shared once the vendor is finalized.

The Sub-Committee noted as above.

Action: NERTS.

B.10 Improvement of data availability of NER:

SN	Utility	Stations Not Reporting	Latest Status/ Issues
1	Assam		Impacted due to SAS upgradation work
2	Tripura	Dhalabil, Badarghat, Baramura, SM Nagar, BJ Nagar	Links completed. Voice and data configuration pending.
		Gumti, Amarpur, Rokhia	Nodes are now reporting.
		Sabroom, Satchand	Island FO link. Needs PLCC to bring data to WB location Udaipur.
		13 station not covered by NERFO expansion project	TSECL to submit action plan for remaining 13 stations.
3	Meghalaya		Proposal moved by MRT team for procurement of DI card. Matter of PSDF funding may be taken up with NERPC.
5	Manipur	Jiribam	To be shifted from GPRS to OPGW.
		Churachandpur, Kakching	Issues at communication panel to be rectified with help from NERTS.
		Tipamukh	NSK-5 Modem to be installed at Tipamukh for Tipaimukh-Jiribam PLCC link.
		Rengpang	Integration with OPGW pending

		Elangkokpki, Thoubal	Needs to be configured in SCADA database and RTU installation needs to be done.
6	Nagaland	Nagarjan, Kohima and Mokokchung	Shifting from GPRS/ BB to FO link pending.
		Wokha	RTU is not working.
		Sanis	RTU installed. DOP taken for PLCC
		Melrui	Proposal for RTU pending with higher management.
		PLCC	Status of project may be updated.
7	Mizoram	Luangmual,	Reporting partially over GPRS.
		Zuangtui	BSNL ISP will be installed at Mizoram-SLDC by 03rd July 2020.
		Kolasib	RTU delivered. Installation pending by NERTS. Delayed due to COVID-19.
		Saitual, Khawzawl, Champai, Serchhip, Lunglei	Entire station not modelled at SLDC.
8	Ar. Pradesh		Materials for VSAT received for 8 stations. Installation delayed due to COVID-19. Progress and target dates needs to be updated.

As recorded in the MoM of the 15th NETeST meeting and 16th NETeST meeting, some of the monitoring actions to be taken by NERPC are listed below –

- a. Team to be formed by NERPC for close monitoring of progress in SAS related works.
- b. Letter from NERPC to MD-AEGCL to expedite the completion of SAS works.
- c. Pursue the matter with higher authorities of AEGCL that the target-dates should be strictly followed by AEGCL.
- d. AEGCL to present the scheduled target-dates and present status of the work-progress in SAS upgradation of its stations. The issue has been reported by NERLDC to MD-AEGCL vide letter ref. NERLDC/SL/SCADA/Assam/Aug'20/385 dated 04th August 2020 with a copy to CGM (Assam, SLDC) but no reply has been received yet.

Deliberation in the meeting

It was agreed in the forum that the agenda may be titled as “Pending issues of State Utilities of NER”.

The forum requested NERLDC to present the improvement in telemetry statistics of all utilities of NER in NETeST forums without fail. NERLDC presented utility-wise data availability from the Aug’18 to Dec’20 in which there was an improvement in telemetry in NER. (35% in the month of Aug’18 and 60% in the month of Dec’20). The presentation is attached as Annexure.

Senior GM, NERLDC extended thanks and appreciation to all the utilities of NER for their team spirit with joint coordination and efforts in achieving it. Director (NERPC) also requested all the constituents to maintain this team-effort to bring continuous improvement in power system strengthening of NER.

The utility-wise discussion is tabulated below:

SN	Utility	Stations Not Reporting	Latest Status/ Issues
1	Assam	Impacted due to SAS upgradation work	AEGCL informed that the project is hampered as OEMs are not showing up at site for commissioning related activities. It was decided that NERPC will request Assam-SLDC to participate in the NETeST meetings.
2	Tripura	Dhalabil, Badarghat, Baramura, SM Nagar, BJ Nagar	P.K. Bari station is connected over FO network. NERTS to shift the RTU data from GPRS to FO network by February, 2021.
		Gumti, Amarpur, Rokhia	As NERPSIP project will take a longer duration to complete, TSECL will submit an interim plan for stations which don’t have any communication channel till yet but covered under NERPSIP.
		Sabroom, Satchand	
		13 station not covered by NERFO expansion project	Forum suggested shifting of GPRS modem from station where FO network or PLCC network is completed to the stations which are deprived of communication channel. TSECL submitted to the forum their proposed

