

North Eastern Regional Power Committee

MINUTES OF THE 8thNER Telecommunication, SCADA & Telemetry

(NE-TeST) COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date :18/01/2017 (Thursday)
Time :10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 8thNE-TeST Meeting is attached at **Annexure – I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 8th North Eastern Telecommunication, SCADA & Telemetry meeting. He wished all the participant a very happy new year. He informed that the meeting is held quarterly but still previous issues are left unresolved and this trend should not continue. He emphasized that communication will play a vital role in power sector in future and hence the discussion should be focused more on technology and innovation. Further he directed that a Communication Single Line Diagram (SLD) for NER grid is to be compiled so that the clear picture of communication system is in place. He requested NERLDC to prepare the above SLD. Also since CERC has issue directive about 100% availability of communication channel and relevant comments/views from NER constituents has to be furnished to CERC. He directed Director/SE(O), NERPC to form a sub-group in this matter and if necessary they can accompany him to CEA/CERC to give their suggestions. Another area which he stressed upon is the cyber security. He stated that as the system keeps expanding the threat also keeps on increasing and hence constituents should prepare for the challenges. He mentioned that CEA representative has planned to come to highlight on cyber security but could not come due to unavoidable circumstances and hopefully the same will be presented in next meeting. He also urged that whatever commitments agreed during the meeting should be adhered to. He wished the meeting deliberations to be fruitful.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, Director/SE(C&O) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF THE 7thMEETING OF "NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)" SUBCOMMITTEE OF NERPC.

SE(C&O) informed that minutes of the 7thNETeST Meeting held on 17thAugust, 2017 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2017/ dated 15thSeptember, 2017.

The Sub-committee confirmed the minutes of the 7thNETeSTMeeting 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 8thNETeSTmeeting is given below:

SN	Utility	Status as informed in 7 th NETeST	Status as informed in 8 th NETeST	Target Completion
UPGRADATION OF SLDCs				
1	Assam	Completed.	Completed.	Completed. DG set-Target February-18.
2	Tripura	Completed. Space for DG set is to be assured by TSECL. Further, AMC issue to be addressed by TSECL in line with agreement & other SLDCs	4 RTUs tested. 3 RTU ready for testing. DG set-Installed. Foundation & earthing readiness confirmed by TSECL on 09.12.17. Alstom had some contract issue. Team will be deputed by 15days.	Completed. DG set-Target February-18.
3	Meghalaya	Completed.	DG set installed and tested. Commissioning Target-Feb18.	Completed. DG set-Target February-18.
4	NERLDC	Completed.	Completed.	Completed. DG set-Target February-18.
5	Manipur	Completed.	Completed.	Completed. DG set-Target February-18.
6	Nagaland	EMS SAT to be completed by 15 th September 2017. Modification in DG set foundation to be done by DOP, Nagaland soon.	Out of 12, 10 RTUs are installed and six tested. DG set space yet not ready.	Completed. DG set-Target February-18. Subject to hand over of DG site

7	Mizoram	Completed. DG set placement area is not handed over by P&E, Mizoram. VC unit is to be installed by GE	Completed. AMC is still not signed. DG set space yet not ready.	Completed. DG set-Target February-18. Subject to hand over of DG site
8	Ar. Pradesh	EMS SAT to be completed by 15 th September 2017.	8 RTU installed and tested. Only one left	Completed. DG set-Target February-18.
9	Backup NERLDC	Completed.	Completed.	Completed. DG set-Target February-18.

Project Manager, GE informed the forum that Control Centre of AP and Nagaland (through backup link) are ready but not taken over by respective states. He also informed the forum that AMC is not signed with Tripura, Mizoram and Manipur. He requested for the intervention of the forum for takeover of sight and signing of AMC agreement. In case of Tripura they have raised some query regarding AMC to Powergrid. The forum requested PG to resolve the same at the earliest.

He also informed the forum that installation of DG sets for Manipur, Tripura and AP will start by Mid-February and testing will be completed by February, 2018.

EE, DoP AP intimated they are ready to take over the site once it is approved by their higher authority. He requested NERPC to write a letter to CE, DoP AP for taking over the site. NERPC agreed for the same.

EE, MePTCL informed the forum that the earthing issue at the SLDC will be resolved by next week.

