



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/2019/367-404

Dated: July 29, 2019

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, Dongtiah-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, Dongtiah, 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 14th NETeST Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 14th NETeST Meeting held at Guwahati on the **11th July, 2019** 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. लिंगखोइ / 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 14th NER Telecommunication, SCADA & Telemetry

(NE-TeST) COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 11/07/2019 (Thursday)
Time : 15:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 14th NETeST Meeting is attached at ***Annexure-I***.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF THE 13th MEETING OF "NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)" SUB COMMITTEE OF NERPC.

MS(I/C), NERPC informed that minutes of the 13th NETeST Meeting held on 9th April, 2019 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2019/ dated 14th May, 2019.

The Sub-committee confirmed the minutes of the 13th NETeST Meeting as no comments/observations were received from the constituents.

A.1 Status of SLDCs in NER:

The status of setting-up of SLDC as informed by POWERGRID during 14th NETeST meeting is given below:

SN	Utility	Status as informed in 13 th NETeST	Status as informed in 14 th NETeST
UPGRADATION OF SLDCs			
1	Assam	Completed in all respects.	SAS upgradation under progress. Assam to ensure early completion.
2	Tripura	Completed in all respects.	RTUs are not reporting to SLDC. Broadband connection to be provided by 25-07-2019 but getting delayed due to administrative issues.
3	Meghalaya	Completed in all respects.	Completed in all respects.

SN	Utility	Status as informed in 13 th NETeST	Status as informed in 14 th NETeST
4	NERLDC	Completed in all respects.	Completed in all respects.
5	Manipur	Completed in all respects.	Three (03) stations not reporting: Kongba, Chandel and Tipaimukh. Feasibility of providing Broadband at the station-level to be explored. Manipur is requested to ensure telemetry of non- reporting station at the earliest.
6	Nagaland	RTUs installed but non-reporting.	NERLDC team visited Nagaland on 05-07-2019 regarding telemetry of its stations and an action plan has been recorded in signed Minutes of Meeting. Corresponding MoM (enclosed as Annexure-II) has been shared by NERLDC with NERPC. Re-survey of Mon, Tuli, Ganesh Nagar, Tuensang and Zunheboto to be done jointly by NERTS and Nagaland-DoP scheduled from 12-07-2019 to 19-07-2019. Nagaland-DoP to strictly adhere to the timelines for rectification works as per MoM signed with NERLDC.
7	Mizoram	RTUs installed but non-reporting.	Out of 4 RTUs, only 1 RTU is reporting at present and OPGW between Lungmaul-Aizawl is not working. NERTS conveyed that GRPS to be provided at Zuangtui, Lungmual and Sihhmui for providing data to SLDC/RLDC. Mizoram is requested to provide GPRS connectivity at the earliest.
8	Ar. Pradesh	RTUs installed but non-reporting.	Absent. NERLDC requested NERPC to take up the matter of non-participation and telemetry related issue with DoP, AP.
9	Backup NERLDC	Completed in all respects.	Completed in all respects.

Deliberation in the meeting

NERLDC conveyed that all RTUs and GPRS related issues of Mizoram may be listed and to be completed in a single visit of GE expert to save time and cost for the associated works. It was also deliberated that all SLDCs may ensure that the AMC

personnel deputed from M/s GE T&D India Limited for maintenance of SCADA/EMS systems have at least five (05) years of experience and attend office from Mon-Sat during office hours as per the contract. Sufficient spares need to be maintained by M/s GE and its timely replacement in case of any usage.

MS i/c-NERPC stated that SCADA/EMS systems were implemented by POWERGRID and handed-over to respective state-utilities for further operation and maintenance works. SLDCs are empowered in all respects to take decision and deal with the vendor (i.e. M/s GE T&D India Limited) for any issues being faced in its SCADA/EMS system.

The Sub-committee noted as above.

A.2 Status of FO works under different projects:

Name of the Project	Status as in 14 th NETeST
MW Vacation & OPGW Project	<p>M/s KEC <i>Handing over MOM signed between AEGCL and PGCIL.</i></p> <p>M/s TENDOT</p> <ul style="list-style-type: none"> a. WIP in all 14 links b. Progress affected due to ROW. c. Expected completion March'19. <p>NOTE</p> <p>Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from receipt of new tower route schedule.</p> <p>Railway diversion of POWERGRID also suffering due to ROW in 3 locations to be resolved by Arunachal Pradesh.</p> <p><i>NERTS replied that OPGW link Nirjuli-Ranganadi with LILO at Lekhi is still having ROW issue. Equipment for the above are also considered in NER FO expansion project. Link wise details are</i></p>

<p>NER FO Expansion/Additional requirement of OPGW</p>	<p>attached at Annexure A.2.</p> <p>TRIPURA</p> <ul style="list-style-type: none"> • 257 of 320 .319 (Actual 257, 63km-no front) Km Completed. Details attached • 63.522 km (02 links viz. SM Nagar~Rokhia & SM Nagar-Monarchak, line is under construction) front not available due to construction of 2 lines by TSECL • Completion Status : <p>NOTE1: Silchar-Pallatana OPGW work under halt due to objection of NETC & OTPC for transient lightning related fault in rainy season.</p> <p>NOTE 2: Manipur: Supply – Complete, Erection: 160/365km km, Team is mobilized by M/s TCIL. Target completion: July-19. Battery bank/DCPS under NERFO- Supplied & installed</p> <p>NERTS reply: Detailed status is attached at Annexure A.2 Central Sector: NERTS mentioned that the only OPGW link pending in Tripura is the Surjamani Nagar-Palatana and rest all links have been completed. There is space constraint in RC Nagar. Support from RC Nagar NEEPCO is requested for early commissioning of the link. Letters & Reminders sent to NEEPCO. Without the same, connectivity of Fibcom link is pending for a long time. The real-time data of stations such as Rokhia, Udaipur, Gumti and Kamalpur will report to Tripura-SLDC by 01st August in case space is provided by NEEPCO in time at R.C. Nagar. Action: NERTS & NEEPCO. Tripura : Connectivity of Islanded location Satchand & Sabroom</p>
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(Satchand-Sabroom OPGW part is completed) TSECL may use PLCC or NERPSSIP fiber to connected by TSECL. The same is pending from State.

Action: TSECL

Meghalaya :

WIP for both equipment and OPGW part. MePTCL may help in getting Shut-down of Leskha-Khliehriat Link. A shut-down time of around 5 hrs is required for it.

MePTCL mentioned that due to heavy rains, the reservoir in the Leshka is full and maximum generation is being achieved from it at present and hence it is difficult to give shut-down of the associated Leska-Khliehriat line. However, it will try its best to give shut-down of the Leska-Khliehriat line for requisite time after discussion with NERTS.

Action: MePTCL & NERTS.

Manipur :

1. The work got delayed due to tower collapse between Kakching- Churachandpur-Ningthoukhong. As reported same is restored recently, the work will be restarted.
2. 132kV Loktak (NHPC) ~ Rengpang: Team retreated after one trial (during Loktak -Imphal was done)/ Links around Loktak area will be tried at one go to avoid ROW/ miscreant/terrorist prone area.

NERLDC requested for progress report in the matter of links in Manipur at the end of Jul '19 and convey the list of communication links which will be extended till Aug'19 for completion.

Note: NERTS mentioned that works related to RTUs and associated cabling-works which are handed over to state-utilities is not under the scope of NERTS and hence needs to be done by state-

	<p>utilities themselves. The requisite hand-sets for voice communication needs to be procured and provided by the site/SLDC itself.</p> <p>MS i/c-NERPC stated that the jurisdiction of works to be done by POWERGRID and State-utilities need to be specified and brought-out clearly for time execution of projects. All the works to be done by POWERGRID and state-Utilities can go in parallel for achieving the targets in time.</p> <p>Action: POWERGRID-NERTS to write to each state about works which needs to be done from their side with the corresponding timelines.</p>
<p>Upgradation of ULDC FO node</p>	<p>15 Location Completed.</p> <p>Except Umtru Power Station. MePTCL informed that there is space constraint in the present PLCC room. A separate room will be needed to accommodate the equipments under this project.</p> <p>NERTS informed that official from NERTS had visited for collection of card and found there is still no space. Without the same, project cannot be completed. And so help from MEPTCL/G division is requested.</p> <p>2nd visit made. Report submitted to Director, Generation-MePGCL. Further space inside UMTRU is to be cleaned & AC system not working.</p> <p>NERTS informed that joint visit of SLDC, MePTCL & POWERGRID was done 08.05.2019 to Umtru after meeting CE-Generation. It was decided that SDH & PDH shall be installed in PLCC room. Original ULDC fibers to be used to connect STM16 ring. However, MePTCL may connect their equipment with Fibcom or ECI equipment for wide band path access. Further PLCC room at Umtru is to be made dust free & facilitated with AC by the owner. Detailed scheme</p>

	<p>sent to MePTCL.</p> <p>A meeting called by PGCI with MePTCL for making schedules of work but postponed to pre-assignments of MePTCL. Target for meet (MePTCL & PGCI) by 20.07.19</p>
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Critical Issues against project implementation may be discussed

Name of the Project	Critical Issue
Upgradation of ULDC FO node	Space constraint in Umtru, non availability of fiber in Misa-Dimapur-Imphal(old OPGW) & Space in Kohima Status: Discussed as above
MW Vacation	ROW issue in Nirjuli-Ranganadi Line, non-readiness of two tower peak in DoP AP transmission Line for LILO to Lekhi. Stoppage of work due to ROW/Paddy field etc. Status: Discussed as above

The detail status with target completion link-wise is given in **Annexure-A.2**.

The Sub-committee noted as above.

Action: State Utilities, NERTS, NERPC.

B. NEW ITEMS

B.1 Strengthening of PLCC System by NER States:

In 12th NETeST meeting, after detailed deliberation it was decided that a consolidated map would be prepared on 24.01.2019, with the following inputs:

- a. 18th TCC/RPC consolidated network of OPGW.
- b. NERPSIP communication details.
- c. Assam, Manipur, Meghalaya communication map submitted by the respective utilities.

Deliberation in the meeting

NERLDC mentioned that Tripura has given comments regarding editing its corresponding network in communication map on 10-07-2019 and the same will be incorporated in the existing communication map. The map will be updated as and

when inputs are given by state-utilities and NERTS to keep it up-to-date for necessary use.

NERLDC mentioned that representatives from NERPSIP team are not attending the NETeST meeting and hence the corresponding updates are not getting updated to the Forum. Hence, NERPSIP team should be invited to the quarterly review meeting on NERPSIP projects conducted by NERPC.

The Sub-Committee noted as above.

Action: All state utilities/POWERGRID/NERLDC/NERPC.

B.2 Improvement of Data Availability of NER

Deliberation in the meeting

MS i/c-NERPC raised a serious concern that the data availability of stations in NER are not improving as per the target-plans and commitments in the previous NETeST meetings by the constituents. It was also stated that the matter of non-availability of real-time data to respective SLDCs and NERLDC is a threat to grid security and optimal power system-operation.

NEEPCO and other utilities asked for station-wise break-up of data unavailability from NERLDC. NERLDC mentioned that it will share the corresponding calculation file in MS-Excel format being prepared for computation for "Data Availability" purposes by it.

The forum discussed about the correctness of the telemetry percentage-availability and GM (SL, NERLDC) explained that all the points taken into consideration for calculating the telemetry availability percentage were crossed-checked during the data-validation meetings with utilities like POWERGRID-NERTS, AEGCL, MePTCL and Nagaland-DoP. The related data-points were mentioned in respective MoMs also which was jointly agreed by the signing parties.

AEGCL requested to drop OLTC points for calculating the telemetry availability percentage on which GM (SL, NERLDC) and the forum informed that the OLTC points are also required as per CERC guidelines for efficient grid operation. Thus, the same cannot be dropped for calculating the telemetry availability percentage.

The Sub-Committee noted as above.

Action: All utilities to take-up the rectification works to provide real-time data to SLDCs and NERLDC at the earliest. The state utilities shall adhere to the

timelines given by it in NETeST, Bilateral Minutes-of-Meetings and other forums to ensure the same.

B.3 Status of URTDSM

Angle error and rectification: Matrix formed by NERLDC and presented in OCC meeting. Study group not yet formed.

Flexibility of trend window TDF UI and ETV (5 min & 15 min): NERTS informed the features are as per approved technical specifications. Though NERTS will explore the possibilities of changing features, if implemented in other RLDCs. NERTS will revert with the details before next NeTEST meeting.

Status of Loading of Power System Analysis package by IIT Mumbai: Loading of PSA by IIT-Bombay was scheduled by May'19, but not done yet. A rescheduled date of 8th July 2019 is given by NERTS.

Deliberation in the meeting

Angle error and rectification: NERTS has written to System Operation-2 Department of NERLDC (**Annexure-B.3**) to provide specific input (after network study of region) what is to be changed at each PMU location (wiring change if any in secondary of CT/PT, same may be specifically suggested). Accordingly NERTS will implement the same in coordination with all other utility. NERLDC informed the changes in CT & PT secondary wiring given input to URTDSM PMUs.

NERTS and NERLDC to jointly resolve the issue regarding Angle Error and Rectification.

Flexibility of trend window TDF UI and ETV (5 min & 15 min):

DGM, NERTS informed the forum that designed is as per approved TS. There is no possibility to change the flexibility. The same has also been applied to all the other RLDCs. It will be explored and the same will be implemented in case it is delivered in any of the other regional-projects in progress under Unified Real Time Dynamic State Measurement (URTDSM).

Status of Loading of Power System Analysis package by IIT Mumbai:

DGM, NERTS informed the forum that five (05) out of six (06) applications for PMU analytics have been installed at NERLDC by team from IIT-Bombay i.e. Line Parameter Estimation, Vulnerability analysis on distance relay characteristics, Linear State Estimator, Supervised Zone-3 blocking and CT/CVT parameter validation. An application for Control schemes for improving system security is pending and will be completed at the earliest. The necessary training on the analytical applications will be imparted to the concerned utilities soon.

The Sub-Committee noted as above.

Action: NERLDC, NERTS.

B.4 GPRS connectivity for Substations and Leased line for SLDC:

In 14th NETeST meeting the following timeline(s) were agreed to by the different utilities:-

Name of utility	GPRS SIM/Broadband	Lease Line connectivity at SLDC
TSECL	Balance SIM is yet to be provided	Not Available.
MSPCL	All stations are reporting	Available
DoP Nagaland	4 stations reporting. DoP to take up with GE for Nagarjan. Further DOP to take up with Service provider & BSNL higher authority for proper 3G network	Not Available
P&ED Mizoram	3G SIM & Internet link with static IP is yet to be provided	Not Available

Deliberation in the meeting

Status as provided by NERTS is mentioned in the table below:

Name of utility	GPRS SIM/Broadband
TSECL	2 (DharmaNagar and PK Bari) Location completed (SAT not signed by TSECL) but for other locations, SIM is yet to be provided by State Utility. NERTS informed that Broadband connection shall be provided, wherever possible, for better data connectivity.
MSPCL	All stations are reporting
DoP Nagaland	5 out of 11 locations (Nagarjan, Khipire, Mokokchung, Kohima & LHEP) completed. For other locations, link could not be established due to poor network. Party requested DoP, Nagaland through letter dated 01.07.2019 to provide broadband connection.

P&ED Mizoram

3G SIM & Internet link with static IP is yet to be provided

MS i/c-NERPC stated that the status of GPRS connectivity has been furnished by Nagaland-DoP and Mizoram-P&ED in e-mail. The corresponding actions on the pending issues in making the communication feasible on GPRS shall be taken up by all concerned constituents at the earliest.

The forum informed TSECL to hand-over the SIMs to POWERGRID-NERTS. The Nagaland-DoP has already provided 20 SIMs to NERTS, out of which 08 SIMs are still with M/s Deejay Pvt. Ltd. (sub-contractor of M/s PMAS; the executive party for GPRS project appointed by NERTS) at Nagaland-SLDC. The corresponding letter from M/s PMAS is enclosed as **Annexure-B.4**. POWERGRID-NERTS agreed to install all the remaining SIMs by deploying teams comprising of representatives from Dimapur (POWERGRID), M/s Deejay Pvt. Ltd. along with Nagaland-DoP to respective sites during the period of 12th-19th July 2019.

The Sub-Committee noted as above.

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

B.5 Selected cases of sub-stations for rectification of corresponding data/communication related issues:

a) NEEPCO:

i. Ranganadi: PLCC link disconnected without prior intimation after commissioning of FO link. The PLCC should have acted as a back-up link for the data from the sub-station

ii. Kathalguri: Single-channel is available. Phone is not working causing inability of contact the sub-station.

iii. Doyang: Phone not working as Doyang sub-station is not able to hear voice on Orange-VoIP phone. Orange has mentioned that there is no problem at its end.

iv. Pare: No VoIP facility available in the sub-station. The communication is being done on BSNL/Mobile phones.