			PLCC scheme and other action plan by 29 th January, 2021 to NERPC with a copy to NERLDC for information purposes.
3	Meghalaya	Procurement of DI cards	Meghalaya submitted to forum that necessary modifications are made in the proposal. After approval from higher authority will submit for PSDF Funding. MePTCL to submit target date for the same.
5	Manipur	Jiribam	All 12 nos. of stations completed and reporting to Manipur-SLDC and NERLDC after which Manipur is the first state of NER to have 100% RTU reporting (only installed RTU is considered).
		Churachandpur, Kakching	
		Tipamukh	
		Rengpang	
		Elangkokpki	MSPCL to inform about plan to procure RTU. NERLDC requested MSPCL to complete SCADA database in SLDC.
		Thoubal	The data of 400 kV Thoubal and 132 kV Thoubal will report from SCADA gateway (Siemens make) installed at the 400kV side. The communication links are available at the site. RTU is slated to be commissioned as part of reliable scheme. Target: February, 2021.
6	Nagaland	Nagarjan, Kohima and Mokokchung	DoP-Nagaland will submit the schedule for shifting related work by Jan'21 to NERPC with a copy to NERLDC for information purposes.
		Wokha	DoP-Nagaland to form a team comprising of DoP-Nagaland and M/s GE T&D India Limited to investigate and come up with exact issue of RTU. (Not reporting since 1 year)
		Sanis	RTU installed. FO link: Doyang-Sanis will undergo stringing and commissioning by March, 21. PLCC: ABB personnel are not visiting site for commissioning of the PLCC in Doyang-Sanis. As discussed, NERPC and NERTS will extend help

			to bring ABB for commissioning related activities.
		Melrui	DoP-Nagaland to provide the update status of the Meluri RTU through e-mail/letter by January'21 to NERPC.
7	Mizoram	Luangmual,	Absent.
		Zuangtui	
		Kolasib	
		Saitual, Khawzawl, Champai, Serchhip, Lunglei	
8	Ar. Pradesh	VSAT Installation	Chimpu, Daporizo, Along and Lekhi : Installtion Completed. Khupi, Tippi, Pasighat and Deomali: Installation Pending. Target: March, 2021. Daporizo: Due to fire incident Daporizo RTU is not reporting. RTU is in ok condition but MFT is required. NERTS to help DoP, AP in this regard.

NERTS expressed concern and requested through the forum that reporting of Palatana GBPP data over the Palatana S-M Nagar link should not be disturbed since OPGW installation for entire stretch of Palatana Silchar is yet to be completed. The forum requested NERPC to take suitable action in this regard.

NERTS requested NERPC to invite M/s Sterlite and M/s KMTL also to discuss the change in configurations and other modalities in view of the upcoming projects from respective company.

The Sub-Committee noted as above.

Action: All utilities.

B.11 Status of connecting Backup NERLDC (Guwahati) on ULDC network:

In the 18th NETeST meeting, NERTS informed the forum that tender documents etc., are sent to C&M and same is under tendering and tentative target is 3months.

Deliberation in the meeting

The forum deliberated that the matter is being taken up mutually between NERTS and NERLDC and the corresponding agenda can be dropped from NETeST forum.

The Sub-Committee noted as above.

Action: Agenda item may be dropped.

B.12. Feasibility to connect Lekhi substation over Fiber-Optic network:

In the 18th NETeST meeting, DGM, NERTS informed the forum that Equipment for Lekhi (new node) has been considered for amendment in NER FO Expansion Project (Equipment package) and amendment has already been issued to FIBCOM. The supply of equipment is also delayed due to COVID19 with target date as March, 2021.

Deliberation in the meeting

NERTS informed the forum that LoA for purchase of equipment is already placed but supply is hampered due to import restrictions imposed on China. As an interim arrangement, the spare equipment will be diverted to Lekhi which are expected to be delivered in few weeks. The tentative target date for completion of work is March, 2021.

The Sub-Committee noted as above.

Action: NERTS.

B.13 Status and details of Fiber Optic projects approved in 17th TCC/RPC meeting:

Two number of projects were approved in 17th TCC/RPC meeting held on 04th October 2016 at Imphal. The projects which were approved are listed below:

- a. Agenda no. A.11 of 17th RPC/TCC meeting, Additional Communication Scheme (755km)
- b. Agenda No. A.12 of 17th RPC/TCC meeting, Reliable Communication Scheme (2124 km - Central sector)

Status as per 18th NETeST meeting

- a. Additional Communication Scheme: Approximate target completion/Closing date is Dec2021 as projected keeping in view various insurmountable constraints.

- b. **Reliable Communication Scheme:** The project/package is yet to be awarded. Under tendering/Award stage. Delayed due to COVID19.

Deliberation in the meeting

- a. **Additional Communication Scheme:** NERTS informed the forum that stringing has started in Balipara-Kameng line under which around 32 kms stringing has been completed. **Taget: December 2021.**

- b. **Reliable Communication Scheme:** NERTS informed the forum that first tender got cancelled due to no participation in bidding process by any vendor; hence, the Corporate Centre of POWERGRID will do re-tendering for the project.