DGM, NERTS informed the forum that the GPRS system is already tested and dispatch may start from March, 2018. All SLDCs who opted GPRS system may arrange SIMs/Internet connectivity/space in rack etc. On confirmation, service engineer from PMAs will visit sites

Note: GE has already completed the main scope of work for Nagaland & Arunachal Pradesh. SAT & SAVT completed. TOC of main SCADA EMS system (except DG set) is pending. This was discussed in last NETeST as well regarding TOC. Effective Date of TOC-15.01.18.DOP,Nagaland has already issued TOC wef 15.01.18 & DOCO may be considered accordingly

The Sub-committee noted as above.

Action: NERTS,State Utility, GE,NERLDC

A.2 Non-reporting of RTUs of Constituents on Existing SCADA:

POWERGRID:5 RTUs not reporting out of 22 RTUs & data of 1 RTU is wrong.

- a. KOPEX SAS line flow is OK but BUS data suspect.
- b. Roing and Tezu RTUs do not report.
- c. Kolasib out since 22.05.2017
- d. Status of CS RTUs on single link & requirement of 2nd link back up/redundant channel. Lists as on 09/08/2017:
 1. 800 kV HVDC BNC (Only one channel made)
 2. 400 kV Misa (2 channels made but only 1 available)
 3. 400 kV Bongaigaon (Only one channel made)
 4. 400 kV Silchar (2 channels made but only 1 available)
 5. 220 kV Dimapur (two channels but only 1 available)
 6. 220 kV Salakati (Only one channel made)
 7. 132 kV Imphal (Only one channel made)
 8. 220 kV Mokokchung (Only one channel made)
 9. Ranganadi ISGS (2 channels but Only one available)
 10. 132 kV Itanagar (Only one channel made)
 11. Kathalguri, ISGS (only one channel available)
 12. Palatana, ISGS (Only one channel made)
 13. 132 kV Kumarghat (2 channels made but only 1 available)
 14. Loktak ISGS (2 channels made but only 1 available)
 15. Khandong, ISGS (2 channels made but only 1 available)
 16. Jiribam (2 channels made but only 1 available)
 17. Aizawl (only 1 available)
 18. Badarpur (2 channels made but only 1 available)
 19. Mariani (Only one channel made)
- e. CB status of the following RTUs are not reporting:
 1. BiswanathChariali
 2. Bongaigaon
 3. Balipara
 4. Itanagar
 5. Kolasib
 6. Haflong

Deliberation in the meeting

- a. NERTS informed that Kopex RTU is reporting. It will be integrated with new system upgradation. Present system is ABB which is under renovation which will be completed by March, 2018.
- b. Asst.GM, NERLDC informed that the data of Roing and Tezu are reporting intermittingly due to GPRS issue. DGM, NERTS informed the forum that Tezu is reporting. For Roing also, similar arrangement being done –by 2months new GPRS modem (dual SIM) will be delivered.
- c. Kolasib-AGM, NERLDC informed the forum that both Kolasib and Tural are not reporting.

Sr. Manager, NEEPCO informed the forum that installation of RTUs at Tural is going on.Kolasib link will be used for Tural. Mizoram has to arrange new RTU which P&E asked POWERGRID to procure under SLDC project. Will be supplied by 6months

DGM, NERLDC once again requested NEEPCO and NERTS to resolve the issue as soon as possible in line with last meeting held between NERPC, NEEPCO, P&E & POWERGRID for Tural project.

- d. Regarding 2nd link back up redundant channel will be available once the NERFO project is complete. By November, 2018.
- e. CB status of the following RTUs are not reporting:
 1. BiswanathChariali-all Data OK when checked with laptop at RLDC end. Some setting issue with SCADA. Matter was jointly checked
 2. Bongaigaon—will be completed by 15days-by NTAMC
 3. Balipara---completed and OK
 4. Itanagar-all OK/ all Data OK when checked with laptop at RLDC end. Some setting issue with SCADA. Matter was jointly checked
 5. Kolasib-Existing RTU no more in PGCI scope
 6. Haflong-OK

The Sub-committee noted as above.

Action: NERTS, NEEPCO & NERLDC.