Deliberation in the meeting

Ranganadi: NERTS will make 2nd path of PLCC between BNC and RHEP as BNC is wideband location. The proposed path will be Ranganadi to BNC (on PLCC) and BNC to NERLDC (on wideband) subsequently. The work will be completed by first week of Sep'19.

ii. Kathalguri: NERTS informed the forum that the PLCC link from Kathalguri to Mariani station was tested. Mariani station has a wide-band connection for further data transfer. The Kathalguri-Mariani PLCC link may be used as a backup path after completion of FO connection. The work will be completed by first week of Sep'19.

iii. Doyang: DGM, NEEPCO informed the forum that the link is functional. Voice is audible in one side only. They will check again by replacing a new phone.

iv. Pare: A 2 Mbps link has been taken from POWERTEL and will be activated by end of Jul'19. The phone hand-sets for VoIP phone is already handed over to NEEPCO (O&M Section-Shillong) on 04.07.2019 for Pare Substation by NERTS.

The Sub-Committee noted as above.

Action: NEEPCO & NERTS.

b) NTPC BgTPP: Only one (01) VoIP phone is available and that too in "Switchyard Control Room". No phone is available in the Unit Control Room (03 in nos.). NTPC may provide dedicated VoIP phones in all Unit Control Rooms on priority with strict deadline.

Deliberation in the meeting

NERTS informed the forum that one phone is working. The other voice link which was earlier working via PLCC may kindly be restored by NTPC. NERTS has already allotted port for the same. NTPC representative were absent.

Since NTPC member is absent NERLDC requested Forum to inform about shift of VoIP phone from Switchyard to Unit Control Room in subsequent meeting. NERTS provided "23640135" as second number. The same needs to be extended to all the unit control rooms at the earliest.

The Sub-Committee noted as above.

Action: NTPC.

c) POWERGRID Salakati: The data of the sub-station takes a lot of time in pooling (happens automatically after every communication failure and restoration). It generally takes about 1 hr for this station. NERTS, POWERGRID may address the issue by finding and resolving the issue of slow pooling on priority with strict deadline.

Deliberation in the meeting

MS i/c, NERPC requested NERTS and NERLDC to jointly resolve the issue. DGM, NERTS replied that the issue will be addressed.

The Sub-Committee noted as above.

Action: NERTS & NERLDC

d) OPTC Palatana: Single Channel is available over PLCC. The constituent is not cooperative in case of any data disruption. OPTC to ensure dual-channel on priority with strict deadline.

Deliberation in the meeting

Sr. Manager, OPTC informed the forum that OPTC is extending all technical support but however some time other end (Silchar) issues it takes time to resolve. In order to speed up to resolve issues and avoid coordination delay Sr. Manager, OPTC suggested his name as single point of contact for any communication related issues and submitted his contact details to Forum and NERLDC. Contact No. 09612400784 & E-mail ID: sr.das@otpcindia.in was provided for it.

The Sub-Committee noted as above.

Action: OPTC

e) NHPC Loktak: New RTU/Gateway was under procurement process but its status of completion schedule is not known yet. NHPC to elaborate the status of the procurement and installation of new RTU/Gateway in the sub-station.

Deliberation in the meeting

Sr. Manager, NHPC informed the forum that the Notice Inviting Tender (NIT) has been approved and will be uploaded in CPP Portal for tendering purposes. The work-order is expected to be placed by Sep'19 with a completion schedule of three (03) months i.e. end of December 2019.

The Sub-Committee noted as above.

Action: NHPC.

f) Tripura: i. General Issue: Data of all the sub-stations (especially southern Tripura) goes OUT in case of any grid failure. All data is being received through Agartala-Rokhia line in which any tripping leads to high noise in PLCC leading to data interruption.

Tripura to elaborate on mitigation plan, if any, on the matter of non-availability of data in case of any grid failure. Also, the rectification plan for high noise in PLCC corresponding to Agartala-Rokhia line in case of tripping needs to be explained and implemented at the earliest.

ii. Surjamani Nagar: Battery bank issues are being faced in the sub-station. All data goes OUT in case of any power supply failure.

Action: The battery banks related issues to be resolved and a scheduled deadline to be given for it with strict compliance.

Tripura may please intimate the status.

Deliberation in the meeting

Manager, TSECL informed the forum that Tripura will investigate on the mentioned issues and rectify it at the earliest. Regarding the battery it will be replaced in July, 2019.

NERTS requested that Air-conditioning environment needs to be provided in all battery-bank rooms at the earliest.

The Sub-Committee noted as above.

Action: TSECL.

g) Meghalaya Killing: PLCC issues in the sub-station due to which the data is not stable. The reason of PLCC related issues needs to be elaborated and resolved at the earliest with strict deadline to be given in the NETeST forum.

MePTCL may please intimate the status.

Deliberation in the meeting

Completed by MEPTCL.

The Sub-Committee noted as above.

h) Mizoram:

i. Kolasib: The station has been handed over by POWERGRID to Mizoram State Govt. Hence, the data is not reporting at present.

The reason of non-reporting of data needs to be elaborated and resolved at the earliest with strict deadline to be given in the NETeST forum.

ii. Serchhip (Bukpoi): Station not modeled in SCADA database by Mizoram

The sub-station needs to be modelled at the earliest by SLDC and corresponding details needs to be conveyed to NERLDC for corresponding inclusion in database at its end. A strict deadline to be given in the NETeST forum for completion.

iii. Lunglei (Khawira): Station not modeled in SCADA database by Mizoram

The sub-station needs to be modelled at the earliest by SLDC and corresponding details needs to be conveyed to NERLDC for corresponding inclusion in database at its end. A strict deadline to be given in the NETeST forum for completion.

Deliberation in the meeting

i. Kolasib: DGM, NERTS informed the forum that the station has not been handed over by NERTS to Mizoram.

NERTS will check the RTU status for any rectification, if req. The state-owned RTU will report to SLDC via NERLDC for interim-period till the FO expansion is under progress.

ii. Serchhip (Bawkpui): EE, Mizoram informed the forum that it will check the respective status with SLDC for necessary action.

iii. Lunglei (Khawviva): EE, Mizoram informed the forum that it will check the respective status with SLDC for necessary action.

The Sub-Committee noted as above.

Action: DoP Mizoram, NERTS.

B.6 Status of pilot VSAT project:

NERLDC discussed detailed plan for execution of VSAT pilot project in 12th NETeST meeting, and also presented quotation for the pilot project. In 154th OCC, forum decided all the constituents would share the cost. Further, Brynihat S/s was identified as the location for pilot project.

NERLDC requested NERPC to make consensus and gather purview of constituents in implementation and cost-sharing of VSAT pilot project.

Deliberation in the meeting

MS i/c-NERPC conveyed that the North-Eastern Region has a difficult terrain for laying of Optical Fibers OR any other technology for data-transfer; hence the success of pilot-project through VSAT in one of its state-owned substation location i.e. Byrnihat (Killing) will be the platform for implementation of wide-spread satellite communication in North-Eastern region in future. The Pilot Project needs to be taken-up by NERPC by finalizing its modalities to proceed further.

NERLDC informed that the KPTCL being a government organization do not accept tenders directly and hence the order needs to be placed to its AMC vendor for ease-in-integration with KPTCL existing VSAT system for the pilot project as specified in the letter given by Chief Engineer, KPTCL. However, the forum discussed about the gateway in Killing substation having IEC-101 protocol at present. The integration of substation's IEC-101 gateway needs IEC-101 to IEC-104 protocol converter(s) for success of Pilot Project as the VSAT supports the data transfer on IEC-104 protocol only.

MS i/c-NERPC conveyed to NERLDC to collect the quotation for protocol converter(s) and include the same in pilot project cost-estimate before booking of the final-cost to all the constituents of NER.

The Sub-Committee noted as above.

Action: NERPC and NERLDC.

B.7 Drawal points data availability:

In 13th NETeST meeting, NERLDC presented the latest status of drawal points data availability). The forum noted the alarmingly high non-reporting RTUs of Ar. Pradesh, Mizoram, Nagaland and Tripura. Members requested NERPC to write to the higher authorities of the respective organizations apprising them of the indirect loss (by way of DSM 4th amendment) due to non-reporting of RTUs to the SLDCs.

Deliberation in the meeting

MS i/c-NERPC stated that the states have to put efforts to improve the availability of the telemetry, which in turn is causing them huge penalty amounts in the DSM Pool Account, etc. Major steps needs to be taken at the earliest by all utilities so that the drawl point data availability can be ensured at the earliest.

NERLDC insisted that all constituents must maintain the telemetry data of drawl points consistently.

The Sub-Committee noted as above.

Action: All utilities.

B.8 VSAT For Roing Tezu Namsai:

This is in line with discussion in 9th NETEST. POWERGRID has taken up a proposal based on VSAT technology (The DPR is attached as ref. Annexure-PGCI VSAT-based on i-direct technology with extended C-Band in compliance with TS as recommended by CEA 's draft technical standard of communication system. Earlier cost is now reduced and revised cost is apx. 54,653,880.00 for 5 years. The same will not be taken from PSDF and proposed to be invested by POWERGRID and be recovered on cost plus basis on POC from tariff.

The 13th NETeST forum decided the following:

- By April'2019 demo date to be finalised
- By May'19 demo to be completed
- If demo successful then order to be placed by June'19
- Prior to placing of order exact bandwidth would be decided in the corresponding NETeST meeting

Deliberation in the meeting

DGM, NERTS informed the forum that the IP conflicts issues which were being faced in the earlier stages have been resolved and the dispatch of equipment (i.e. 02

antennas – Tezu and Namsai) by NELCO is scheduled till 22-07-2019. The bandwidth of 128 Kbps will be used for the demo purposes.

Based on the performance of the demo, the forum will take decision and further planning will be done.

The Sub-Committee noted as above.

Action: NERTS.

B.9: Readiness for supply of CFEs in Badarpur (2nd TS Node)

Supply & installation of additional CFEs in Badarpur has been taken up by NERLDC. Accordingly channel routing & requirement for data reporting via Misa & Badarpur (Back up RLDC & RLDC) may be proposed by NERLDC and same link/channel plan is to be approved by CTU LD & C so that additional number of PDH cards V.24 as required Misa & Badarpur may be taken care (If required would additionally be procured).

Links from Badarpur & Misa already provided up to NERLDC in last Aug18. However, Onward 2nos. Links from Badarpur & Misa up to Back Up NERLDC will be taken from POWERTEL on add cost basis once Terminal servers are in place, channels re-routing is approved and requisite number of PDH cards are procured.

In the 13th NETeST forum, NERLDC informed that the status would be intimated in the next NETeST meeting after discussion with GE. NERLDC requested NERTS to submit channel re-routing and also to procure requisite nos. of PDH cards.

Deliberation in the meeting

NERLDC requested that the grouping of ISTS & ISGS station's RTU at each location i.e. Misa and Badarpur to be carried out by NERTS for reporting to Main and Backup NERLDC on IEC-101 and IEC-104 protocol. NERTS asked for the status of Badarpur Terminal server readiness from NERLDC. It was also informed by NERLDC that the procurement of Terminal Servers is under discussion with M/s GE T&D India Limited for finalizing the modalities. NERLDC stated that the procurement of Terminal Servers will be done by Oct'19.

The Sub-Committee noted as above.

Action: NERLDC.

B.10 Data validation status of all PGCIL owned substations:

The database validation (Annexure-B.10) of POWERGRID owned sub-stations in NER has been completed from POSOCO end and the list of addresses has been shared with NERTS, POWERGRID.

NERTS, POWERGRID has not provided status of possibility of rectifying 9 out of 23 stations by deputing NERTS/OEM Engineers. The NERTS/NE-RTAMC to validate data at its end. The LoAs by NERTS to OEM for database modification at site was scheduled to be issued by 01st week of Jun'19 (with completion of works till Jul'19) and its status needs to be conveyed by NERTS, POWERGRID.

Deliberation in the meeting

NERLDC mentioned that the database validation of POWERGRID owned substations has been completed from its side and the corresponding list of addresses has also been shared with NERTS for rectification purposes.

NERLDC mentioned that data validation related to Roing, Tezu and Namsai stations could not be carried out due to intermittent communication in these stations. The database of RTU/SAS at Mariani and Misa substations needs to be updated on site at the earliest by NERTS.

NERLDC stated that the real-time data of HV side corresponding to ICT-1 and ICT-2 in Silchar station needs to be corrected and will be taken up for rectification at the earliest. Also, the issues related to real-time data of Dimapur, Khliehriat and Kopex stations to be resolved to ensure the availability of its telemetry.

DGM, NERTS informed the forum that in collaboration with site service engineer of GE, in all the sub-station (except Misa), addresses are updated and have been jointly rechecked with NERLDC representative also. The present suspected data are mainly due to some wiring issue, BCU problem, MFT problem, BCU software updation, etc. There is been frequent changes in DI status with respect to aux contacts of Isolator/Earth Switch, etc. due to moisture affected switch yard MBs in some of the old stations. Target to keep all stations overall percentage as more than 95% by Sep'19 (except Dimapur, Kopili—under construction, Roing, Tezu and Namsai).

The Sub-Committee noted as above.

Action: NERTS.

B.11 Data validation status of all stations of Assam:

The database validation from POSOCO and Assam end has been completed. The corresponding data validation table can be referred as Annexure-B.11.

The corrective actions for rectification to be done by APGCL and AEGCL and corresponding deadline to be conveyed and the status of rectification of data related issues as highlighted in the Validation-List with corresponding deadlines needs to be elaborated.

Deliberation in the meeting

NERLDC informed the forum that the data validation of Assam stations has been completed and a meeting was also held between NERLDC and AEGCL with signed MoM (enclosed as **Annexure-B.11a**) with listing of action points and corresponding timelines. Several timelines have surpassed and AEGCL needs to complete the tasks at the earliest to improve the data-availability of its stations.

AEGCL stated that it has faced card-failures in some stations, which has decreased the data-availability of its stations significantly and it is under process to find out the root-cause analysis of the card-failures. The OEM of the cards has been contacted to provide quotation for procurement of new cards but the delayed response from the vendor is causing the delay. AEGCL may share the root cause reason to NERLDC.

The Sub-Committee noted as above.

Action: AEGCL.

B.12. Data validation status of all stations of Meghalaya:

The database validation from POSOCO and Meghalaya end has been completed. The corresponding data validation table can be referred as Annexure-B.12.

The corrective actions for rectification to be done by MePTCL corresponding deadline to be conveyed and the status of rectification of data related issues as highlighted in the Validation-List with corresponding deadlines needs to be elaborated.

Deliberation in the meeting

NERLDC informed the forum that the data validation of Meghalaya stations has been completed and a meeting was also held between NERLDC and MePTCL. A MoM was signed (enclosed as **Annexure-B.12**) with listing of action points and corresponding timelines. Several timelines have surpassed and MePTCL needs to complete the tasks at the earliest to improve the data-availability of its stations.

MePTCL stated that many tasks have been completed by it within time-frame or with slight delay due to unavoidable circumstances. It is trying its best to complete all other rectifications works to improve the availability of real-time data to the SLDC/NERLDC.

The Sub-Committee noted as above.

Action: MePTCL.

B.13. Schedule for completion of FO projects under execution:

In the 13th NETeST meeting, NERTS informed the forum that completion of FO Expansion Project remains same as was intimated in 19th NERPC meeting (Jul'19). However, in some critical links (4links), it may extend up to Dec'19.

A committee comprising of NERPC, NERTS and NERLDC will review the status of link in 2nd week of May'19. NERLDC requested for senior level participation of the meeting and if possible the senior level representative of respective contractors.

A meeting on the above referred matter has been done between NERTS, POWERGRID and NERLDC, POSOCO on 18-06-2019. The list of undergoing FO projects can be referred from Annexure-B.13.

Review of link status from Joint committee of NERPC, NERTS and NERLDC was scheduled to be done in 2nd week of May'19 but it has not been done yet. NERPC may please re-schedule it.

Deliberation in the meeting

DGM, NERTS informed the forum that the detailed timeline is attached at **Annexure-A.2**. He informed the forum that delay is happening due to various local issues. NERTS stated that it will complete all FO related projects by end of Jul'19; except few cases which may get extended to Mid-Aug'19.

NERLDC discussed that NERTS is extending the target dates of completion of FO projects since the last two meetings (12th NETeST and 13th NETeST), which itself are conducted after a large gap of 03 months.

MS i/c-NERPC informed the forum that a joint committee of NERPC, NERTS and NERLDC will be formed to monitor and review the schedule of completion of FO projects under execution.

The Sub-Committee noted as above.

Action: NERTS, NERLDC & NERPC.

B.14. Shut Down Procedure for Optical Links:

The procedure was formulated by NERLDC and it was decided that the same procedure will be followed by all utilities of NER till any new procedure is approved. But the procedure is not being followed by utilities and it is found that the shut-down for Optical-links is being taken without consent OR just intimating by sending an e-mail to NERLDC.

Deliberation in the meeting

NERLDC mentioned that the shut-down procedure is not being followed by many utilities and at many occasions which is leading to real-time data interruption. Many-a-times the shut-down of communication links is being taken without prior intimation OR just an e-mail is being sent for intimation.

MS i/c-NERPC stated that the shut-down procedure of communication links needs to be strictly followed by all utilities.

The Sub-Committee noted as above.

Action: All concerned utilities.

B15. Dual channel availability for reliable and redundant communication system in NER:

As per section 10 of CERC communication regulations, 2017 "all users of CTU, NLDC, RLDCs, SLDCs, STUs shall maintain the communication channel availability at 99.9% annually: Provided that with back up communication system, the availability of communication system should be 100%". As such to improve the reliability of the communication system it is required to establish dual channel as a part of back up communication system. Central sector stations provide dual channel for respective stations.