The Sub-Committee noted as above.

Action: NERTS.

B.14 Upgradation Activities of SCADA-EMS systems at Regional/State level in North Eastern Region:

The management of POSOCO has decided to provide consultancy at no-cost for the SLDCs to plan and execute the upgradation of SCADA/EMS systems which needs to be completed by 2024 as per the expiry of seven (07) years life-cycle (as per CERC guidelines) of existing Software/Hardware systems at respective Control Centre.

The Corporate Engineering department has prepared a Memorandum of Understanding with detailed responsibility matrix and the same is attached as **Annexure B14** for kind information and consideration by the SLDCs.

Deliberation in the meeting

Sr. General Manager (NERLDC) appraised the forum that corporate engineering department of POSOCO in New Delhi have decided to provide consultancy works regarding upgradation of SCADA/EMS systems in Load Despatch Centres of NER without any consultancy charges. The draft Technical Specifications for the upgradation works have also been prepared by CC-engineering team after rigorous discussions with various LDCs. The joint upgradation activities are very essential to maintain standardization and uniformity in the systems and bringing down the associated costs due to bulk order placement in the form of a bigger project of NER. Moreover, this approach avoids any integration related issues between LDCs and associated systems.

The draft MoU was explained in the forum and it was decided to keep it as agenda items in subsequent NETeST meetings.

The Sub-Committee noted as above.

Action: All Constituents.

B.15 Cyber Security aspects in SCADA/IT systems at Load Despatch Centres in North-Eastern region:

A meeting among RLDCs and NLDC headed by Corporate Chief Information Security Officer of POSOCO was held on 12th January 2021 on Webex Online Platform in which it was mentioned that the Intelligence Bureau (IB) is doing the audit of the IT Systems deployed in RLDCs/NLDC and has conveyed that all the Load Despatch Centres which are connected to the RLDCs and NLDC shall put efforts to keep the systems secure for any cyber threats.

The SLDCs and NERLDC are performing the mission critical functions of grid operation activities in North-Eastern region to ensure the smooth and reliable operation of the power system network. The SCADA/ EMS and IT systems deployed in the SLDCs are prone to cyber-attacks and all necessary precautions need to be taken for its cyber security.

As the SCADA and IT systems of SLDCs and NERLDC are working in an inter-connected manner in terms of various data/file exchanges related to real-time SCADA data, Web-scheduling, information dissemination through web-sites, intranet portals, etc.; hence, it is advisable to ensure that at least following checks and measures are in place from SLDCs side for cyber security purposes in the IT System.

- **Deployment of Firewalls with stringent policies.**
- **End-point security solutions for all devices.**
- **Vulnerability Assessment and Penetration Tests (VAPT) and its compliance on yearly basis.**
- **Patch Management for all software and devices incl. Operating Systems.**
- **Replacement of End-of-support products.**
- **SSL certificates for all web-hosted applications.**

Deliberation in the meeting

Sr. General Manager (NERLDC) informed the forum that NERLDC is conducting some online awareness-cum-training sessions on “Basics of SCADA and IT” from 3rd

February 2021 to 5th February 2021 which will cover necessary topics on SCADA and IT incl. cyber security; hence, requested all constituents of NER to attend the training program for which official letters have already been sent to all SLDCs.

The Sub-Committee noted as above.

Action: All Constituents.

B.16 Transition from 101 to 104 for MW Vacation assets:

In 173rd OCCM S.E., DoP Nagaland stated that the links which have been switched from MW Vacation to fiber still is on 101. He requested for the transition to 104 to be completed at the earliest. After detailed deliberation the forum referred the matter for discussion in the next NETeST meeting of NERPC.

Deliberation in the meeting

DGM, NERTS informed the forum that it is not compulsory to make transition from IEC-101 to IEC-104 protocols as both technologies are capable enough to telemeter data. But transition depends totally on the technical requirements from site to site and availability of Ethernet ports. He further stated that technical upgradation for equipment can be accommodated under as per ISMS norms. The conversion can be done on case to case basis and RTU changes can be done by M/S GE. Irrespective of 101 or 104, cyber security norms as applicable is to be complied by utilities.