B). NEEPCO

- a. Ranganadi HEP is not reporting constantly and RTU needs to be restarted every day to get data.
- b. CB status of the following RTUs are not reporting:

1. Ranganadi
2. Kopili

In the last meeting, NEEPCO confirmed to solve the issues along with links in line with grid codes at the earliest.

Deliberation in the meeting

Sr. Manager, NEEPCO informed the forum that for Ranganadi they are re-tendering it including new panel (Previous tender was cancelled due to less participation). It is expected to be completed by June, 2018.

For Kopili station NEEPCO and NERLDC will sit together and resolve the issue.

The Sub-committee noted as above.

Action: NEEPCO.

C). AEGCL:

In the new system, only 30 RTUs are reporting partially against 62 RTUs. This creates loss of observability of NER Grid specifically during grid problems. Restoration of all the non-reporting RTUs needs urgent action. The same also highlighted in the weekly telemetry status reports but tangible solution is yet to be achieved.

Deliberation in the meeting

AEGCL intimated that 32RTUs data are reporting out of 58 RTUs. More no. of RTUs will start reporting once the microwave vacation project is complete.

For others, AEGCL will take necessary action& action has been taken to make sure that all important substations and generating stations are reporting.

The Sub-committee noted as above.

Action: AEGCL.

D). MePTCL/MeECL:14 RTUs are reporting out of 23 RTUs.

Generating Stations: Dedicated voice communication is yet to be established for Leshka HEP.

Sub-Station Not Reporting: Umiam , EPIP-I , Lumshnong , Cherrapunji.

Deliberation in the meeting

Status informed byMeghalaya:

MEPTCL confirmed that 21 RTUs are reporting except some minor works at Nongstoin & Cherrapunjee and the same will be restored soon.

Forum appreciated MePTCL.

The Sub-committee noted as above.

Action: MePTCL.

E). TSECL: 7 RTUs are reporting out of 25 RTUs.

Non-reporting RTUs are given below:-

Generating Stations: Gumti (since Jan, 2011).

Sub-Stations: Amarpur, Badharghat, Belonia, Bokafa, Boxanagar, Dharmanagar, Dhalabil, Gamaitila, Gournagar, Kamalpur, OMPI, Rabindranagar, Sabroom, Satchand, Agartala ,Ambassa , Budhjungnagar.

Deliberation in the meeting

TSECL representative was not present and the forum requested NERLDC to put the agenda in coming OCCM.

The Sub-committee noted as above.

Action: NERPC/NERLDC.

F). Manipur:SLDC of Manipur was declared commission vide Ref No NERLDC/SL/SCADA-Upgrade-Vol-II/8566-68 dated 15.03.2017. However only 4 nos of RTUs are found to be reporting out of 11 RTUs as on 11/01/2018 and No ULDC Communication system is established till date.

Sub-Stations Not Reporting: Chandel, Churachandpur, Hundung, Karong, Kongba.

Deliberation in the meeting

Manager, MSPCL informed the forum that 4 RTUs out of 11 are reporting. On joint inspection with PG it was found that the PLCC card was burnt. On request by Manipur, POWERGRID will help in technical assistance.

The Sub-committee noted as above.

Action: NERTS/MSPCL.

G). Mizoram:SLDC is commissioned but VC, Voice Communication system yet to be established. SCADA/ EMS System commissioned on 10.04.2017. Status of RTUs included in the project needs to be updated.

Deliberation in the meeting

Asst. GM NERLDC informed the forum that only one RTU is reporting (Locally).

The Sub-committee noted as above.

Action: Mizoram.

H). **AP and Nagaland:** may kindly intimate the current status SLDC establishment & RTU Status.

Deliberation in the meeting

The forum informed that both the SLDCs are already commissioned. Once the NERFO expansion project is complete more no. of RTUs will start reporting.

Actions: Respective States

The Sub-committee noted as above.

I) 132 KV BADARPUR-LUMSNONG telemetry LINK out:

BADARPUR S/S (Assam) telemetry data is not coming.

Lumsnong S/S (Meghalaya) telemetry is not available.

Real time drawal for Assam and Meghalaya affected due to non-telemetry problem.

Real time Grid Management process hampered.

Deliberation in the meeting

It was already discussed in item C and D.

Actions: Respective States

The Sub-committee noted as above.