In the 13th NETeST meeting, NERTS informed that dual channel for all the stations will be made available as the FO projects completes, by July'19.

NERTS to update the dual-channel reporting considering the completion of FO projects by Jul'19. Dual-channels are required at both Shillong and Guwahati premises of NERLDC, POSOCO. The solution to matter that current RTUs have 2-ports but the requirement will be fulfilled by 4-ports needs to be discussed.

Deliberation in the meeting

MS i/c-NERPC stated that the redundant communication system is essential to ensure data availability for more than 99.9% at all times which is required for safe grid operation. He requested NERTS to explore alternate modes for radially linked stations (since ring connectivity is not possible through OPGW).

At many places the ring formation in communication links is not possible but some alternate arrangements (such as Satellite Communication, etc.) need to be done to ensure the reliability and redundancy in the communication system. Also, the dual-channel needs to be provided at both Main and Backup locations of the NERLDC.

The Sub-Committee noted as above.

Action: NERTS and All state Utilities

B.16. Long outage of RTU data:

As per 14.ii of Communication regulation (CERC), May'17 the Data restoration procedure was to be made by CTU, POWERGRID.

Deliberation in the meeting

DGM, NERTS informed the forum that the process for reporting fault & restoration (for each station, NERTS) is under preparation and will be shared by NERTS with NERLDC.

Further regarding any issue related to Regulation/CERC-May'17, NERLDC/NLDC may write & take up with LD&C, CC-POWERGRID for early solution.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.17. Standard procedure to exchange the information regarding the SCADA database between SLDC and NERLDC:

Mismatch in SCADA database between SLDCs and NERLDC is affecting the availability of telemetry at NERLDC. As data is exchanged between SLDCs and NERLDC over ICCP, which needs synchronised database between the both the control centres. As a standard procedure followed at NERLDC, NERLDC apprise about any changes in NERLDC SCADA to NLDC within a week of the implementation of changes. Action: NERLDC suggest forum to follow the same practice in order to mismatch in database, which will help in increase in telemetry availability of the region.

In the 13th NETeST meeting, the forum requested all the SLDCs and NERLDC to maintain their databases in sync and inform in case of any changes.

Deliberation in the meeting

GM, NERLDC mentioned that the SCADA databases of SLDCs should always be in sync to eliminate the non-availability of data due to mismatch in respective databases. He requested all SLDCs to maintain the databases in sync and inform NERLDC in case of any change.

The Sub-Committee noted as above.

Action: SLDCs and NERLDC.

B.18. Establishment of Link between Badarpur to Backup Guwahati and Misa to Backup Guwahati (Earlier agenda B.9):

As terminal server is installed at Misa and terminal server will be installed at Badarpur, NERLDC request NERTS to establish following links:

- a. Misa to Guwahati
- b. Badarpur to Guwahati.

In the 13th NETeST meeting, NERTS informed that NERLDC may kindly install the terminal server and intimate. Within 20 days of same, Links will be provided.

Deliberation in the meeting

DGM, NERTS informed the forum that as agreed in the 13th NETeST, within twenty (20) days after installation of Terminal Servers, the link would be provided between Badarpur to Shillong and Badarpur to Guwahati.

NERTS also informed that the Terminal Server is installed at Misa Substation. Mariani & Balipara RTU data is dropped at Misa for Terminal Server connectivity. However, it has been found that connection between communication equipment & Terminal Server part is still pending. NERTS informed NERLDC for the aforementioned connectivity.

The Sub-Committee noted as above.

Action: NERLDC.

B.19. The time line for OPGW connectivity to the following Power Stations of NEEPCO:

- i) AGBP
- ii) DHEP
- iii) PaHEP

In the 13th NETeST meeting, NERTS informed the forum that the OPGW connectivity for the above stations are covered under NER-FO project and timeline(s) are as follows:

- i) AGBP - July'19
- ii) DHEP - July'19
- iii) PaHEP - Dec'19.

Deliberation in the meeting

DGM, NERTS informed the forum that the OPGW connectivity for the above mentioned stations will be completed within the above mentioned time line.

The Sub-Committee noted as above.

Action: NERTS.

B.20. Utilities executing regional projects to submit monthly progress report to NERLDC/NERPC:

The progress report is not getting shared with NERLDC for informational purposes. NERPC may also elaborate on the status of receipt of progress report at its end.

Deliberation in the meeting

GM, NERLDC informed the forum that they have not received any monthly progress report on progress in regional projects as agreed in the 13th NETeST meeting.

MS i/c-NERPC stated that monthly progress review meetings on progress on regional projects need to be done with a sub-group consisting of representatives from NERPC, NERLDC and POWERGRID-NERTS. The monthly progress report shall contain information related to projects under micro-wave vacation, FO expansion and PSDF-funded projects and furnished in the monthly review meeting. Forum has agreed for the monthly review meetings to be hosted at NERPC in its premises.

The Sub-Committee noted as above.

Action: NERTS, NERLDC & NERPC.

B.22. Establishment of State of the Art U-NMS System for Centralized Supervision for ISTS and State Utility Communication Network in a unified manner:

CERC notified Communication Regulation in May'17 and it envisages Centralized Supervision System for ISTS Communication. As per the regulation clause:

Quote:

OBJECTIVE:

These regulations provide for planning, implementation, operation and maintenance and up-gradation of reliable communication system for all communication requirements including exchange of data for integrated operation of National Grid.

5. SCOPE and APPLICABILITY:

- a. 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 State Electricity Regulatory Commissions.
- b. All Users, SLDCs, RLDCs, NLDC, CEA, CTU, STUs, RPCs, REMC, FSP and Power

Exchanges shall abide by the principles and procedure as applicable to them in accordance with these regulations.

6. NODAL AGENCY:

- i. The nodal agency for planning, and coordination for development of communication system for inter-State transmission system user shall be the Central Transmission Utility.
- ii. The nodal agency for planning, and coordination for development of communication system for intra - State transmission system user shall be the State Transmission Utility.
- iii. CTU shall be the Nodal Agency for supervision of communication system in respect of inter-State communication system and will implement centralized supervision for quick fault detection and restoration.

Unquote

Further, in line with regulation provisions of centralized supervision for quick fault detection and restoration of communication network of ISTS and all other Utility by integrating its NMS with other users NMS has been kept in the documents of Technical standard & Manual of Communication Planning Criteria being finalized by CEA. In is addition to this guideline on availability of Communication system for ISTS has been submitted to CERC by NPC for which centralized U-NMS considered essential.

Accordingly, CTU is to implement State of the Art Unified Network Management System (U-NMS) in a Control Center environment at National/Regional level.

The establishment of U-NMS is proposed to be taken up in a unified manner for implementing centralized supervision of communication Network for transmission system of Cross Border, Inter Regional, Inter-State and Intra-State System.

The proposed U-NMS shall acquire data directly from existing NMS of ISTS and State Utility and also from nodes not integrated with existing NMS for all ISTS and all other Utility communication links. The U-NMS will acquire information of communication network of ISTS, State Utility and cross Border communication system. The U-NMS application shall facilitate for controlling, managing, operation, fault detection and restoration and maintenance of ISTS and State communication System.

It will be possible to integrate different make NMS and Network Element with proposed U-NMS. (In U-NMS adequate provision shall be made to integrate upcoming nodes by having sufficient capacity i.e. 200%).

The proposed U-NMS to be deployed for NLDC, RLDCs and SLDCs to manage National, Regional and State level Communication System.

U-NMS Configuration considered for NLDC & RLDCs shall consist of Servers, Storage Devices, VPS, Switches, Routers, Firewall, Remote workstations etc. in dual LAN in Main (High Availability-HA) and Backup configuration to manage ISTS regional, inter-regional and Cross Border communication links.

(Fig: 1 &3- Typical RLDC Architecture & RLDC/ NLDC CC Configuration)

U-NMS Configuration for SLDCs shall consist of VPS, Remote workstations, Printer, Furniture etc. are considered with rights to access servers of respective RLDCs to manage their respective Communication Network.

(Fig: 2 &4- Typical SLDC Architecture & CC Configuration)

Following functions (Service Assurance, Service Fulfillment, Web Consoles, Ticketing etc.) are considered in the proposed U-NMS. (Applications/ Functions may vary at NLDC/RLDCs/ SLDCs- depending upon the Operational / Administrative Requirements):

U-NMS PROJECT PROPOSAL:

- 1) Control Centre at NLDC
- 2) Control Centre at RLDCs
- 3) Workstation based Control Centre at SLDCs

Estimated cost- Rs. 600 Cr. (excluding AMC cost and Civil Works) with implementation Time (from date of Investment Approval): 2 Years (24 months)

The scheme shall be implemented by POWERGRID on tariff route basis and investment to be recovered as per CERC notification.

Deliberation in the meeting

CGM, NERLDC asked for clarification whether the existing control room can be used or a separate control room is required for Unified NMS. He also requested for the cost breakup of the estimate.

AEGCL and other constituents raised the concern that the state-owned lines do not have FO communication links yet and majority of the FO links are installed over the Central Sector transmission lines. As POWERGRID is executing the FO expansion projects in the NER, hence such projects need to be completed at the earliest to facilitate the Unified-NMS project in future.

NERLDC stated that prior to initiating the U-NMS project, the existing FO and other communication links projects should be completed on priority.

MS-NERPC asked the state utilities to review proposal and give comments and inputs to POWERGRID-NERTS till end of Jul'19. In case of any prior clarifications and further inputs, the state utilities can directly contact NERTS for it.

The Sub-Committee noted as above.

Action: All SLDCs/NERLDC.

Date & Venue of next NETeST meeting

It is proposed to hold the 15th NETeST meeting of NERPC on second week of October, 2019. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

List of Participants in the 14th NETeST Meeting held on 11.07.2019

SN	Name & Designation	Organization	Contact No.
	No Representatives	Ar. Pradesh	-
1.	Sh. Pranab Saha, AGM (Communication)	Assam	09435361717
2.	Sh. Arup Sarmah, DM	Assam	09707854367
3.	Sh. Rupjyoti Das, AM	Assam	09435097009
4.	Ms. Toushita Jigdung, DM, SLDC	Assam	09707134351
5.	Ms. J. Wahengbam, AM, SLDC, MSPCL	Manipur	09856875084
6.	Sh. B. Nikhla, EE, MePTCL	Meghalaya	09436314163
7.	Sh. B. Narry, AEE, PLCC, MePTCL	Meghalaya	09089000911
8.	Sh. C. W. Chen, AE, SLDC	Meghalaya	09863093311
9.	Sh. Malsawm Dawngliama, EE(Coml.)	Mizoram	09436153594
10.	Sh. Manori, JE (MIS)	Nagaland	08415844455
11.	Sh. Anil Debberman, DGM	Tripura	09612589250
12.	Sh. Mrinal Pal, Manager, SOD	Tripura	09436137022
13.	Sh. J. L. Das, DGM	NEEPCO	-
14.	Sh. Joypal Roy, DGM	NEEPCO	09435577726
15.	Sh. Krishna Kant Rai, Manager	NEEPCO	-
16.	Sh. Ashim Kr. Sarmah, Manager	NEEPCO	-
17.	Sh. V. Suresh, CGM	NERLDC	09449599156
18.	Sh. M.K. Ramesh, GM	NERLDC	09449599174
19.	Sh. Sakal Deep, Engineer	NERLDC	09774528218
20.	Sh. Akhil Singhal, Chief Manager	NERLDC	09650598187
21.	Sh. Ashutosh Kumar, Engineer	NERLDC (Back-up)	07005375868
22.	Sh. S. Paul, Chief Manager	PGCIL	09433379985
23.	Sh. Roshitesh Kumar, Asst. Manager	PGCIL	09402184618
24.	Sh. M. K. Baruah, GM	PGCIL	09401454830
25.	Sh. H. Talukdar, Sr. DGM	PGCIL	9436335237
26.	Sh. P. J. Singh, Jr. Engg.	PGCIL	09435303572
27.	Sh. N. Yugandhar, Sr. Manager	NHPC	09800003819
28.	Sh. Smruti Ranjan Das, Sr. Manager	OTPC	09612400784
29.	Sh. B. Lyngkhai, MS i/c	NERPC	09436163419
30.	Sh. Srijit Mukherjee, AD-I	NERPC	08794277306
31.	Sh. Sadiq Imam, AD-I	NERPC	07004133772

Minutes of Meeting for SLDC Nagaland visit on 05th July 2019

The meeting was attended by following executives:

NERLDC, POSOCO	PGCIL	SLDC Nagaland, DoP Nagaland
Shri M K Ramesh, GM, NERLDC	Shri P. Borah, DGM, 220 kV Dimapur(PG)	Er. Tiameren, EE(Communication), DoP Nagaland
Shri Sakal Deep, Engineer, NERLDC		Er. Rokobeito, SDO
		Er. D Chakraborty, SDO(SLDC)
		Er. Tiakaba Yimchunger, JE(SLDC)

The meeting started with visit of Control Room of SLDC Nagaland.

- GM, NERLDC addressed the issue of non-availability of LED display for frequency, time and block number.
- The same issue is long pending from M/s GE T&D. This will be rectified by M/s GE T&D on urgent basis. M/s GE T&D informed it will be investigated and if the issue is on software part the same will be rectified by 12th July'19. And if the issue is on hardware part the same will be rectified by 26th July'19.
- The server room was checked and the Fibre Optic connection of PowerTel was found along with Tejas 1400 Mux installed at server room in SLDC Nagaland building.
- From Tejas 1400 Mux (Mux installed at server room in SLDC Nagaland building), ICCP and VC link for SLDC Nagaland are terminating.
- The orange exchange of VoIP phones are also installed at server room of SLDC Nagaland building.
- A new mux of Fibcom, under MW Vacation project, is also erected at server room of SLDC Nagaland building. This will be commissioned after completion of link Dimapur (PG) to Dimapur (NA), the same will be completed on or before 09th July'19 as informed by PGCIL representative.
- Meeting proceeded with discussion on availability of data and communication channel for each Nagaland owned stations. The detailed discussions are attached as Annexure A and Annexure A.1.
- It is informed that SIM for 11 stations out of 12 stations are provided to M/s PMAS for integration of data over GPRS.
- It is further informed, DoP Nagaland are executing the project of PLCC which will connect following nine (9) stations. Erections of panels are completed. Only testing and commission are left, which will be completed in coming three (3) months: Kohima, Dimapur (NA), Sanis, Meluri, LHEP, Mokokchung, and Dimapur(PG): as bypass station.
- NERLDC provided suggestion of rectifying the issue of non-availability in stages. As following:

Shri Sakal Deep
05/07/19
(Sakal Deep)

Rokobeito
(Rokobeito)

1

D. Chakraborty

Tiakaba Yimchunger
P. TIAKABA YIMCHUNGER

Tiameren
GM (SL)
NERLDC

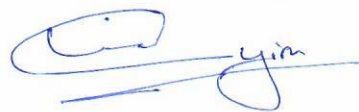
Minutes of Meeting for SLDC Nagaland visit on 05th July 2019

- Checking the availability of RTU at site.
- Checking the availability of link from site to SLDC.
- Data validation of RTU after reporting of data.
- GM, NERLDC along with DoP Nagaland officials visited 132 kV Nagarajan and 66 kV Power house to address the issue of non-availability of data.
- During the visit of 132 kV Nagarajan and 66 kV Power house S/s following were the observations:
 - In 132 kV Nagarajan S/s, it is observed that GPRS MODEM is kept inside the RTU room, where signal strength is weak and causing intermittency of data communication. It is suggested to shift the GPRS MODEM outside the room for better signal strength.
 - In 66 kV Power house S/s, it is observed that 110 V DC was not extended to RTU, the same was available at the time of commissioning and later disconnected. It was suggested to extend the 110 V DC to RTU and connect GPRS MODEM for data transmission. The signal strength in this station is healthy, as it is in the vicinity of city. This station is vital for observing the load of Dimapur City like: Civil Hospital, Airport etc. M/s DeeJay has agreed to complete the work by 12th July'19.
- 132 kV Ganesh Nagar, RTU was commissioned. The integration of same will be done by 12th July'19 with GPRS and SLDC Nagaland. This station is 35 KM from SLDC Nagaland.
- 132 kV Sanis S/s, which was not modelled earlier the visit, is modelled at SLDC database. It will be integrated with installation of RTU at site.
- Target dates for each station, as per Annexure A, will be provided in VC on 08th July'19.