Senior GM (NERLDC) emphasised that end equipment like firewall/Intrusion protection system is very important for all IEC-104 enabled stations. Moreover, all the new technologies and systems incl. VSAT are being designed to work on latest technology standard of IEC-104 itself.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.17 LILO of ULDC fibers at 132KV Karimganj (132 KV Badarpur-Kumarghat line):

With reference to the above, it is for your kind information that AEGCL is constructing a LILO line to 132 KV Karimganj substation from 132 KV Badarpur-Kumarghat line (PGCIL). As such ULDC fibers are required to be made LILO at 132KV Karimganj for fiber optic communication with OPGW and associated

equipment. Necessary SDH and Drop Insert multiplexer to connect Kumarghat substation and Badarpur substation with LILO 132KV

Karimganj Substation will be taken care by AEGCL. AEGCL shall also take care for minimum outage during splicing of the existing OPGW fibers.

With reference to the above AEGCL has informed the following:

- Existing protection panel (BPL make) between Kumarghat and Badarpur to be shifted from Badarpur to Karimganj for establishing protection link between Karimganj and Kumarghat.
- A DPLCC panel (SIEMENS make) will be shifted to Badarpur PG GSS from Srikona(AEGCL) for the establishment of communication link between Badarpur and Karimganj.
- Old BPL panel for 132kV Panchgram- Badarpur at Badarpur to be dismantled and new MUX panel to be installed.
- Existing PLCC panel (BPL make) at Kumarghat to remain as it is.
- MUX panel to be set up at Kumarghat(PG) for OPGW connectivity by AEGCL.

Deliberation in the meeting

After detailed deliberation the forum approved the plan agreed mutually by NERTS and AEGCL, which is stated above. Senior GM (NERLDC) requested both agencies to take necessary steps for not disturbing the existing data of 132 kV Srikona, 132 kV Badarpur and 132 kV Kumarghat during the integration of the said LILO work.

AEGCL and NERTS submitted that all necessary steps will be taken care for existing stations while configuring the new link.

The Sub-Committee noted as above.

Action: Agenda item may be dropped.

B.18 Periodical up-dation of SCADA database at SLDCs:

AGM(Com.), AEGCL stated that database should be updated continuously at SLDC and generating stations may only be included upon commissioning. He requested that NRPP may be deleted from the database. All the states unanimously stated the negligence by AMC personnel of M/s GE. They further stated that the database updating works are also not being carried out by M/s GE. After detailed deliberation the forum decided that all states will prepare a list of pending issues with M/s GE T&D India Limited regarding the AMC works of SCADA/EMS projects and the same

will be submitted to NERPC for including it as an agenda item in next NETeST meeting. NERPC will invite M/s GE T&D India Limited to attend the next NETeST meeting.

The Sub-Committee noted as above.

Action: All Constituents.

Date & Venue of next NETeST meeting

It is proposed to hold the 20th NETeST meeting of NERPC in second week of April, 2021. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I**List of Participants in the 19th NETeST Meeting held on 20.01.2021**

SN	Name & Designation	Organization	Contact No.
1	Sh. Nangkong Perme, SE (E), SO&PSC,	Ar. Pradesh	
2	Sh. Jayanta Mangal Baruah, DGM, MRTC	Assam	-
3	Sh. Pranab Saha, AGM, AEGCL	Assam	-
4	Sh. N. Romeo Singh, DM, SLDC	Manipur	-
5	Sh. Th. Anilbasu Singh, DM, TD, MSPCL	Manipur	-
6	Sh. M. Dkhar, EE (SP), MePTCL	Meghalaya	-
7	Sh. D.J. Lyngdoh, EE (SM), SLDC	Meghalaya	-
8	Sh. S.W.K. Khyriem, AEE (CSD), MePGCL	Meghalaya	-
9	Sh. C.W. Chen, AEE (C&CSD), MePTCL	Meghalaya	-
	No Representative	Mizoram	
10	Sh. Rokobeito Iralu, SDO	Nagaland	-
11	Sh. Asangba Tikhir, EE SLDC	Nagaland	-
12	Sh. Anil Debbarma, DGM (SLDC)	Tripura	09612589250
13	Sh. Ashim Kr. Sarmah, Manager (E/M)	NEEPCO	09435078860
14	Sh. M.K. Ramesh, Sr.GM	NERLDC	09449599174
15	Sh. Akhil Singhal, Ch. Manager	NERLDC	09650598187
16	Sh. Sakal Deep, Engineer	NERLDC	07005534860
17	Sh. Rajendra Dubey, Sr.GM (ULDC)	PGCIL	08275039218
18	Sh. Supriya Paul, DGM (ULDC)	PGCIL	0943630299
19	Sh. Marang Randa, Sr. Manager (E)	NHPC	09932028693
20	Sh. Narendra Kumar Gupta, Sr. Manager (O)	OTPC	09774233426
	No Representative	NTPC	-
	No Representative	NTPC	-
21	Sh. A.K. Thakur, Member secretary	NERPC	-
22	Sh. B. Lyngkholi, Director (O&P)	NERPC	09436163419
23	Sh. S. Mukherjee, Dy. Director	NERPC	08794277306