A.3 EARLY COMPLETION OF OPGW BASED COMMUNICATION SYSTEM IN INTRASTATE GRID OF MANIPUR IN THE INTEREST OF NER GRID SECURITY AND SMOOTH POWER SUPPLY MANAGEMENT IN MANIPUR:

Power Grid, in pursuance of 14th NERPC Meeting, established SLDC Manipur with 11 nos. of RTUs in the existing 132 kV sub-stations – nine for State sector and 2 for Central sector - and its commercial operation was declared on 9/11/2016. Due to absence of OPGW connectivity and installation of communication equipment in the aforesaid 11 nos. of nodes, SCADA and voice connectivity from the nodes could not be acquired to the main control center at Yurembam. Currently SLDC at Yurembam is operated with data acquired from few sub-stations through PLCC links only. This has defeated the very purpose of establishment of SLDC for real time scheduling and dispatch of electricity in the intra-state system for ensuring grid security.

During the 18th TCC meeting, MD, MSPCL informed that Intra-state communication is under focus of government and it is being monitored very closely. He stated that

though quantity modification was done in 17th TCC/RPC (held on 04.10.2016), work has not yet been completed.

ED(LD&C),POWERGRID informed that materials have been inspected at China and by end of Nov'17, materials would be delivered. GM, NERTS informed that target time for completion as per 6th NETeST meeting of NERPC is November, 2018.

Regarding the security issues raised by POWERGRID; MD, MSPCL informed that work front would be problem free. GM, MSPCL informed that out of 11RTUs only 4/5 reporting, inspite of the fact that they were supposed to report through PLCC.

GM, MSPCL stated that exact problem is to be identified. The TCC forum noted the erection& commissioning to be completed by Nov'2018 and any ROW issue to be sorted out by the state.

Deliberation in the meeting

DGM, NERTS informed the forum that the material for installation has already been dispatched. Stringing of fiber will start from February 2018.

SE(O), NERPC expressed his thanks to NERTS on behalf of the forum for expediting the work.

The Sub-Committee noted as above.

Action: NERTS.

B. NEW ITEMS

B.1 Strengthening of PLCC System by NER States:

PLCC system works as a back-up path for telemetry of RTUs. It is proposed that each constituent may kindly revive/ install PLCC as per relevant norms for 132Kv & above T/Ls for data path connecting to respective SLDC.

Each state may discuss about their present status of connectivity & future plan PLCC connectivity.

During 7th NETeST meeting, AEGCL has informed that PLCC is good alternative for data only in case there is less number of hops in the PLCC network but with increasing number of hops it is always difficult to maintain data and speech.

EE, DoP Nagaland enquired whether PLCC upgradation can be done through PSDF funding.

SE, NERPC informed the forum that PLCC can be included in R&M work through PSDF funding.

Deliberation in the meeting

Sr. Manager, NEEPCO informed that length of PLCC in the Kathalguri – Misa link is 380km approx. and due to this long distance the channel is intermitting.

DGM, NERTS informed the forum that stringing work of OPGW is already completed and the link will be through OPGW by March, 2018.

AGM, AEGCL informed the forum that most of communication channel is through with OPGW. The left out station will be connected through PLCC once NER SIP project is complete.

SE(O), NERPC once again requested all constituents to strengthen the PLCC link as backup even in case of availability of OPGW. He informed the forum that only Meghalaya has submitted the PLCC network detail and requested all other states to submit the same by 31st January, 2018.

After detailed deliberation, the Sub-Committee recommended that PLCC should be used as back up communication path wherever possible as the same is robust and does not depend on any remote NMS etc. Point to Point voice communication of PLCC is of much importance keeping in view if under emergency (e.g. in case of outage of central NMS or server of OPGW network).

Action: All Utilities.

B.2MW Vacation Project:

During 7th NETeST meeting, Manager, PGCIL informed the forum that the project will be completed by 2017. OPGW will be completed by October, 2017 (including rectification, new work part Agia-BTPS) and equipment commissioning by December, 2017

AGM, AEGCL requested NERTS to inform them of delay if any in the committed schedule via email or letters.

Deliberation in the meeting

DGM, PGCIL informed the forum that all OPGW links are completed (intimation over email given to AEGCL for eqpt. SAT signing). Out of 17 link/nodes 15 re-commissioned after rectification except Gohpur and BTPS Salakati (pending for re-

configuration & re-SAT) which will also be completed soon. Status is attached at **Annexure – B.2.**

AGM, AEGCL requested NERTS to recheck fiber at Mariani as some of the fiber is showing very high loss.