Shouhan
05/07/19

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NERLDC

Annexure A

SL No.	NAME OF STATION	Voltage Level (KV)	Total Analog	Total Digital	Total Points	Analog Reporting	Digital Reporting	Total Reporting	%age analog	%age Digital	%age Total	STATUS (as on 04/07/2019)	Current Reporting Media	Fibre Optic Project(Under Implementation)	Remarks	Tentative Target
1	DIMAPUR NAGARJAY	132	35	39	74	15	38	53	42.86	97.44	71.62	Partially Reporting	GPRS	MW Vaction Project	Data are reporting. Refer annexure A.1	To Be decide at VC on 08/07/19
2	GANESH NAGAR	66	7	6	13	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS		Modem is installed. SIM connection to be checked at site. Data will report after SIM connection rectification.	
3	KIPHIRE	132	20	27	47	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS		Data are reporting. Refer annexure A.1	
4	KOHIMA	132	18	27	45	9	13	22	50.00	48.15	48.89	Partially Reporting	Boardband	FO expansion	Data are reporting. Refer annexure A.1	
5	LHEP	66	11	14	25	0	0	0	0.00	0.00	0.00	Not Reporting	Boardband		GPRS issue to be rectified	
6	MELURI	132	9	3	12	0	0	0	0.00	0.00	0.00	Not Reporting	No media		NO RTU at station	
7	MOKOKCHUNG	132	55	58	113	0	0	0	0.00	0.00	0.00	Partially Reporting	Boardband	FO expansion	Data are reporting. Refer annexure A.1	
8	MON	66	7	8	15	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS		GPRS issue to be rectified	
9	NAGNIMORA	66	8	3	11	0	0	0	0.00	0.00	0.00	Not Reporting	No media		NO RTU at station	
10	POWER HOUSE	66	12	12	24	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS		DC supply of 48 V to be extended till RTU	
11	SANIS	132	11	15	26	0	0	0	0.00	0.00	0.00	Not Reporting	No media		NO RTU at station	
12	TIZIT	66	8	3	11	0	0	0	0.00	0.00	0.00	Not Reporting	No media		NO RTU at station	
13	TUENSANG	66	9	9	18	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS	OPGW proposed existing lines	GPRS issue to be rectified	
14	TULI	66	17	22	39	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS		GPRS issue to be rectified	
15	WOKHA	66	9	12	21	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS	FO expansion	GPRS issue to be rectified	
16	ZUHENEOTO	66	7	8	15	0	0	0	0.00	0.00	0.00	Not Reporting	GPRS	OPGW proposed NEW lines	GPRS issue to be rectified	

Highlighted indicate RTU is present in S/s

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NERLDC

Annexure A.1

Dimapur (NA):

- HV side ICT 132/66 kV ICT 1: Direction of flow was opposite, corrected by negating in FE of SLDC.
- HV side ICT 132/33 kV ICT 2: Value from site is coming zero. So flow is coming zero. All isolators and CBs are needed to be modelled in FE database at SLDC
- Isolators of 132 kV Dimapur (PG) line 1 are showing opposite status. Issue to be resolved in RTU at site.
- Isolators of 132 kV Dimapur(PG) Line 2 are showing opposite status. CB is showing in-between status. Issue to be resolved in RTU at site.
- Isolators and CB of 132 kV Bus coupler bay are showing wrong status. Issue to be resolved in RTU at site.
- LV side ICT 132/66 kV ICT 1: Isolators and CB are showing wrong status. Issue to be resolved in RTU at site.
- Isolators and CB of 66 kV Bus coupler bay are showing wrong status. Issue to be resolved in RTU at site.
- 66 kV Bokajan (AS) bay: Isolators and CBs are showing wrong value. Issue to be resolved in RTU at site.
- 66/33 kV ICT 2: Analog value are not reporting. Issue to be resolved in RTU at site.
- 66/33 kV ICT 3: Analog value are not reporting. Issue to be resolved in RTU at site.
- 66 kV Ganesh Nagar: Isolators and CBs are showing wrong value. Issue to be resolved in RTU at site.
- 66 kV Chummukedima: Isolators and CBs are showing wrong value. Issue to be resolved in RTU at site.

Kohima (NA):

- 132 kV Dimapur(PG) line: All analog and digital data are correct.
- 132 kV Wokha line: All analog value are correct. Isolators and CBs are reporting wrong/opposite values. Issue to be resolved in RTU at site.
- 132 kV Meluri line: All analog value are correct. Isolators and CBs are reporting wrong/opposite values. Issue to be resolved in RTU at site.
- 132 kV Karong Line: All analog value are correct. Isolators and CBs are reporting wrong/opposite values. Issue to be resolved in RTU at site.
- 132/33 kV ICT 1: All analog value are correct. Isolators and CBs are reporting wrong/opposite values. Issue to be resolved in RTU at site.
- 132/33 kV ICT 2: All analog value are correct. Isolators and CBs are reporting wrong/opposite values. Issue to be resolved in RTU at site.

Mokokchung (NA):

- Reporting of data is not stable
- 132 kV Bus 1: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.

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NERLDC

- 132 kV Bus 2: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.
- 132 kV Doyang Line: All analog and digital data are correct.
- 132 kV Mokokchung Line 1 & 2: All analog and digital data are correct.
- 132 kV Maraini(AS) line: All analog and digital data are correct.
- 132/66 kV ICT 1:
 - HV Side: Digital data are reporting. Analog data are not correct, issue to be resolved in RTU at site.
 - LV Side: Digital data are reporting. Analog data are not correct, issue to be resolved in RTU at site.
- 132/66 kV ICT 2:
 - HV Side: Digital data are reporting. Analog data are not correct, issue to be resolved in RTU at site.
 - LV Side: Digital data are reporting. Analog data are not correct, issue to be resolved in RTU at site.
- 66 kV Bus 1: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.
- 66 kV Bus 2: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.
- 66/33 kV ICT 1: All analog and digital data are correct.
- 66/33 kV ICT 2: All analog and digital data are correct.
- 66 kV Tuli Line: All analog and digital data are correct.
- 66 kV Bus coupler: All digital data are correct.
- 66 kV Zuheneboto Line: All digital data are correct. All analog data(MW, Mvar) are not correct, to be rectified at RTU.

Kiphire (NA):

- 132 kV Bus 1: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.
- 132 kV Meluri Line: All analog data are correct. CB is reporting correct value. Isolators are reporting opposite value. Issue to be resolved in RTU at site.
- 132/33 kV ICT 1:
 - HV side: Analog value are not reporting. CB is reporting correct value. Isolators are reporting opposite value. Issue to be resolved in RTU at site.
 - LV side: CB is reporting correct value. Isolators are reporting opposite value. Issue to be resolved in RTU at site.
- 66 kV Bus 1: Data are not reporting. Data are not modelled in FE database of SLDC. After modelling in FE database of SLDC. Addressing to be done in RTU at site.
- 66/33 ICT 1: All analog value are reporting. Isolators and CBs are showing wrong value. Issue to be resolved in RTU at site.
- 66 kV LHEP Line 1 & 2: Analog data are wrong. CBs are correct. Isolators are reporting opposite data. Issue to be resolved in RTU at site.

Ahavan
05/07/19

Rabib



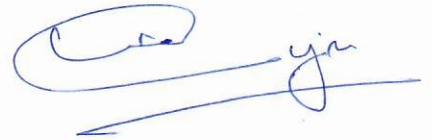



GM(SL)
NERLDC

- 66 kV Tuenseng Line: Analog data are wrong. CBs are correct. Isolators are reporting opposite data. Issue to be resolved in RTU at site.

Ashwin
05/07/19

Rakhee




GM(SL)
NERDC

Minutes of Meeting between POSOCO-NERLDC, POWERGRID-NERTS and Nagaland-DoP held through Video-Conferencing on 08th July 2019

A meeting was held through Video conferencing in line with visit of POSOCO-NERLDC team to Nagaland-SLDC on 05th July 2019 and signed Minutes of Meeting between POSOCO-NERLDC and Nagaland-SLDC thereof, among representatives from POSOCO-NERLDC, POWERGRID-NERTS and Nagaland-DoP on 08th July 2019 for discussing various issues related to non-availability of real-time data of stations and communications etc. under jurisdiction of Nagaland. The list of participants is listed in *table* below.

Shri V. Suresh (Chief GM, I/c, NERLDC)	Addl. Chief Engineer, DoP, Nagaland
Shri M.K. Ramesh (General Manager, NERLDC)	Shri Tiameren (EE, Communication), DoP, Nagaland
Shri Akhil Singhal (Chief Manager, NERLDC)	Shri Rokobeito, SDO
Shri Tapobrata Paul (Deputy Manager, NERLDC)	Shri D. Chakraborty, SDO (SLDC)
Shri Sakaldeep Chauhan (Engineer, NERLDC)	Shri Tiakaba Yimchunger (JE, SLDC)
Shri U. Katakai (Sr. GM, NERTS, POWERGRID)	
Shri Supriya Paul (DGM, NERTS, POWERGRID)	
Shri Rohitesh Kumar (Dy. Mgr., NERTS, POWERGRID)	

The Chief General Manager (NERLDC) and General Manager (System Logistics, NERLDC) gave opening remarks about proceedings of the meeting and expressed their concerns about low availability of real-time data related to stations under Nagaland SLDC. The AMC personnel deputed by M/s GE T&D India Limited (erstwhile M/s Alstom T&D India Limited) at NERLDC, Shillong was also invited to explain certain issues related to activities corresponding to M/s GE T&D India Limited. The summary of discussion on station-wise telemetry-related issues is listed below.

1.0 Station-wise issues related to non-availability of real-time data to NERLDC

As a first step, station-wise issues were discussed in detail related to non-availability of real-time data at SLDC and subsequently to NERLDC and a target action plan with time-line were prepared, wherever possible. The summary of the above discussion is mentioned below.

a) Dimapur (Nagarjan):

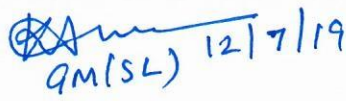
- Nagaland mentioned that the supporting poles from its side have been erected for All Di-electric Self Supporting (ADSS) FO Cables have been erected by Nagaland-DoP and the Terminal Equipment has also been erected in the Substation as well as Nagaland-SLDC building by POWERGRID-NERTS. The SCADA/EMS database validation and modelling work of Dimapur (Nagarjan) S/s at Nagaland-SLDC level will be done at the earliest with help from support personnel of M/s GE T&D India Limited.
- POWERGRID-NERTS mentioned that the stringing of FO between Nagarjan substation to Nagaland-SLDC will be done during visit of TCIL on 11-07-2019 and corresponding works will be completed by 19-07-2019. It also mentioned that OPGW link between Dimapur (Nagarjan) to Dimapur (PG) will be completed by 31st July 2019, under NER MW vacation project.
- POWERGRID-NERTS and Nagaland conveyed that "Completion" of works includes all activities related to equipment, panels, testing, power supply, earthing, data-checking, voice-checking, etc.

Present status and Target Dates for the Dimapur (Nagarjan) station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Dimapur (Nagarjan)	Partially Reporting	Broadband	19 th July'19 for FO b/w SLDC and sub-station	--


AKHIL SINGHAL)


(TAPOBRATA PAUL)


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b) Ganesh Nagar:

- General Packet Radio Service (GPRS) modem of Ganesh Nagar is not yet commissioned, as SIM is still not installed in the respective Modem at site. The Nagaland-DoP informed that SIM is available with the support personnel of M/s DeeJay Private Ltd. deputed at Nagaland-SLDC. A time-line till 14-07-2019 has been committed by M/s DeeJay Private Ltd. personnel for integration of real-time data of Ganesh Nagar RTU with GPRS Modem. Further, the integration of RTU data with the Nagaland-SLDC will also be done till 14-07-2019 itself by joint efforts of SLDC and GE.
- The POWERGRID-NERTS and POSOCO-NERLDC requested Nagaland-DoP to ensure broadband connection in the substation for internet Modem to act as a permanent connection which will increase the stability of the data.
- Nagaland-DoP informed that a Detailed Project Report (DPR) for connecting stations on OPGW (in future) including Ganesh Nagar is under preparation and the project is being envisaged to be funded by Power System Development Fund (PSDF). However, the matter is under internal planning stage by Nagaland-DoP and has not been put up to the concerned forum of NERPC till yet.

Present status and Target Dates for the Ganesh Nagar station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Ganesh Nagar	Not Reporting	GPRS	--	14 th July 2019 for GPRS

c) Kiphire:

- Nagaland-DoP informed that Kiphire substation will be connected over PLCC communication network and the corresponding project for PLCC network is under execution. The PLCC panels are erected at the substation and only the testing and commissioning of PLCC network is pending which will be completed within upcoming three (03) months' time-frame, i.e. till September'19. This project is getting funded by PSDF. It was also informed by Nagaland-DoP that PLCC path for Kiphire will be from Kiphire → Meluri → Kohima with "Kohima station" being the nearest wide-band (FO) location.
- POSOCO-NERLDC raised the concern of packet-loss as the PLCC path consists of two (02) hops i.e. Kiphire→Meluri and Meluri→Kohima. Nagaland-DoP also clarified that necessary consideration of bandwidth is being taken for resolution of packet-loss related issues like twin-channel, Digital PLCC, etc. with supplier ABB.
- Nagaland-DoP stated that real-time data of Kiphire substation is currently reporting over GPRS and intermittency is being faced due to poor network strength inside the control room of substation. The POSOCO-NERLDC requested to place GPRS MODEM in an open area, where network strength will be strong enough to transmit the data.

Present status and Target Dates for the Kiphire station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Kiphire	Not Reporting	GPRS	--	3 months for testing and commissioning of PLCC network, September'19

d) Kohima:

- POWERGRID-NERTS informed that FO link of Kohima-Dimapur (PG) will be completed by 31st July 2019 and Kohima will be the wide-band (FO) location after the completion of afore-mentioned communication link. The Kohima substation will serve as the nearest wide-band link for accumulating data from stations, under PLCC network such as LHEP, Meluri and Kiphire. The no. of stations getting integrated with Kohima

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for data-transfer needs to be accompanied by equal no. of MODEMS; MODEMS will be under scope of Nagaland at Kohima s/s. The configuration will require presence of PLCC engineer. The entire process of integration of stations reporting over PLCC network with FO communication equipment at Kohima will be scope of DoP Nagaland. The channel routing diagram of PLCC to be provided by SLDC to POWERGRID. Another VC may be planned with presence of ABB personnel also, if feasible, as per its visit/availability in near future for further discussion and planning works apart from above mentioned works.

- POSOCO-NERLDC mentioned that the integration of Voice and RTU data with FO links is under scope of Nagaland-DoP for which all technical help, if required, will be provided to integrate the voice and RTU data with Nagaland-SLDC but the procurement of telephone hand-set for integration of voice needs to be done by Nagaland-DoP.

Present status and Target Dates for the Kohima station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Kohima	Partially Reporting	Broadband	By 31 st July'19	--

e) LHEP:

- Nagaland-DoP mentioned that the PLCC will be in place in upcoming three (03) months i.e. till Sep'19 which is getting funded by PSDF. The broadband through VSAT is currently available in the substation but the permanent communication arrangement will be through PLCC.
- A RTU related problem is also being reported for non-availability of station's telemetry and the matter has been conveyed by Nagaland-DoP to M/s GE T&D India Limited and the same is under investigation by the vendor. The mismatch in database addresses is also found and the validation of SCADA/RTU databases and corresponding corrections to be completed by M/s GE T&D India Limited till Jul'19 end. Mr. Harinder Saha from M/s GE T&D India Limited (or some other competent personnel) will visit Nagaland in 3rd week of Jul'19 for its completion.
- Nagaland-SLDC informed that M/s GE will depute Mr. Harinder Saha (or any other competent engineer) to visit SLDC in 03rd week of Jul'19 itself for required rectification works.

Present status and Target Dates for the LHEP station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
LHEP	Not Reporting	Broadband	--	End of Jul'19 (for testing and commissioning)

f) Meluri:

- Nagaland-DoP mentioned that no RTU is installed in the substation yet and the same needs to be procured at the earliest at its own cost with some technical help from POWERGRID-NERTS, if required.

Present status and Target Dates for the Meluri station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Meluri	Not Reporting	No media	--	--

g) Mokokchung:

- POWERGRID-NERTS confirmed that FO has been laid and SDH/PDH has also been supplied with Fibcom and Tejas being the parties executing the related works. An amplifier will be delivered (got delayed due

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to FAT activities) to site till 20-07-2019 with a completion target of 31-07-2019. The Nagaland-SLDC agreed to provide necessary support by appointing an SDO specifically for it.

- Nagaland-SLDC stated that other detailed issues regarding telemetry have already been shared by POSOCO-NERLDC with it and will be resolved by coordination among Nagaland-SLDC and M/s GE T&D India Limited. It was also discussed that M/s GE personnel i.e. Mr. Harinder Saha (or any other competent personnel) who will be visiting SLDC in 3rd week of Jul'19 will carry out the required rectification works.
- POWERGRID-NERTS specified that –
 - **In case of FO expansion projects:** For voice-communication in s/s, only a hand-set needs to be procured by Nagaland. Rest all ports will be provided by POWERGRID.
 - **In case of PLCC stations:** Entire voice-communication related works to be done by Nagaland-DoP itself.
- The tentative dates for rectification of RTU database and associated site activities to be given after consultation between Nagaland-SLDC and M/s GE T&D India Limited. The Nagaland-SLDC and other Nagaland-DoP representatives stated that it will try its best to adhere to the deadlines in sync with activities of POWERGRID.

Present status and Target Dates for the Mokokchung station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Mokokchung	Partially Reporting	Broadband	By 31 st July 2019	--

h) Mon:

- SLDC reported that there is some problem with the network-provider signal strength. The support personnel of M/s DeeJay Private Limited personnel has 8-SIMs in possession. Vendors such as Vodafone and Airtel were recommended by M/s DeeJay but signals are not working satisfactorily and hence it needs to be re-investigated that which vendors will be better in terms of signal strength. A LoA for broadband connection has been awarded to a MSME which will take some time in completion. A joint visit of Nagaland-DoP and POWERGRID-NERTS will be done to deal with network-strength related problems.
- Nagaland-DoP informed that a Detailed Project Report (DPR) for connecting stations on OPGW (in future) including Mon is under preparation and the project is being envisaged to be funded by Power System Development Fund (PSDF). However, the matter is under internal planning stage by Nagaland-DoP and has not been put up to the concerned forum of NERPC till yet.