The Sub-Committee noted & recommended as above.

Action: NERTS & KEC

B.3 OPGW link between RHEP Power house and Biswanath Chariali/ Nirjuli sub-station required:

The RTU of Ranganadi Power House is working properly at Ranganadi. The Link with SCADA at RLDC is disrupting many times due to weak link with Ranganadi. OPGW link may be established between Ranganadi and Biswanath Chariali/ Nirjuli.

During 7th NETeST meeting, Manager NERTS informed the forum that the link to Ranganadi will be connected via new route of Nirjuli Pare and will be completed by June, 2018.

Deliberation in the meeting

NERTS, informed that OPGW installation almost completed except 10km left due to ROW & administrative issue. The matter is being pursued with District administration and splicing under progress. The link will be through by March, 2018.

The Sub-Committee noted as above.

Action: NERTS.

B.4 PMU Display availability at SLDC:

Due to non-availability of separate communication links, PMU Displays are not available at all the SLDCs. A workaround may be that of using one of the SCADA (ICCP) links for both ICCP as well as PMU display. In this case the Internal Firewall of RLDC & SLDC need to include one additional policy for making through the PMU display traffic. As such, no security violation is envisaged as only HTTP port of PMU Historian need to be forwarded.

During 7th NETeST meeting, the forum decided that NERTS, NERLDC and AEGCL will jointly explore the possibility of providing communication channel for PMU display to SLDC by exploring the unused bandwidth within the existing network.

Deliberation in the meeting

After detailed deliberation it was decided that NERTS, NERLDC and AEGCL will sit together to explore the possibility of using old ULDC link for PMU display(After checking their healthiness). NERLDC will finalize a date for the meeting.

The Sub-Committee noted as above.

Action: NERTS, NERLDC& AEGCL.

B.5 Security Arrangement for SCADA System:

Presently, the SCADA/EMS Upgrade Project is running through its final phase & all state SLDCs except Arunachal & Nagaland are integrated with NERLDC. This network is also connected to rest of the RLDCs via NLDC. In this scenario, any security incident/ intrusion in one system will affect other connected systems also. Therefore hardening of the security of SCADA/EMS system is a necessity. The requirement may be defined in Two Parts: Cyber Security & Physical Security.

Cyber Security may be implemented by proper configuration of the security features available in the SCADA/EMS system viz. a uniform and effective Cyber Security Policy across the SLDCs & NERLDC, Firewall policies allowing only necessary traffic & discarding others, disallowing Remote Access of the system unless authorized by the system owner, regular check of the system for Updates/ Patches, proper maintenance of Patch Management server etc.

Physical Security is necessary to prevent mishandling/ misconfiguration - intentional or accidental, unauthorized removal of asset from the system, connecting/ disconnecting external devices like laptop, pen drive, dongle and the likes unless unavoidable etc.. One effective way of implementation of physical security is Installation of CCTV Camera/ Surveillance System at strategic locations like Control Room Entry & Server Room Entry, Inside Control Room & Server Room, UPS/ Battery Room, DG Set etc.

During 7th NETeST meeting, Asst. GM NERLDC informed the forum that as per CERC regulation security audit of SLDC needs to be carried out by third Party. He requested all SLDC to take adequate security measures to safeguard the assets of SLDCs. He also suggested SLDCs to take appropriate insurance against fire and theft for their assets.

Deliberation in the meeting

SE(O), NERPC informed the forum that representative from CEA will be giving presentation regarding Cyber Security in next OCC meeting. The forum also requested NERPC to write letters to respective states of NER for declaring SLDCs as protected and prohibited area.

The Sub-Committee noted as above.

Action: NERPC.

B.6 Status of non- reporting RTUs:

SCADA data from Kolasib are out since long (22.05.17) due to which Grid management activity is severely affected.

Ranganadi RTU does not report continuously, RTU needs to be restarted every day to get data. Team needs to be formed involving PG and RHEP and solve the problem within fixed time.

132 kV ITANAGAR: Effect: Realtimedrawal of AP is not coming. Visibility of AP grid lost. Communication link problem.

Tezu, Roing and Melrihat Data either does not report or fluctuate frequently due to unstable GPRS connection. Dual redundancy is to be implemented.

Status of RTU replacement and procurement of new RTUs may be intimated.

Deliberation in the meeting

The following status were provided by NERTS:

1. RTU of Kolasib is not ok. The same is being procured under SLDC project. Further existing link of Kolasib RTU is allotted for Tural Project RTU .
2. Ranganadi RTU is to be looked after by NEEPCO. Earlier PLCC issue resolved by POWERGRID.
3. 132kV ITANAGAR- All Data OK. Checked with protocol analyser laptop jointly at Site and also before CFE at RLDC end
4. Tezu, Melriat is reporting properly (since 1 months & 3months respectively) with new GPRS SIMs (after service providers contacted/pursued for proper service). For Roing for better connectivity, matter taken up with service providers. The matter is expected to be sorted out by 2 months with some new modules in place.

The Sub-Committee noted as above.

B.7 Implementation of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017:

As per section 10 of these regulations, 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%.

Further, as per clause 7.3(ii) of these regulations, The RPC Secretariat shall certify the availability of communication equipment for CTU, ISGS, RLDCs, NLDC, SLDCs based on the data furnished by RLDC.

In the above context followings are to be submitted by NERTS, POWERGRID and other STUs :

1. List of links for which CoD has been declared till date &
2. The links for which CoD is likely to be declared in near future.

In this regard letters vide Ref: NERLDC/ SL/Telecom\9908 dtd. 29.08.17 and subsequent reminder letter vide Ref: NERLDC/SL/TELECOM/10823 dtd. 03.01.2017 was issued to NERTS, POWERGRID for furnishing the list of communication links. However, no data have been furnished by POWERGRID till date.

Deliberation in the meeting

SE(O), NERPC informed the forum that the draft regulation will be finalized in the next sub-group meeting of CEA. He informed that two sub-groups meetings have already been held and the methodology is almost finalized and hence requested constituents to give their views on this issue so that the same can be conveyed to CEA.

DGM, NERLDC informed the forum that they have written a letter to all constituent to provide communication detail but till now nobody has replied.

EE, DoP AP requested the forum for conducting a workshop for such new regulation so that all constituent may have proper understanding of the subject. This will help them to give proper feedback.

Member Secretary reiterated that the same has been directed by him during his opening remarks and it would be done. He further stated that NERPC is ready to arrange such workshops but participation from all stakeholders is very important else it would be meaningless. All utilities of NER again expressed its concern that

availability criteria for NER may be relaxed as possible(in line with earlier discussion) considering the reasons/constraints like tough terrain, poor road infrastructure & high time to reach site, difficult law & order situations etc poor availability of communication related material in ready-stock market etc.

The Sub-Committee noted as above.

Action: All Constituents.

B.8 Furnishing of detail parameters for the On-going Projects likely to be commissioned within 6 months by Constituents:

This is for kind information to constituents that before commissioning any new projects, the connectivity conditions pertaining to Telemetry Data/Voice communication systems in terms of clause 4.6.2 of IEGC 2010 read with Clause 6(3) of CEA (Technical Standards for connectivity to the Grid) Regulations, 2007 are to be fully met and the real time data of the station parameters be made available at the control centers along with voice communication systems at the time of commissioning. Moreover, it may also kindly be noted that as per recommendations of the Committee on Grid disturbance" Report on the Enquiry Committee on Grid Disturbance in Northern Region on 30th July 2012 and Northern, Eastern & North Eastern Region on 31st July 2012" dated 16.08.2012, clause (xiv) which is reproduced as follows - "Proper telemetry and communication should be ensured to Load Despatch Centers from various transmission elements and generating stations. No new transmission element/generation should be commissioned without the requisite telemetry facilities".

In view of the above, the following information/ parameters may kindly be furnished to NERLDC in advance for making the platform for Database in SCADA:

1. Single Line Diagram of the Power Station/Switchyards.
2. Data List of the Station (to check the signals of both Analog & Digital).
3. Wiring diagram of the Station (to check the wiring done at RTU end).
4. Generator Parameter details, Generator Transformer parameters.
5. Line and ICT details. Any additional requirement to be intimated

Constituents to submit detail parameters projects well in advance under their jurisdictions & fulfill the condition of IEGC.