Present status and Target Dates for the Mon station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Mon	Not Reporting	GPRS	--	--

i) Nagnimora:

- Nagaland-DoP mentioned that no RTU is installed in the substation yet and the same needs to be procured at the earliest at its own cost with some technical help from POWERGRID-NERTS, if required.
- The modelling in SCADA database has been done by Nagaland-SLDC but corresponding RTUTOP to be made in RTU database. The database modelling works will be completed in coordination with M/s GE T&D India Limited personnel at the earliest.
- Nagaland-DoP informed that a Detailed Project Report (DPR) for connecting stations on OPGW (in future) including Nagnimora is under preparation and the project is being envisaged to be funded by Power

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System Development Fund (PSDF). However, the matter is under internal planning stage by Nagaland-DoP and has not been put up to the concerned forum of NERPC till yet.

Present status and Target Dates for the Nagnimora station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Nagnimora	Not Reporting	No media	--	--

j) Power House:

- Nagaland-DoP mentioned that no power supply (110 V) is available to the RTU and needs to be rectified.
- POSOCO-NERLDC stated that GPRS needs to be connected as signal strength is good in the substation and also the Nagaland-DoP to provide broadband connection for internet Modem to act as a permanent connection which will increase the stability of the data. It was also brought to the notice of Nagaland-DoP that the RTU panel keys were found to be missing in station during visit of NERLDC team in 01st week of Jul'19. Nagaland-DoP stated that it will ensure that at least one (01) set of keys are available with substation-staff as well as SLDC-staff.

Present status and Target Dates for the Power House station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Power House	Not Reporting	GPRS	--	14 th July 2019 for GPRS

k) Sanis:

- Nagaland-DoP mentioned that no RTU is installed in the substation yet and the same needs to be procured at the earliest at its own cost with some technical help from POWERGRID-NERTS, if required. Shifting of RTU from Wokha to Sanis is under consideration by Nagaland as Sanis is becoming an important station but not yet finalized. POWERGRID-NERTS stated that it has given an additional order for RTU to M/s GE T&D India Limited and the corresponding FAT will be completed by Jul'19 with delivery of hardware in Aug'19. Hence, the Sanis substation will receive its RTU by Aug'19.
- M/s GE T&D mentioned that sufficient cards are available, but cables for integrating CT/PT connection are in shortage which will be supplied by M/s GE along with the RTU in Aug'19 itself.
- It was also deliberated that Nagaland-DoP shall take approval of addl. RTUs required and procure it through single-tender from M/s GE T&D India Limited itself (being proprietary in nature) by taking technical help from POWERGRID, if req. The LoA/PO shall be issued by Nagaland-DoP at the earliest. A tentative cost of 17 lacs (excl. installation, etc.) per RTU was conveyed by M/s GE representative. The Nagaland-DoP agreed for it.
- Permanent communication is planned through PLCC to Doyang and also the FO expansion link from Sania-Wokha.

Present status and Target Dates for the Sanis station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Sanis	Not Reporting	No media	--	End of Aug'19

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l) Tizit:

- Nagaland-DoP mentioned that no RTU is installed in the substation yet and the same needs to be procured at the earliest at its own cost with some technical help from POWERGRID-NERTS, if required.
- The modelling in SCADA database has been done by Nagaland-SLDC but corresponding RTUTOP to be made in RTU database. The database modelling works will be completed in coordination with M/s GE T&D India Limited personnel at the earliest.
- Nagaland-DoP informed that a Detailed Project Report (DPR) for connecting stations on OPGW (in future) including Tizit is under preparation and the project is being envisaged to be funded by Power System Development Fund (PSDF). However, the matter is under internal planning stage by Nagaland-DoP and has not been put up to the concerned forum of NERPC till yet.

Present status and Target Dates for the Tizit station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Tizit	Not Reporting	No media	--	--

m) Tuensang:

- A joint visit by POWERGRID-NERTS and Nagaland-DoP will be conducted during the period of 12-19th July 2019; it shall be utilized for re-survey for GPRS signal strength and finalizing the target date for completion of rectification works.
- POWERGRID-NERTS stated that upgradation of MODEM is not possible for incorporating 4G support and hence getting Broadband connection will be beneficial.

Present status and Target Dates for the Tuensang station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Tuensang	Not Reporting	GPRS	--	12 th -19 th July 2019

n) Tuli:

- A joint visit by POWERGRID-NERTS and Nagaland-DoP will be conducted during the period of 12-19th July 2019; it shall be utilized for re-survey for GPRS signal strength and finalizing the target date for completion of rectification works.
- Nagaland-DoP informed that a Detailed Project Report (DPR) for connecting stations on OPGW (in future) including Tuli is under preparation and the project is being envisaged to be funded by Power System Development Fund (PSDF). However, the matter is under internal planning stage by Nagaland-DoP and has not been put up to the concerned forum of NERPC till yet.

Present status and Target Dates for the Tuli station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Tuli	Not Reporting	GPRS	--	12 th -19 th July 2019

o) Wokha:

- A joint visit by POWERGRID-NERTS and Nagaland-DoP will be conducted during the period of 12-19th July 2019; it shall be utilized for re-survey for GPRS signal strength and finalizing the target date for completion of rectification works.

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GM/SL 12/7/19

- POWERGRID-NERTS informed that M/s TCIL has not started OPGW related work and POWERGRID-NERTS raised the concern of LILO of Wokha-Kohima line due to which plan for FO expansion works will change. POWERGRID-NERTS requested Nagaland-DoP to provide necessary details of LILO work.

Present status and Target Dates for the Wokha station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Wokha	Not Reporting	GPRS	--	--

p) Zuheneboto:

- A joint visit by POWERGRID-NERTS and Nagaland-DoP will be conducted during the period of 12-19th July 2019; it shall be utilized for re-survey for GPRS signal strength and finalizing the target date for completion of rectification works.
- NERLDC insisted for permanent communication link to SLDC data transfer from this RTU.

Present status and Target Dates for the Zuheneboto station

Name of Station	Telemetry Status (as on 04-07-2019)	Current Reporting Media	Target date by NERTS	Target date by Nagaland
Zuheneboto	Not Reporting	GPRS	--	12 th -19 th July 2019

2.0 Completion of Power Line Carrier Communication (PLCC) under PSDF projects

Nagaland-DoP mentioned that there are several stations (such as Kiphire, Kohima, LHEP, Meluri, Mokokchung, Doyang, Sanis, etc.) in Nagaland in which the PLCC is under implementation and getting funded by PSDF. The project status of all such works should be conveyed by Nagaland. Nagaland stated that all such projects are likely to be completed and will be in place in next three (03) months i.e. till Sep'19.

3.0 Projects under proposal by Nagaland to be put up for funding through Power System Development Fund (PSDF)

Nagaland-SLDC stated that it is preparing a proposal for Fiber-Optic expansion in communication related to all 66kV stations which may be funded through Power system Development Fund (PSDF). The Detailed Project Report (DPR) is under preparation and corresponding proposal may get prepared and submitted for approval subsequently. The POSOCO-NERLDC and POWERGRID-NERTS requested that such plan may be put up as an agenda for discussion in 14th NETeST meeting to be held on 11th July 2019 for attention of NERPC and other related utilities.

The OPGW (future) is under DPR preparation stage for facilitating wide-band communication network for stations such as Ganesh Nagar, Mon, Nagnimora, Tizit and Tuli.

4.0 Procurement of Remote Terminal Units (RTUs) for certain sub-stations

Nagaland-DoP told that it has some stations in which RTU has not been installed yet and the corresponding funding can be sought from PSDF by initiating a proposal. POSOCO-NERLDC stated that SLDC should procure RTUs at its own cost for all such stations such as Meluri, Sanis, Nagnimora, Tizit and NOT to wait for any financial support from PSDF which may take 2-3 years from initiation→approval→ implementation. POWERGRID-NERTS agreed to provide the technical support/details of RTUs, if required by Nagaland. The procurement of RTUs will be done by Nagaland at its own cost at the earliest.

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5.0 Sharing of project related documents by POWERGRID

Nagaland stated that it has not received many project related documents of SCADA/EMS projects. POWERGRID mentioned that all documents were uploaded on Google-Drive and corresponding link for accessing the files was shared with Nagaland. However, POWERGRID will share links of location-wise folder and database files in Google-Drive with Nagaland SLDC. Similarly, the as-built drawings will also be shared by POWERGRID-NERTS with EE (Transmission) of SLDC, Dimapur.

6.0 Maintaining supportive ambient environment for equipment

NERTS, POWERGRID requested that sufficient air-conditioning and cleanliness in the communication room needs to be ensured in the s/s by Nagaland. A dust-free environment is essential for such costly equipment to enhance its life and using it for long years for real-time data acquisition and other related purposes. Nagaland agreed to provide all such required facilities in its sub-stations.

7.0 Issues related to AMC of ongoing SCADA/EMS project

POSOCO-NERLDC requested Nagaland-DoP to maintain sufficient spares for SCADA system at SLDC premises and also requested Nagaland-DoP to take-up the matters strictly with M/s GE T&D regarding deputing competent staff in AMC. The Nagaland-SLDC shall ensure that the AMC personnel deputed at present need to have at least five (05) years of experience as per the contract. POSOCO-NERLDC also insisted to get rectification of system frequency display at Nagaland-SLDC at the earliest.

8.0 Point of Contact from Nagaland-DoP for necessary action and coordination works

Addl. Chief Engineer, Nagaland-DoP nominated Shri Rokobeito, SDO as a Nodal Officer for SCADA and Communication related works at Nagaland SLDC to improve the work progress and coordination with POWERGRID and other utilities.

Addl. Chief Engineer, Nagaland-DoP nominated Shri Tiakaba Yimchunger (JE, SLDC) to be dedicated for database and communication works.

9.0 Joint collaboration for resolution and periodic-monitoring of issues

It was agreed by POWERGRID-NERTS, POSOCO-NERLDC and Nagaland-SLDC that next review meeting will be held in the end of Aug'19 for close monitoring of the progress made in the activities discussed in the meeting. The meeting ended with a resolution to provide all support from POSOCO-NERLDC, POWERGRID-NERTS and Nagaland SLDC side for quick rectification of all the listed issues and extending support for all related matters.

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GM/SL 12/7/19

Status of “Fibre Optic Cable Package for NR fibre optic expansion (additional requirements) and NER fibre optic expansion under establishment of Fibre Optic Communication system in Northern Region”

Sl No	Link Name	Status as per 13th NETeST	OPGW Stringing status	End Equipment Status	Overall reporting of end stations to NERLDC/ SLDC
	Central Sector				
1	132kV Melriat (PG) ~ Silchar (PG)	Data and voice reported dtd 31.03.2019. SAT Pending	Complete	Complete	Data and voice reported dtd 31.03.2019. SAT Pending
2	132kV Khandong~Halflong (PG)	July19	Complete	I&C-WIP	August-19
3	132kV Dimapur (PG)~ Doyang (NEEPCO)	July19	-do-	I&C-WIP	August-19
4	132kV Doyang (NEEPCO)~ Mokokchung (State)	July19	-do-	I&C-WIP	August-19
5	220kV Mokokchung (PG)~ Mariani (PG)	July19	-do-	I&C-WIP	August-19
6	400kV Mariani (PG)~ Kathalguri (NEEPCO)	July19	-do-	I&C-WIP	August-19
7	400kV Surajmaninagar (TSECL) ~ Pallatana (OTPC)	July19	Stringing Complete d: 27.967/3 6.714 Km	I&C-WIP	August-19
8	132kV Badarpur(PG) ~ Jiribam(PG)	Sept-19	Stringing Complete d: 48/67.16 6 Km	I&C-WIP	Sept-19
9	Bongaigaon (PG-400 kV) ~ 220kV Salakati-220 kV BTPS	Sept-19	0/4.5 Km	I&C-WIP	Sept-19
10	400kV Mirza (Azara) ~ Byrnihat (OPGW project in central sector as decided in 15 th RPC meeting. LILO part of line is of Assam)	Aug-19	0/47.208 Km	I&C-WIP	Sept-19

11	400kV Silchar ~ Pallatana	Dec-19	Stringing Completed: 61.146/2 47.409 Km/ROW issue	I&C-WIP	Dec-19
12	132kV Agartala(TSECL) ~ RC Nagar (NEEPCO)	July19	Complete	Pending due Space Constraint	01 month after space is provided by NEEPCO
13	132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC)	Dec-19	0/82.461 Km	I&C-WIP	Dec-19
14	132kV Loktak (NHPC) ~ Imphal (PG)	July19	Complete #	I&C-WIP	August-19
15	PK Bari (TSECL)--LILLO of (NETCL) Belonia	Dec-19	0/10.441 Km	I&C-WIP	Dec-19
16	132kV Parey ~ Chimpu	Dec-19	0/31Km	I&C-WIP	Dec-19
Manipur State Sector					
1	132kV Yurembam ~ Yaingangpokpi	Jul-19	Complete #	I&C-WIP	August-19
2	132kV Yaingangpokpi ~ Kongba	Jul-19	Complete #	I&C-WIP	August-19
3	132kV Kongba ~ Kakching with LILLO at Thoubal	Jul-19	Complete #	I&C-WIP	August-19
4	132kV Imphal(State) ~ Karong	Jul-19	45.4/60K m. WIP	I&C-WIP	Aug-19
5	132kV Kakching ~ Churachandpur	Jul-19	19.60/38 Km. WIP	I&C-WIP	Aug-19##
6	132kV Loktak(NHPC) ~ Ningthoukhong	Jul-19	Complete #	I&C-WIP	August-19
7	132kV Yaingangpokpi ~ Hundung	Jul-19	14.5/30K m	I&C-WIP	Aug-19
8	132kV Kakching ~ Chandel	Jul-19	16.37/25 Km	I&C-WIP	Aug-19
9	132kV Loktak(NHPC) ~ Rengpang	Jul-19	0/47Km	I&C-WIP	Dec-19
10	132kV Jiribam ~ Jiribam state	Jul-19	0/1Km	I&C-WIP	Sept-19
11	132kV Ningthoukhong ~ Churachandpur	Jul-19	16.80/32 Km	I&C-WIP	Aug-19##

Tripura State Sector					
1	132kV Agartala(TSECL) ~ Barumura(GTP)	Data and voice reported dtd 31.03.2019. SAT Pending July19	Complete	Complete	Data and voice reported dtd 31.03.2019. SAT Pending July19
2	66kV 79 Tilla Grid (TSECL) ~ Badharghat	-do-	-do-	-do-	-do-
3	132kV Surajmaninagar(TSECL) ~ Budhungnagar	-do-	-do-	-do-	-do-
4	132kV Agartala(TSECL) ~ SM Nagar (TSECL)	-do-	-do-	-do-	-do-
5	132kV Pallatana(OTPC) ~ Udaipur(TSECL)	July19	-do-	I&C-WIP	August-19
6	132kV Udaipur(TSECL) ~ Rokhia GTP	July19	-do-	I&C-WIP	August-19
7	66kV Udaipur(TSECL) ~ Gumti HEP	July19	-do-	I&C-WIP	August-19
8	66kV Gumti HEP ~ Amarpur(TSECL)	July19	-do-	I&C-WIP	August-19
9	66kV Satchand(TSECL) ~ Sabroom(TSECL)	July19	-do-	I&C-WIP	August-19
10	132kV 79 Tilla Grid (TSECL) ~ Dhalabil(TSECL)	July19	-do-	I&C-WIP	August-19
11	132kV Rokhiya (GBPP) ~ Surajmaninagar(TSECL)	Front Not Ready	Supply Complete. Front Not ready (TL under construction)		Link to be deleted. Supply material isto be handed over to TSECL. DOCO will be done with consent from TSECL
12	132kV Surajmaninagar(TSECL) ~ Monarchak (NEEPCO)	Front Not Ready	-do-		
Meghalaya State Sector					
1	132kV Nehu ~ Neigrhms	July19	0/7.7Km	I&C-WIP	Aug-19
2	132kV Khliehriat(PG) ~ Khliehriat (State)	July19	Complete #	I&C-WIP	Aug-19
3	132kV Khliehriat(State) ~ MyntduLeshka-HEP	July19	24/24.93 2Km	I&C-WIP	Aug-19
4	132kV Khliehriat(PG) ~ Lumshnong (S/C)	July19	2/25.19Km	I&C-WIP	Aug-19

Nagaland State Sector					
1	132kV Kohima (132KV) ~ Kohima (220KV)	July19	0/25Km	I&C-WIP	Dec19
2	132kv Kohima ~ Wokha	Dec19	0/58Km	I&C-WIP	Dec19
3	132kV Doyang (NEEPCO) ~ Sanis	Dec19	0/10Km	I&C-WIP	Dec19
Mizoram State Sector					
01	Aizawl~Zemabawk I	July19	0/1Km	I&C-WIP	Sept-19

#-Laying of approach cable is pending

##- The stringing delayed due to tower collapse between the link

Note: The completion date mentioned above are subject to clear front availability

STATUS OF "ESTABLISHMENT OF FIBRE OPTIC COMMUNICATION SYSTEM IN LIEU OF EXISTING ULDC MW LINKS IN NORTH EASTERN REGION"

(equipment are clubbed with NER FO Expansion)

SN	Link Name	Status as per 13th NETeST	OPGW Stringing status	End Equipment Status	Overall reporting of end stations to NERLDC/ SLDC	Remarks (wrt terminal equipments)
1	132KV Silchar-Srikona	Complete	Complete	Complete	Data reporting	
2	132KV Mariani-Mariani	Complete	Complete	-do-	Data and voice reported dtd 31.03.2019. SAT Pending/Jun19	
3	132KV Nirjuli-Ranganadi with Parey	03 months after ROW is resolved	ROW issue	Supply and Installation over. SAT/Commissioning Pending.	** 03 months after ROW is resolved	MW Vac-Nirjuli, Ranagnadi&Parey
4	Imphal(PG)-Imphal (State)	June-19	Complete	I&C-WIP	August-19	MW Vac - Imphal PG FO Exp - Imphal State

5	132KV LILO of Aizawl-Zemabawk-II at Melriat SS	Data and voice reported dtd 31.03.2019 . SAT Pending/June19	Complete	Complete	August-19	MW Vac-Melriat
6	132KV Melriat-Shimui	June-19	Complete	I&C-WIP	August-19	MW Vac-Melriat FO Exp-Shimui
7	132KV Mokokchung (PG) - Mokokchung (state)	June-19	Complete	I&C-WIP	August-19	FO Exp-Mokokchung PG &Mokokchung State
8	Ranganadi-Gohpur (Part-I)	Data and voice reported dtd 18.01.2019 . /june19	Complete	Complete	Data and voice reported dtd 18.01.2019.	
9	Ranganadi-Gohpur (Part-II)		Complete	Complete		
10	Aizawl-Zemabawk-II	June-19	Complete	I&C-WIP	August-19	MW Vac-Aizawl FO Exp-Zemabawk II
11	Dimapur-Dimapur	June-19	Complete	I&C-WIP	August-19	MW Vac-Dimapur FO Exp-Dimapur State
12	132kV Ranganadi-Ziro	June-19	Complete	I&C-WIP	August-19	MW Vac-Ranganadi FO Exp- Ziro
13	132KV Lekhi-Itanagar / Chimpu SLDC	June-19	Complete	I&C-WIP	August-19	MW Vac-Itanagar SLDC FO Exp- Lekhi
14	132KV LILO of Nirjuli-Ranganadi at Lekhi	03 months after ROW is resolved	ROW issue	I&C-WIP	03 months after ROW is resolved	MW Vac-Nirjuli, Ranagnadi FO Exp- Lekhi

Note: Above mentioned communication links got delayed due to certain unavoidable situation like;

- 1) Strike & Protest in Northeast due to GST Amendment bills
- 2) Strike, Curfew in Ar Pradesh in the month of Feb-19
- 3) Strike, Curfew in Meghalaya in the month of May-Jun-18
- 4) Floods in Assam & Manipur –July 17
- 5) ROW issues (paddy field/ asking additional compensation)
- 6) Supply Containers are subjected additional checks on transit (from China to Destinations/of India) in last 1year after doklam

URTDSM PROJECT STATUS

SN	Equip.	Scope		Status				Status / Remarks
		Nos.	Location	Erection	SAT	Reporting/ Commission	Data Validation	
1	SPDC		NERLDC	1	1	1	NA	Completed26.3.19/PTOC issued after SAVT
2	PDC		Assam	1	1	1	NA	Completed26.3.19/PTOC issued after SAVT
3	PDC		Meghalaya	1	1	1	NA	Completed26.3.19/PTOC issued after SAVT
4	PDC		Arunachal	0	0	0		A.12 (By Aug19) Diversion under process Materials delivered in Tripura. Work is targeted completed by 2months(SAT)
	Total	4						
5	PMU	3	Salakati	3	3	2	3	Completed
6	PMU	6	Balipara	6	6	6	6	Completed
7	PMU	6	Bongaigaon	6	6	6	6	Completed
8	PMU	4	BNC	4	4	4	4	Completed
9	PMU	4	Silchar	4	4	4	4	Completed

10	PMU	7	Misa	7	7	7	6	Completed
11	PMU	3	Mariani	3	3	3	3	Completed
12	PMU	5	Dimapur	5	5	5	3	Completed
13	PMU	1	RHEP - NEEPCO	1	1	1	0	By 15.02.2019
14	PMU	2	Kopili - NEEPCO	2	2	2	2	Completed
15	PMU	4	Samaguri – Assam	4	4	4	4	Completed
16	PMU	2	Agia - Assam	2	2	2	2	Completed
17	PMU	2	Mariani – Assam	2	2	2	2	Completed
18	PMU	2	Tinsukia - Assam	2	2	2	2	Completed
		51		51	51	50	47	

Over all Target(for CS PDC & associated system as diverted to Tripura& UPS:Sept'19. Other parts completed including analytical

NOTE-2:

1. All concerned stations (State or ISTS/ISGS) where End equipment being installed are to provide
 - a) AC environment for equipment under LD&C packages ULDC packages
 - b) PDH space within 20meter of RTU/Gateway if data path is serial type
 - c) SDH pace within 15-20meter of PDH & SDH is to be placed within 15-20 meter
 - d) Respective station owner has to arrange of their own-
 - a) 2wire normal telephone (along with telephone wire from control desk/control room up table) to the PDH/SDH
to be provided by user
 - b) For RTU data also, necessary cable is to be provided by RTU-owner/owner of station.
e.g. one Ethernet cable(shielded) for serial data(if K 101) reporting by RTU & one Ethernet cable(shielded) to be laid & connected (between RTU/GATEWAY up to the Communication equipment-SDH/PDH for data &) by use/owner RTU station

-----XXXXX-----

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



इंग्ली, लोयर नोंग्राह, लापालांग, शिलांग 793006 (मेघालय), दूरभाष: (0364) 2536683 फैक्स: (0364) 2536387
Dongliah, Lower Nongrah, Lapalang, Shillong -793006 (Meghalaya)
Telephone 2536683 (Off) Fax : (0364) 2536387

उत्तर पूर्वी क्षेत्र परासण प्रणाली / NORTH EASTERN REGION TRANSMISSION SYSTEM

संदर्भ संख्या / Ref. No.

दिनांक / Date

Ref: NESH/AM-ULDC/509U/110A

Date: 05.07.2019

To
Sr. General Manager (In-charge),
System Operations-II/ System Study- Department
NERLDC, POSOCO, Shillong-793006

KA: Shri Amaresh Mallick

Sub: Phase Angle Error wrt PMUs of different EHV Stations in NER: Request for necessary feedback with System study point of view for executing/implementing changes (wrt CT/PT connection as required) for feeders connected to stations where PMUs installed in URTDSM-WAMs project, NER: Reg

Ref: NOA to M/s Alstom T&D India Ltd. for WAMS system for NLDC, NR, ER and NER (Package-I) under Unified Real Time Dynamic State Measurement (URTDSM) against CC-CS/363-NRI/SCADA-2161/3/G1/R/CA-I/4857dtd. 31.03.2014 & Further discussion in NETeST.

Dear Sir,

- 1.0 This has reference to the subject mentioned above. With implementation of URTDSM project-scope in NER & onward observation of data from different PMUs of stations, some discrepancies in phasors/angular notations are observed. The same was discussed in 13th NETeST-MoM of which is self-explanatory.
- 2.0 As different network/power system study for grid operations under O&M stage is carried out by system study/SO dept of NERLDC with consolidated system/network data (NE region) available at NERLDC, it is requested that specific feedback may be provided to POWERGRID (viz. whether change in CT/PT-secondary input is required & if yes, which phase is to be interchanged in a specific station of Assam, NEEPCO, POWERGRID etc.) after necessary study & matrix formation as was discussed in 13th NETeST. The prescribed matrix from NERLDC may contain specific information as to be implemented by POWERGRID in coordination with owner of stations/utility.

3.0 A sample format as example is as follows:

केन्द्रीय कार्यालय : "सौदामिनी", प्लॉट नं. - 2, सेक्टर - 29, गुडगाँव - 122001, दूरभाष : 0124 - 2571700-719
Corporate Centre: "Saudamini", Plot No. 2, Sector - 29, Gurgaon - 122001, Tel No. 0124 - 2571700 - 719

P-1/2

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्र परियोजना प्रणाली / NORTH EASTERN REGION TRANSMISSION SYSTEM
Dongtiéh. Lower Nongrah. Lapalang. Shillong - 793006 (Meghalaya)
Telephone 2536683 (Off) Fax : (0364) 2536387

संदर्भ संख्या / Ref. No.

दिनांक / Date

Location Name Of Stn	Name of Feeder	CT input to Input		CVT-Line/Bus Input to PMU		Remarks
		to be changed from existing to proposed after study by NERLDC				
Station : X Utility: Y	Feeder No.1	Present Connection Secondary-Phase	Proposed Connection Secondary Phase	Present Connection Secondary	Proposed Connection Secondary	Please mention where no change required
				R Y B	R1 Y1 B1 (Example only)	
	Feeder no.2	...	.....	....	....
	Feeder no.. 3	...	...	.....
Station: N	.....	....	....	.....	....

4.0 The above feedback in the proposed format from NERLDC is requested at the earliest possible for needful implementation at site level in coordination with respective utility (owner of station), central or state sector.

Regards,

Thanking you,

M. K. Baruah
05/07/19
(M. K. Baruah)
GM-ERP/ULDC, Guwahati

Copy: (For kind information)

1. Sr GM-AM, I/C -
2. ED, NERTS .
3. ED, POSOCO, NERLDC .

केन्द्रीय कार्यालय : "सौदामिनी", प्लॉट नं. - 2, सेक्टर - 29, गुडगाँव - 122001, दूरभाष : 0124 - 2571700-719
Corporate Centre: "Saudamini", Plot No. 2, Sector - 29, Gurgaon - 122001, Tel No. 0124 - 2571700 - 719



PROCESS & MACHINES AUTOMATION SYSTEMS

G-695 RIICO INDUSTRIAL AREA, SITAPURA, JAIPUR-302022 (RAJASTHAN), INDIA
INDIA UAE

Email : info@pmas.in | Telephone : +91-9829037469

GST No. : 08AAACHS 1722F1Z1

To

Date: 01-07-2019

The SLDC Incharge,
Dept. of Power, Nagaland SLDC, Nagarjan

CC:-General Manager, Dimapur Power grid

Subject: Regarding data reporting in PMAS-GPRS System against LOA NO, NESH/CSM/630/LOA/448 DATED 19.05.2017

Respected Sir,

With due respect we would like to inform you that we have installed GPRS modem at Nagarjan, Kohima, Mokokchang, Khipire and LHEP and successfully reported data at Nagaland SLDC. However data mismatching is observed which are taking care by RTU installation party. In between we are facing problem in data reporting through GPRS SIM for remote sites due to network problem of service provider. Hence may I request you to provide broadband connection for remaining sites so that we could complete our installation and commissioning activity at earliest. Site details are listed below.

Sl No	RTU Site name	Data Reporting	Modem I&C (Yes/No)	SAT Signed	Media
1	Nagarjan 132kV	YES	YES	YES	SIM
2	Kohima 132kV	YES	YES	YES	Broadband
3	Mokuukchung 132kV	YES	YES	YES	Broadband
4	Kiphire 132kV	YES	YES	NO	SIM
5	LHEP 132kV	YES	YES	NO	Broadband
6	Tuli 66kV	NO	YES	NO	SIM Installed, but due to poor network, link not able to established after 2-3 attempts, hence Broadband Required
7	Ganesh Naagr/ Paren	NO	NO	NO	
8	Wokha 132kV	NO	NO	NO	
9	Zuheneboto 66kV	NO	NO	NO	
10	Tuensang 66kV	NO	NO	NO	
11	Mon	NO	NO	NO	

DOP, SLDC is requested to take up with respective service provider like BSNL & Airtel (where network is poor)

Assuring our best service.

For Process & Machines Automation Systems

Thanking You,

Yours Faithfully

(Khushboo Hussain)

For PROCESS & MACHINES AUTOMATION SYSTEMS

Annexure 2

STATUS OF DATA VALIDATION OF NERTS STATIONS AS ON 03/07/19

Sl. No.	Name of RTU	Status of Data validation
1	Aizawl	Completed
2	Badarpur	Completed
3	Balipara	Completed
4	BNCHVDC	Database to be at site
5	Bongaigoan	Completed
6	Dimapur	New Gateway to be procured
7	Haflong	Completed
8	Imphal	Completed
9	Itanagar(Nirjuli)	Completed
10	Jiribam	Completed
11	Khleiriat	Isolators to be incorporated as SPS in site
12	Kopili-Ex	After completion of GIS
13	Kumarghat	Completed
14	Mariani	Database upgradation at site
15	Melriat	Completed
16	Misa	Database to be pending at site
17	Mokokchung	Completed
18	Namsai	To be corrected after implementation of VSAT
19	Roing	To be corrected after implementation of VSAT
20	Salakati	Completed
21	Silchar	Silchar gateway doesn't support configuration of both side of ICTs
22	Tezu	To be corrected after implementation of VSAT
23	Ziro	Completed

Annexure 3

Telemetry Data Validation between SLDC Assam, NERLDC and Communication Department of AEGCL(Annexure D)

SL No.	NAME OF STATION	Assam SLDC Status as on 28/03/2019	Reason for Not Reporting	Responsibility	Target to Complete	Remarks
1	Agia	Yes	RTU database to be rectified at site and SAS upgradation in progress	CGM T&T, and CGM SLDC AEGCL	Aug-19	Material not reached the site.ERL make.
2	ASHOK PAPER MILL(APM)	No	PLCC is not working and RTU is faulty SAS upgradation in progress	CGM T&T, and CGM SLDC AEGCL	Aug-19	KIOSK building completed for installation of SAS panels.
3	AZARA	Yes	Non-available points will be checked jointly by SLDC and Communication department	CGM T&T, and CGM SLDC AEGCL	Aug-19	
4	PANCHGRAM	Yes	Non-available points will be checked jointly by SLDC and Communication department	CGM T&T, and CGM SLDC AEGCL	Aug-19	
5	BEHIATING	No	Gateway commissioning is pending after SAS completion already meeting held with M/S Techno for completion of the same	CGM T&T, and CGM SLDC AEGCL	Jul-19	
6	BILASIPARA	Yes	Only ICT 1 bay to be rectified	CGM T&T, and CGM SLDC AEGCL	Jul-19	
7	BNC(AS)	No	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
8	BOKAJAN	Yes	ICT2 data is not available and isolators coming wrong, SAS work under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
9	BOKAKHAT	Yes	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
10	BOKO	Yes	RTU database to be rectified at site.	CGM T&T, and CGM SLDC AEGCL	Apr-19	
11	BONGAIGOAN(BIPS)	Yes	SAS commissioning under progress.	CGM T&T, and CGM SLDC AEGCL	Apr-19	
12	BORDUBI	No	Gateway commissioning is pending after SAS completion already meeting held with M/S Techno for completion of the same	CGM T&T, and CGM SLDC AEGCL	May-19	
13	BORNAGAR	No	Gateway commissioning is pending after SAS completion	CGM T&T, and CGM SLDC AEGCL	Apr-19	
14	CHANDRAPUR	No	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
15	DEPOTA(TEZPUR)	No	Under Progress to be completed by 29/03/2019	CGM T&T, and CGM SLDC AEGCL	Jul-19	
16	DHALIGAON	Yes	SAS upgradation under progress.Old CRP panels connection to RTU connections removed.	CGM T&T, and CGM SLDC AEGCL	Completed	
17	DHEKIAJULI	Yes	Only Voltage data wrong .Will have to call Vension Electric service engineer to rectify the same	CGM T&T, and CGM SLDC AEGCL	May-19	
18	DHEMAJI	No	SAS upgradation under progress. PLCC link to be rectified and will request NERPSIP to expedite the project	CGM T&T, and CGM SLDC AEGCL	May-19	
19	DIBRUGARH	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	Jul-19	
20	DIPHU	Yes	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
21	DISPUR	Yes	Link is fluctuating	CGM T&T, and CGM SLDC AEGCL	Jul-19	
22	DULLAVCHERA	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	Apr-19	
23	GAURIPUR	Yes	Data to be checked	CGM T&T, and CGM SLDC AEGCL	Apr-19	
24	GOHPUR	Yes	RTU database to be rectified at site SAS upgradation under progress.	CGM T&T, and CGM SLDC AEGCL	Jul-19	
25	GOLAGHAT	Yes	Data to be checked Data upgradation under SAS under progress.	CGM T&T, and CGM SLDC AEGCL	Jul-19	
26	GOSSAIGAON	No	Earth Mat work under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19	
27	HAFLONG	Yes	Link work under progress	CGM T&T, and CGM SLDC AEGCL	Aug-19	
28	HAILAKANDI	Yes	Data to be checked	CGM T&T, and CGM SLDC AEGCL	Oct-19	
29	JAGIROAD	Yes	Data to be checked	CGM T&T, and CGM SLDC AEGCL	Apr-19	
30	JAWAHARNAGAR	Yes	Data to be checked	CGM T&T, and CGM SLDC AEGCL	Apr-19	