Deliberation in the meeting

The forum once again requested all constituent to provide the requisite information of all new projects before commissioning.

The Sub-Committee noted as above.

Action: All utilities.

B.9 Requirement of additional PMU at CS Power Station and SS Power Station of size more than 25 MW for monitoring of parameters of generators:

It is required to install additional PMUs at CS Power Station and SS Power Station Generators of size more than 25 MW for better visibility of system parameters on real time. This will also help in monitoring the oscillations in the system, identifying the machine which is causing oscillation and post disturbance analysis.

For this requirement, the following PMUs are to be installed.

1. AGBPP (9 nos.)
2. AGTCCPP (6 nos.)
3. Ranganadi (3 nos.)
4. Doyang (3 nos.)
5. Khandong (3 nos.)
6. Kopili (4 nos.)
7. Monarchak (2 no.)
8. Loktak (3 nos.)
9. Palatana (4 nos.)
10. BgTPP (3 nos.)
11. Baramura (2 nos.)
12. Rokhia (3 nos.)
13. Namrup (2 nos.)
14. Lakwa (8 nos.)
15. Langpi HEP (2 nos.)
16. Umiam Stage I (4 nos.)
17. Umiam Stage III (2 nos.)
18. Umiam Stage IV (2 nos.)
19. MyntduLeshka (3 nos.)
20. New Umtru (2 nos.)

During 7th NETeST meeting, the forum decided that NERLDC will write a letter to NERTS for making provision for installation of new PMUs. NERTS intimated that the copy of letter may also be forwarded to GM, CC, LD&C.

Deliberation in the meeting

SE(O), NERPC informed the forum that the agenda item will be reviewed once URTDSM project is in place. The agenda item is dropped for the time being.

The Sub-Committee noted as above.

Action: The agenda item may be dropped.

B.10 Optical Fiber connectivity for AGC project expansion:

NTPC Dadri Stg-II was selected for the first project of Automatic Generation Control (AGC) in India. A mock test was conducted on 29th June 2017 from 1730 Hrs to 1910 Hrs and the mock test yielded desired/expected results.

Now, as a part of the AGC project expansion, a report needs to be filed with CERC, for which actual distance between the nearest communication node (equipment where the existing fiber optical cable terminates) and the unit control room (approximate distance from CR Panel) needs to be ascertained.

As per instruction from NLDC, NERLDC requested all ISGS to furnish the mentioned data. It is observed that optical fiber connectivity is there with few ISGS and details of those stations are as follows:

Sl. No.	Name of ISGS	Nearest Available Optical Node	Distance
1	AGBPP	Misa (PG)	383.4 km
2	AGTCCPP GTG Control Room	AGTPP (NEEPCO)	50 m
3	AGTCCPP STG Control Room	AGTPP (NEEPCO)	200 m
4	Ranganadi HEP	Balipara (PG)	191 km
5	Kopili HEP	Kopili (NEEPCO)	30 m
6	Kopili Stage 2 HEP	Khandong (NEEPCO)	15-20 m
7	Khandong HEP	Khandong (NEEPCO)	15-20 m
8	Palatana	Silchar (PG)	247 km
9	Loktak HEP	Imphal (PG)	35 km
10	Doyang HEP	Dimapur (PG)	92.5 km
11	BTPS (NTPC)	Salakati (PG)	3.5 km

During 7th NETeST meeting, Asst. GM NERLDC informed the forum that NERLDC has recommended BTPS for AGC pilot project. He requested NERTS to speed up the connectivity of BTPS in the NER-FO expansion project as fiber connectivity is required for implementation of AGC.

Deliberation in the meeting

DGM, NERTS gave assurance to the forum that OPGW link of BTPS(NTPC)- Salakati (400KV) will be completed by March, 2018 to facilitate AGC pilot project.

The following is the current status of the link under Powergrid.

4. Ranganadi HEP to Balipara(PG)- Under Work in progress
8. Palatana- Silchar(PG)- Work Under Progress. Delay due to ROW issue. Target December, 18.
9. Loktak HEP- Imphal (PG)-By December, 2018.
10. Doyang HEP- Dimapur (PG)- OPGW completed. By June 2018.
11. BTPS (NTPC)-Salakati (PG-400kv)- 3.5 km completed. New equipment by April, 2018.