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30/3/19

GM(SL), NERLDC

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31	JORHAT(GARMUR)	Yes	Data to be checked		
32	JORHAT(WEST)	Yes	No issue		
33	KAHELIPARA	Yes	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Apr-19
34	KAMAKHYA	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	
35	KAMALPUR	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	May-19
36	KOKRAJHAR	No	No issue	CGM T&T, and CGM SLDC AEGCL	
37	NORTH LAKHIMPUR	No	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Apr-19
38	LTPS	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
39	KARBI LANGPI	Yes	No issue	APGCL, SLDC	Jul-19
40	LANKA	Yes	RTU database to be rectified at site.	CGM T&T, and CGM SLDC AEGCL	
41	MAJULI	No	Link to be established	CGM T&T, and CGM SLDC AEGCL	Jul-19
42	MARGHERITA	No		CGM T&T, and CGM SLDC AEGCL	Jul-19
43	MARIANI	Yes	Data to be checked	CGM T&T, and CGM SLDC AEGCL	Aug-19
44	MORAN	No	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19
45	MATIA	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	Apr-19
46	NAGAON	No	Gateway commissioning is pending after SAS completion already meeting held with M/S Techno for completion of the same	CGM T&T, and CGM SLDC AEGCL	May-19
47	NALBARI	Yes	Data stability to be checked	CGM T&T, and CGM SLDC AEGCL	Apr-19
48	NAMRUP	Yes	Coordination with APGCL is required for database and telmetry	APGCL, SLDC	
49	NAMRUP PS 1	No	Coordination with APGCL is required for database and telmetry	APGCL, SLDC	
50	NARANGI	Yes	Database Issue	SLDC department	
51	NAZIRA	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
52	PAILAPOOL	No	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
53	RANGIA	Yes	RTU database to be rectified at site.	CGM T&T, and CGM SLDC AEGCL	
54	ROWTA	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
55	RUPAI	No	-	CGM T&T, and CGM SLDC AEGCL	
56	SAMAGURI	Yes	Digital and analog data to be checked, data are reporting, RTU database to be rectified at site.	CGM T&T, and CGM SLDC AEGCL	Jul-19
57	SARUSAJAI	No	SAS commissioning under progress	CGM T&T, and CGM SLDC AEGCL	Jul-19
58	SIBSAGAR	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	Apr-19
59	SIPAJHAR	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
60	SISHUGRAM	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
61	SONABIL	Yes	Bus data to be checked and ICTs to be removed from database	CGM T&T, and CGM SLDC AEGCL	
62	SONARI	Yes	Gateway commissioning is pending after SAS completion already meeting held with M/S Techno for completion of the same	CGM T&T, and CGM SLDC AEGCL	
63	SRIKONA	No	Digital Data to be checked	CGM T&T, and CGM SLDC AEGCL	Jul-19
64	SONAPUR	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	
65	TINSUKIA	Yes	Digital and analog data to be checked, data are reporting	CGM T&T, and CGM SLDC AEGCL	
66	UMRANGSHU	Yes	No issue	CGM T&T, and CGM SLDC AEGCL	

Reporting	46	SLDC responsibility		
Not Reporting	20	Communication Department responsibility		1
		SLDC and Communication Department Joint responsibility		0
		APGCL, SLDC and Communication Department		0
		No issues		0
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MGM, AEGCL
30/3/19

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30/03/19

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30/3/19
GM(SL), NERLDC

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From: AGM COMMUNICATION [plccghy@gmail.com]
Sent: 22 March 2019 15:32:18
To: Mk Ramesh; M K Ramesh (एम के रमेश)
Subject: Fwd: Data validation at SLDC Guwahati

Kind attention : Sri M.K Ramesh sir

----- Forwarded message -----

From: AGM COMMUNICATION
<plccghy@gmail.com<mailto:plccghy@gmail.com>>
Date: Wed, 20 Mar 2019, 4:11 p.m.
Subject: Data validation at SLDC Guwahati
To: Mk Ramesh
<rameshgct91@gmail.com<mailto:rameshgct91@gmail.com>>
Cc: Slde Aegcl

<sldcaseb@gmail.com<mailto:sldcaseb@gmail.com>>,
dgmmrtc <dgmmrtc@gmail.com<mailto:dgmmrtc@gmail.com>>

Dear Sir

I request you to arrange a visit at SLDC kahilipara
for data validation.

Regards
AGM Communication
AEGCL Ghy-19


Connected to Microsoft Exchange

पावर सिस्टम ऑपरेशन कर्पोरेशन लिमिटेड

(भारत सरकार का उद्यम)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लुवार नॉग्राह, लापालांग, शिल्लोंग-793006, (मेघालय)
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)
CIN : U40105DL2009GOI188682 फोन : 0364 - 2537785, 2537427, फेक्स : 0364 & 2537486. Website : nerlco-org. Email Id - nerlco@posoco.in

संदर्भ/Ref: NERLDC/SL/SCADA/ 3036

दिनांक/ Date :22.03.2019

To,
The Chief General Manager
State Load Despatch Centre
AEGCL, Kahilipara,
Guwahati.

Dear Sir

विषय/SUB: Telemetry Data Validation and SCADA Data base checking at Assam SLDC –Reg

As discussed in series of NETest Meetings (B-8 of 10th NETest, B-4 & B-9 of 11th NETest and B-4 & B-8 of 12th NETest Meeting) on data validation in Assam RTU/SAS station's telemetry data.

The following Team is visiting AEGCL SLDC to ascertain the Telemetry availability, data validation and SCADA Data base checking along with Single line Diagrams of the Assam RTUs / SAS Stations.

- 1) Shri.M.K.Ramesh ,General Manager(System Logistics), NERLDC, Shillong.
- 2) Shri.Sakal Deep, Engineer(System Logistics),NERLDC, Shillong.

The Team will be there at SLDC from 27-03-2019(FN) to 29-03-2019(AN). During their visit PLCC / Communication team , SLDC SCADA Team and Generating station Team are requested to be present to discuss about Data availability, data validation etc.,.

AEGCL shall arrange all necessary single line diagrams, PLCC / Communication Links diagrams etc.,

Thanking you,

Yours sincerely,

M K Ramesh

महाप्रबंधक (प्रणाली प्रचालन)/ GM (System Logistics)
उ.पू.क्ष.भा.प्रे.के, पोसोको/ NERLDC, POSOCO
शिलांग/ Shillong

Copy:

- 1) CGM, NERLDC ,Shillong
- 2) Member Secretary, NERPC, Shillong.
- 3) Director, NERPC, Shillong.
- 4) The DGM, MRTC, Guwhati.

Minutes of Database and Telemetry Validation exercise of SCADA database at SLDC Assam from 27/03/2019 to 29/03/2019

Venue: SLDC Assam, Kahilipara, Guwahati

Date: 27th – 29th March 2019

The exercise on database and telemetry validation of SLDC Assam SCADA NER was attended by the following officers/executives:

Communication Department, AEGCL	SLDC, Assam	NERLDC
1. Shri. Pranab Saha, AGM 2. Shri. Arup Sarmah, DM 3. Shri. Manashjyoti Bora, JM	1. Shri K. Gogoi (DGM) 2. Shri. Rupjyoti Das, AM(SCADA) 3. Ms. Indrani Borah, JM(SCADA)	1. Shri. M K Ramesh, GM(System Logistics) Shri. 2. Sakal Deep, Engineer (System Logistics)

Opening meeting was held at 11:30 hrs of 27/03/2019. And following points were discussed:

- Status of phase I rectification of telemetry data of AEGCL substations as per meeting of 24/01/2019. The Annexure-A is attached for the same.
- GM, System Logistics, NERLDC discussed the procedure to carry out the validation of database and telemetry:
 - First, SLD of site along with SLDC Assam and NERLDC SCADA database will be cross checked.
 - Second, after database rectification the telemetry validation will be carrying out for each measurement.

The following has been discussed.

- The members studied and analysed detailed site Single line diagram of substations of AEGCL.
- The SLD of APGCL cannot be discussed due to non-availability of Single line diagram.
- The members also discussed and analysed telemetry issues of all the substations.

The following are the observations:

Date: 27/03/2019

1. GM(SL, NERLDC), DGM(MRTC, AEGCL) and AGM(Communication, AEGCL) met CGM(Transmission), CGM(Generation) and MD(AEGCL) to discuss the objective of visiting team, lack of generation station real-time data and low percentage of data availability.
2. Other major activities carried out were:
 - Members discussed the total number of substations modelled in Assam and NERLDC database.
 - On detailed analysis it is found that total number of substations is 66.
 - Gorahmari substation is under modelling stage:
 - Assam SLDC will complete the database and on-lining procedure within the next week i.e 6th April 2019 by obtaining the necessary details from the site.

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A.K.

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20/3/19

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30/03/19

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20/3/19
GM, SL, NERLDC

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Borah

Minutes of Database and Telemetry Validation exercise of SCADA database at SLDC Assam from 27/03/2019 to 29/03/2019

- Communication along with Gateway is yet to established, target date is July 2019.
- Differences were observed between the SCADA database of NERLDC and SLDC Assam, as information was not shared by SLDC Assam to NERLDC. It has been decided that SLDC Assam will inform any modification in SCADA database to NERLDC within a week of the changes.
- Members analysed and discussed 25 no. of substations for database validation. The analysis was carried out by taking into following information:
 - SLD of site
 - Database of Assam SCADA.
 - Database of NERLDC SCADA.

Date: 28/09/2019

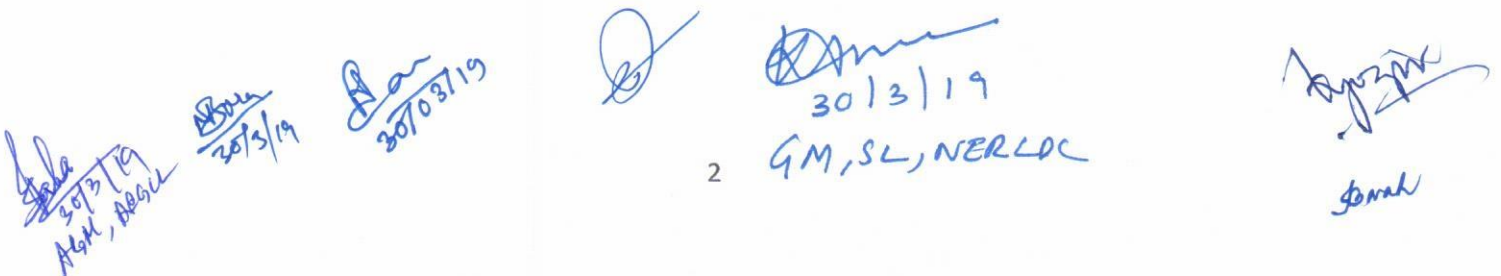
- Members analysed and discussed rest 41 no. of substations for database validation. The analysis was carried out by taking into following information:
 - SLD of site
 - Database of Assam SCADA.
 - Database of NERLDC SCADA.
- Detailed observations are attached in Annexure B for all 66 stations.

Date: 29/09/2019

- Issues of SCADA database is rectified at SLDC Assam end, as highlighted with green in Annexure-C. On rectification, increase in percentage availability was observed by 7% availability of Assam telemetry data was 42% before rectification of database and Assam telemetry data was 49% after rectification of database. The availability percentage was calculated with considering the following:
 - MW, MVar, OLTC, Voltage and Frequency for analog data.
 - CB and Isolators for digital data.
- Data integration of 132 kV Depota is under progress and is expected to report by 30/03/2019. This will increase the availability percentage by 1%.
- After resolving issues of database, detailed analysis of telemetry was carried out by the members. And following is the responsibility matrix was obtained: (Details in Annexure D)

SLDC responsibility	1 Substation
CGM SLDC & CGM T&T responsibility	53 Substations
APGC, SLDC and Communication Department	3 generating stations
Substation with no issues	9 substations

- AGECL will carry out the work within short span of time.



 2 GM, SL, NERLDC

Minutes of Database and Telemetry Validation exercise of SCADA database at SLDC Assam from 27/03/2019 to 29/03/2019

Other observations:

- AEGCL also expressed non-availability of potential free contact for isolators other than SAS upgraded station. AEGCL has to explore alternate methodology to obtain the isolator status.
- NERLDC suggested the following for obtaining and maintaining 100% data:
 - Availability and consistency of Real-time data and communication links.
 - Data validation of all stations(generating and substations) by considering zero bus summation of MW and Mvar flow.
 - Data verification of the both ends of the all elements.
 - Making sure of the availability of real-time data, SLDC in SCADA system and voice at the control room as per the AERC Grid code clause 5.10.1.

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Draft of Minutes of Meeting between NERLDC and Meghalaya SLDC held at NEHU SLDC premises on 27th May 2019

A meeting was held, inline with minutes of 13th NETeST meeting, among representatives from NERLDC, Shillong and Meghalaya SLDC, Nehu and System Protection Division on 27th May 2019 for discussing various issues related to non-availability of real-time data of stations and communications etc. owned by MePTCL. The list of participants is listed in *table* below.

M.K. Ramesh (General Manager, NERLDC)	F.E.Kharshiing (SE, SLDC)
Akhil Singhal (Chief Manager, NERLDC)	B.Nikhla (EE, SP)
Sakaldeep Chauhan (Engineer, NERLDC)	D.J.Lyngdoh (EE, SM, SLDC)
	B.Narry (AEE,C&C)
	C.W.Chen (AEE, SLDC)

The General Manager (SL, NERLDC) gave opening remarks about proceedings of the meeting and expressed his concerns about low availability of real-time data (32%) related to stations under MePTCL. The GM (SL, NERLDC) also suggested that the issues may be classified into following categories –

- Non-availability of data due to projects getting implemented under PSDF
- Communication Links issues
- Site-level issues related to RTUs, Transducers, CT/PT terminations, etc.
- Operation & Maintenance like loose cabling, earthing issues, etc.
- Single Line Diagram between Field/Site and SLDC SCADA system
- Database validation checking between Meghalaya SLDC and NERLDC

A summary of discussion is listed below.

1.0 Station-wise issues related to non-availability of real-time data to NERLDC

As a first step, station-wise issues were discussed in detail related to non-availability of real-time data at SLDC and subsequently to NERLDC and a target action plan with time-line was prepared, wherever possible. The summary of the above discussion is listed in *table* below.

Sl. No.	Name Of Stations	Reason for Non-availability of Real Time data	Category of Work to be executed	Target Date for rectification	Remarks
1	Cherapunjee	PLCC issue b/w Mawlai to Nehu	Communication Media	Commissioning dates to be intimated at the earliest (MePTCL to complete on priority to increase availability of data)	Commissioning of Digital PLCC b/w Mawlai to NEHU to be taken up on priority to resolve the issue.
2	EPIP-1	<ul style="list-style-type: none"> • New MFTs are required • Additional Digital Card to be procured for capturing remaining Digital inputs 	O&M	Analog data by 2 nd Week of Jun'19	MFTs computability issues also being faced

Sl. No.	Name Of Stations	Reason for Non-availability of Real Time data	Category of Work to be executed	Target Date for rectification	Remarks
3	EPIP-2	<ul style="list-style-type: none"> New MFTs are required Additional Digital Card to be procured for capturing remaining Digital inputs 	O&M	Analog data by 2 nd Week of Jun'19	--
4	Khleiriat	<ul style="list-style-type: none"> New Cables will be laid for all digital inputs. Additional Digital cards to be procured for Isolators status. 	O&M	3 rd week of Aug'19	Digital Cards are available only for CBs at present.
5	Killing	<ul style="list-style-type: none"> Failure of PLCC link between Killing & EPIP 2 Status of some of the Isolators is intermittent in nature and needs to be analysed by SLDC 	O&M	Till 31 st May 2019	<ul style="list-style-type: none"> Some alarm at Killing end indicating problem at EPIP 2 end. May require manual tuning of PLCC panels ON/OFF of PLCC panels can be tried
6	Leska	NSK 5 modem in PLCC panels seems to have some problem in its card	O&M	4 th Week of Jun'19	<ul style="list-style-type: none"> RTU and media seems to be functional. Speech transfer in working but not data transfer. MePTCL to test modem at Leska. May request PGCIL to divert some additional Modem in spares, if available.
7	Lumshnong	<ul style="list-style-type: none"> Operation and Maintenance issues. Needs to be checked and resolved 	O&M	1 st Week of Jul'19	<ul style="list-style-type: none"> Digital status data of some feeders not reporting Analog data of ICT-1 not reporting
8	Mawlai	<ul style="list-style-type: none"> CBs status to be rectified Additional Digital Card to be procured for Isolators status 	O&M	31 st May 2019	<ul style="list-style-type: none"> Station under modernization and a new bay is also under construction which may take around 1 year. Shifting of panels is being done and new

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Sl. No.	Name Of Stations	Reason for Non-availability of Real Time data	Category of Work to be executed	Target Date for rectification	Remarks
					panels will be placed subsequently. • Date of modification will be intimated to SLDC/NERLDC
9	Mawngap	Additional Digital Card to be procured for capturing remaining Digital inputs	O&M	<i>To be decided</i>	--
10	Mendipathar	<ul style="list-style-type: none"> • ICT 2 whole bay not reporting • Additional card for Digital Data to be procured 	O&M	Tentatively In Jul'19	Visit to Garo Hills to be decided tentatively In Jul'19
11	Mustem	<ul style="list-style-type: none"> • ICT 2 whole bay not reporting • Needs to be checked and resolved 	O&M	3 rd week of Jun'19	<ul style="list-style-type: none"> • Bus 2 data and ICT 2 data not available • All digital status data not available
12	Nangalbibra	<ul style="list-style-type: none"> • 132 kV Nongstoin Digital data is under PSDF • ICT 2 is removed from service 	O&M	Tentatively In Jul'19	Visit to Garo Hills to be decided tentatively In Jul'19
13	Nehu	Additional Digital Card to be procured for capturing remaining Digital inputs	O&M	<i>To be decided</i>	All isolators data not available
14	NEIGHRIMS	<ul style="list-style-type: none"> • ICT 2 data is not reporting as it failed last week • Additional Digital Card to be procured for capturing remaining Digital inputs under PSDF 	O&M	<i>To be decided</i>	--
15	Nongston	Earthing issues at Nangalbibra	O&M	Tentatively In Jul'19	<ul style="list-style-type: none"> • Entire station's data not reporting • MePTCL to take up the issue with EE (T&T, Tura)
16	New Umtru	No issues	--	--	--
17	Rongkhon	<ul style="list-style-type: none"> • C&R panels are erected; only terminations required • Additional Cards for isolators status needs to be procured 	O&M	Tentatively In Jul'19	Visit to Garo Hills to be decided

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Sl. No.	Name Of Stations	Reason for Non-availability of Real Time data	Category of Work to be executed	Target Date for rectification	Remarks
18	Umiam 1	To be analysed by SLDC and reported/resolved subsequently (visit planned till 31 st May 2019)	--	31 st May 2019	<ul style="list-style-type: none"> • Visit till 31st May'19 for planning further action plan • Unit 2 & 3 data are not reporting • All digital data are not reporting
19	Umiam 2	Problem with DC supply of RTU (visit planned till 31 st May 2019)	O&M	31 st May 2019	Visit till 31 st May'19 for planning further action plan
20	Umiam 3	<ul style="list-style-type: none"> • Additional Digital Card to be procured for capturing remaining Digital inputs • To be analysed by MePTCL and reported/resolved subsequently (visit planned till 31st May 2019) 	O&M	31 st May 2019	<ul style="list-style-type: none"> • Visit till 31st May'19 for planning further action plan • Unit 1 under long outage
21	Umiam 4	<ul style="list-style-type: none"> • PLCC media Issue • To be analysed by MePTCL and reported/resolved subsequently (visit planned till 01st week of Jun'19) 	Communication Media	<i>To be decided</i>	--
22	Umiam	<ul style="list-style-type: none"> • To be analysed by MePTCL and reported/resolved subsequently (visit planned till 01st week of Jun'19) 	O&M	<i>To be decided</i>	<ul style="list-style-type: none"> • ICTs data is not reporting • Chemtrols-make RTU installed.
23	Umtru	Additional Digital Card to be procured for capturing remaining Di inputs	O&M	<i>To be decided</i>	<ul style="list-style-type: none"> • All units are put out-of-service • No plan for R&M of units • Station is acting like a switching station at present

2.0 Schedule Plan for procurement of additional Digital Cards along with other accessories

MePTCL needs to be furnish the schedule-plan for procurement of additional digital cards, cabling, field cabling works, etc. to SLDC/NERLDC for improvement of Isolator status.

3.0 Validation of database and displays


It was jointly agreed by NERLDC and SLDC that the database and displays of NERLDC will be validated with that available with SLDC and the same process will be followed by SLDC w.r.t. that available with sub-station site.




NERLDC mentioned that an executive from NERLDC will be deputed at SLDC from 27-28th May 2019 for the validation of displays and database of stations under jurisdiction of Meghalaya SLDC. The observations after the database and displays validation activities are listed in *table* below for necessary rectification at SLDC/NERLDC end.

Sl. No.	Name Of Stations	Database Comparison	SLD Comparison (Site and SLDC)	SLD Comparison (SLDC and RLDC)
1	Cherrapunjee	No issues.	No Issues.	<i>To be done after necessary corrections at SLDC end.</i>
2	EPIP-1	Transformer 2 is removed from SLDC database; To be removed from NERLDC database	Extra at site: Grey Stone, Transformer 2, Sai Prakash Extra at SLDC: Killing 2, Pione	<i>To be done after necessary corrections at SLDC end.</i>
3	EPIP-2	Transformer 2 is removed from SLDC database; To be removed NERLDC database	Extra at site: ICT, Capacitor, Trishul Extra at SLDC: New Umtru	<i>To be done after necessary corrections at SLDC end.</i>
4	Khleiriat	Transformer 2 is removed from SLDC database; To be removed NERLDC database	Extra at site: Badarpur, ICT 2, Nehu Extra at SLDC: Mustem, Leska 1, Leska 2	<i>To be done after necessary corrections at SLDC end.</i>
5	Killing	No issues.	Updated site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
6	Leska	No issues.	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
7	Lumshnong	Amrit Line is under testing; Amrit_ME to be added in NERLDC database after commissioning of station; Load D_HILCM_LUMSH to be replaced with AMRIT line; Load D_JUD_LUMSH to be replaced with D_LUMSH_MPL_load	Extra at site: Hill Cement, Jud Extra at SLDC: Amrit, MPL	<i>To be done after necessary corrections at SLDC end.</i>
8	Mawlai	No issues.	Extra at site: Mawph 2 Extra at SLDC: Cherrapunjee	<i>To be done after necessary corrections at SLDC end.</i>
9	Mawngap	Bus 2 kV is not modelled in SLDC & NERLDC Database; No issues	Extra at site: Mawla 2, Cherrapunjee Extra at SLDC: Future	<i>To be done after necessary corrections at SLDC end.</i>
10	Mendipathar	No issues.	Extra at site: Nangalbibra 2 Extra at SLDC: Agia	<i>To be done after necessary corrections at SLDC end.</i>

Sl. No.	Name Of Stations	Database Comparison	SLD Comparison (Site and SLDC)	SLD Comparison (SLDC and RLDC)
11	Mustem	No issues.	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
12	Nangalbibra	Transformer 2 is removed from SLDC database; To be removed NERLDC database	Updated site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
13	Nehu	Bus 2 kV is not modelled in SLDC & NERLDC Database; No issues	Extra at site: Khleiriat Extra at SLDC: Mustem	<i>To be done after necessary corrections at SLDC end.</i>
14	NEIGHRIMS	No issues.	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
15	Nongston	No issues.	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
16	New Umtru	No issues.	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
17	Rongkhon	Ampati Substation to be modelled in NERLDC SCADA database; D_AMPAT_RONGK 1 & 2 to be added in NERLDC SCADA database; Transformer 5 to be removed from NERLDC SCADA database	Updated site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
18	Umiam 1	No issues.	Site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
19	Umiam 2	No issues.	Site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
20	Umiam 3	Bus 2 kV is not modelled in SLDC & NERLDC Database; No issues	Site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
21	Umiam 4	Bus 2 kV is not modelled in SLDC & NERLDC Database; No issues	Site SLD not available	<i>To be done after necessary corrections at SLDC end.</i>
22	Umiam	Bus 2 kV is not modelled in SLDC & NERLDC Database; No issues	No issues.	<i>To be done after necessary corrections at SLDC end.</i>
23	Umtru	Bus 2 kV is not modelled in SLDC & NERLDC Database; Unit 1 to 4 and DA_T1, DA_T2 to be	Extra at site: Unit 1 to 4 Extra at SLDC: New Umtru	<i>To be done after necessary corrections at SLDC end.</i>



Sl. No.	Name Of Stations	Database Comparison	SLD Comparison (Site and SLDC)	SLD Comparison (SLDC and RLDC)
		removed from NERLDC database		

4.0 Projects under implementation by Power System Development Fund (PSDF)

MePTCL's System Protection Division stated that various projects are under progress and being funded by PSDF such as establishment of communication links and upgradation of sub-stations by implementing SAS systems. NERLDC mentioned that the plans and target dates for completion need to be listed and shared to NERLDC in view of availability of telemetry.

5.0 Weekly/Monthly report of telemetry status

NERLDC stated that a weekly/monthly report of telemetry status is being shared by NERLDC to Meghalaya SLDC and System Protection Division of MePTCL on regular basis. Meghalaya SLDC mentioned that it is in receipt of all such reports and will coordinate accordingly.

6.0 Joint collaboration for resolution of issues

The meeting ended with a resolution to provide all support from both NERLDC and Meghalaya SLDC side for quick rectification of all the listed issues and extending support for all related matters.

Annexure 5

STATUS OF OPGW COMMUNICATION LINK IN NER UNDER FO EXPANSION

Sl No.	Link Name	Current Status	OPGW String Status	End Equipment Status	Target : As per 13th NeTEST	Target : As per 12th NeTEST
Central Sector						
1	132kV Melriat(PG) - Silchar(PG)	Complete	Complete	Complete	Data and Voice reported dtd 31.03.2019. Joint verification pending	Apr'19
2	132 kV Khandong - Haflong (PG)	WIP	Complete	Complete	Joint SAT pending	Apr'19
3	132 kV Dimapur(PG)- Doyang(NEEPCO)	WIP	Complete	Installed, Link configuration pending	July'19	Apr'19
4	132 kV Doyang(NEEPCO)-Mokokchung (State)	WIP	Complete	Installed, Link configuration pending	July'19	Apr'19
5	220kV Mokokchung(PG) - Mariani (PG)	WIP	Complete	Installed, Link configuration pending	July'19	Mar'19
6	400 kV Mariani(PG)- Kathalguri (NEEPCO)	WIP	Complete	Installed, Link configuration pending	July'19	Mar'19
7	400kV Surajmaninagar (TSECL) - Pallatana (OTPC)	WIP	Complete	Installed, Link configuration pending	July'19	Apr'19
8	132 kV Badarpur(PG) - Jiribam (PG)	WIP	Supply: Delivered 28/67.166 Km	Supply Pending/Supply China on route within India as under halt for additional security Check & slow movement of Container/Rly from Port to Amingaon	Sept'19	Jul'19

9	Bongaigaon (PG-400 kV) -220 kV Salakati - 220 kV BTPS	Supply Pending	Supply: Pending, Target : June'19	- do-	Sept'19	Jun'19
10	400 kV Mirza(Azara) - Byrnihat	Supply Pending	Supply : Delivered Erection - yet to start	Supply Pending	Aug'19	Jul'19
11	400kV Silchar - Palatana	Supply Pending	Stringing Completed: 61.146/247.409 Km / ROW issue	-do-	Dec'19	Aug'19
12	132 kV Agartala (TSECL) - RC Nagar (NEEPCO)	WIP	Complete	Supply Complete. Installation Pending due to space constraint - matter taken up with NEEPCO	Jul'19	Mar'19
13	132 kV Jiribam(PG)(Manipur) - Loktak (NHPC)	WIP	0/82.461 Km	Supply Pending/ROW suring initial survey Hilly area	Dec'19	Jul'19
14	132 kV Loktak(NHPC) - Imphal(PG)	WIP	Complete	Supply Pending	Jul'19	Jul'19
15	Pk Bari (TSECL) - LILO of (NETCL) Belonia	WIP	Supply Pending	Supply Pending	Dec'19	Jul'19
16	132 kV Parey-Chimpu	WIP	Supply pending	Supply complete	Dec'19	Jun'19
MANIPUR STATE SECTOR						
1	132 kV Yurembam- Yaingangpokpi	WIP	Complete	Supply Complete & installation complete. DCPS commission & Link commission pending	Jul'19	NA
2	132kV Yaingangpokpi - Kongba	WIP	Complete Additional 1.6 Km pending which is later added	-do-	Jul'19	NA
3	132kV Kongba - Kakching	WIP	Kongba - Kakching completed Addition of LILO (7KM) from in - between Tower at Thoubal is pending added later State	-do-	Jul'19	NA
4	132 kV Imphal (State) - Karong	WIP	40/65 Km completed. WIP	Supply completed	Jul'19	NA

5	132 kV kakching- Churachandpur	WIP	16/38 Km WIP During recent fanni storm - 3 nos. Towers collapsed and work under halt in 2 spans, will be restarted after tower restoration	-do-	Jul'19	NA
6	132 kV Loktak(NHPC) - Ningthoukhong	WIP	8/11 Km completed	-do-	Jul'19	NA
7	132kV Yaingangpokpi - Hundung	WIP	10/32 Km Completed	-do-	Jul'19	NA
8	132 kV Kakching - Chandel	WIP	15/25 Km completed	-do-	Jul'19	NA
9	132 kV Loktak(NHPC) - Rengpang	WIP	0/45 Work/ camping was stopped due to miscreants along Route to Loktak/ will be restarted soon after taking help from Administration along with Jiribam - Loktak	-do-	Jul'19	NA
10	132 kV Jiribam (PG) - Jiribam (state)	WIP	Supply pending	-do-	Jul'19	NA
	132 kV Ningthoukhong- Churachandpur	WIP	10/32 completed	-do-	Jul'19	NA
TRIPURA STATE SECTOR						
1	132 kV Agartala (TSECL) - Barumura (GTP)	Complete	Complete	Complete	Data and Voice reported dtd 31.03.2019. Joint verification pending Jul'20	NA
2	66 kV 79 Tilla Grid (TSECL) -Badarghat	Complete	Complete	Complete	-do-	NA
3	132 kV Surajmaninagar (TSECL) - Budhungnagar	Complete	Complete	Complete	-do-	NA
4	132 kV Agartala (TSECL) - SM Nagar (TSECL)	Complete	Complete	Complete	-do-	NA

5	132 kV Pallatana (OTPC) - Udaipur (TSECL)	WIP	Complete	Supply & Installation Done, Link commissioning pending due to other interconnect link pending	Jul'19	NA
6	132 kV Udaipur(TSECL) - Gumti HEP	WIP	Complete	-do-	Jul'19	NA
	66 kV Gumti HEP - Amarpur (TSECL)	WIP	Complete	-do-	Jul'19	NA
	66 kV Satchand (TSECL) - Sabroom (TSECL)	WIP	Complete	-do-	Jul'19	NA
	132 kV 79 Tilla Grid (TSECL) - Dhalabil (TSECL)	WIP	Complete	-do-	Jul'19	NA
	132 kV Rokhiya (GBPP) - Surajmaninagar (TSECL)	WIP	Supply Complete. Front not ready (TL construction by Tripura State)	-do-	Link to be deleted. Supply material to be handed over to TSECL	NA
	132 kV Surajmaninagar (TSECL) - Monarchak (NEEPCO)	WIP	-do-		-do-	NA
	MEGHALAYA STATE SECTOR					
	132 kV NEHU - NEIGRIHMS	WIP	Supply pending	Supply complete	Jul'19	NA
	132 kV Khliehriat (PG)-Khliehriat (State)	WIP	Supply Completed. Stringing pending	Supply complete	Jul'19	NA
	132 kV Khliehriat (State)- Myntdu Leshka HEP	WIP	-do-	Supply complete	Jul'19	NA
	132 kV Khliehriat (State)- Lumshong (S/C)	WIP	-do-	Supply complete	Jul'19	NA
	NAGALAND STATE SECTOR					
	132 kV Kohima (132 kV) - Kohima (220kV)	WIP	Supply Completed. Stringing Pending	Supply Pending	Jul'19	NA
	132 kV kohima - Wokha	WIP	-do-	-do-	Jul'19	NA
	132 kV Doyang (NEEPCO) - Sanis	WIP	Supply Pending	Supply complete	Jul'19	NA
	MIZORAM STATE SECTOR					
	Aizawl - Zemabawk I	WIP	Supply pending	Supply Complete	Jul'19	NA

STATUS OF OPGW COMMUNICATION LINK IN NER UNDER MW VACATION PROJECT						
Sl No.	Link name	Staus as per 13th NeTEST	OPGW Stringing Status	End Equipment Status	Target As per 13th NeTEST	Target As per 12th NeTEST
1	132 kV Silchar - Srikona	Complete	Complete	Complete	-	
2	132 kV Mariani - Mariani	Complete	Complete	Complete	-	
3	132 kV Nirjuli - Ranganadi with Parey	WIP	ROW issue	Supply and Installation over SAT/Commissioning pending	-	Feb'19
4	Imphal (PG) - Imphal (State)	WIP	ROW issue	Supply complete	June'19	Mar'19
5	132 kV LILO of Aizawl- Zemabawk -II at Melriat SS	Complete	ROW issue	Complete	-	Feb'19
6	132 kV Melriat- Shimmui	WIP	ROW issue	Supply complete. Installation pending	June'19	Mar'19
7	132 kV Mokokchung - Mokokchung	WIP	ROW issue	-do-	June'19	Mar'19
8	Ranganadi - Gohpur (part - I)	WIP	ROW issue	-do-	-	Mar'19
9	Ranganadi - Gohpur (part - II)	WIP	ROW issue	-do-		
10	Aizawl - Zemabawk -II	WIP	ROW issue	-do-	June'19	Mar'19
11	Dimapur-Dimapur	WIP	ROW issue	-do-	June'19	Mar'19
12	132 kV Ranganadi - Ziro	WIP	ROW issue	-do-	June'19	Mar'19
13	132 kV Lekhi - Itanagar / chimpu SLDC	WIP	ROW issue	-do-	June'19	Mar'19
14	132 kV LILO of Nirjuli- Ranganadi at Lekhi	WIP	ROW issue	-do-	-	Mar'19