The Sub-Committee noted as above.

Action: NERTS.

B.11 Optical Fibre connectivity for installation of Line Differential Protection:

Optical Fibre connectivity of a line is essential for functioning of Line Differential Protection.

In 47th PCCM, it was decided that all utilities shall identify the short lines for installation of Line Differential Protection by 31st Jul'17.

Utilities shall furnish the list of short lines identified for installation of Line Differential Protection to NERPC/NERLDC along with availability of OPGW in the identified short lines (as per Annexure-I). Forum agreed that funding for installation of Line Differential Protection & OPGW can be awarded from PSDF for state utilities and PSUs may include these expenses in PoC Charges.

The list of lines along with availability of OPGW link not yet furnished by any utilities.

Deliberation in the meeting

DGM, NERTS informed the forum that Power Grid has already installed line differential for short lines as per relevant approved scheme of POWERGRID Engg. Dept. (Like Bong-NTPC, Mokokchung -Mokokchung).

EE, MePTCL informed the forum that they have identified 17 lines for installation of line differential. The DPR of the same has already been sent to CEA/NLDC for funding from PSDF.

The Sub-Committee noted as above.

Action: All constituents

B.12 Dedicated voice communication:

Dedicated voice communication and availability is one of the key requirements for efficient grid management. But it is observed that whenever we try to talk to SLDCs always it shows busy. We have intimated POWERGRID to resolve this problem but still it is not solved but still it is pending.

Most of the PG stations are connected through only one dedicated voice communication. Minimum two no of dedicated link needs to be done at the earliest. Forum may discuss and time bound target may be fixed to fulfil the above requirement. Also 400 KV stations, HVDC station, SLDCs need 4 no of dedicated voice communication.

Following S/S either does not have link or links are not working.

- a. PALATANA (Biggest Gen in NER)-No dedicated voice link.
- b. 400 kV SILCHAR PG Station -No dedicated voice link.
- c. SM Nagar (International link)-No dedicated voice communication with RLDC.
- d. MONARCHAK Gen: No dedicated voice link with RLDC.
- e. SALAKATI (Inter Regional PG station) - No dedicated voice link.
- f. 400 kV BYRNIHAT/KILLING: No dedicated voice link with RLDC/SLDC.
- g. 400 kV Azara: No dedicated voice link with RLDC.
- h. NTPC, BgTPP - Even no BSNL or Mobile
- i. Zero, Roing, Tezu and Pasighat

Following S/S VOIPs are not working.

1. Itanagar-23640151
2. Jiribam-23640130
3. Kathalguri-23640154
4. Ranganadi-23640119
5. Kolasib-23640111
6. Doyang – 23640120 – Low voice quality issue
7. Mariani (POWERGRID),
8. Mokokchung
9. Kumarghat
10. Khandong.
11. Kohima

Deliberation in the meeting

The statues as given in the meeting are as follows:

- a. PALATANA (Biggest Gen in NER)-Representative absent.refer to OCCM.
- b. 400 kV SILCHAR PG Station –Target date November, 2018. NERFO expansion project.
- c. SM Nagar (International link)-Representative absent.refer to OCCM.
- d. MONARCHAK Gen: After detailed deliberation it was decided that Monarchak is a central sector project and NEEPCO will have to provide communication channel upto NERLDC. Sr. Manager NEEPCO informed the forum that he will discuss and revert back.
- e. SALAKATI (Inter Regional PG station) - Target date November, 2018. NERFO expansion project.
- f. 400 kV BYRNIHAT/KILLING: No dedicated voice link with RLDC/SLDC. MePTCL informed that works would be completed within 3 months time.
- g. 400 kV Azara: AGM, AEGCL informed the forum that voice link is already there and the no. is 23610079.
- h. NTPC, BgTPP - refer to OCCM.
- i. Ziro,Roing,Tezu and Pasighat- EE, DoP AP informed that OPGW has been included in R&M scheme of PSDF and the work is likely to start soon. Regarding links under PGCIL it will be available once NERFO expansion project is completed.

Following S/S VOIPs are not working.

1. Nirjuli-23640151 - Working
2. Jiribam-23640130 - Working
3. Kathalguri-23640154 - subject to OPGW link.
4. Ranganadi-23640119 – after OPGW linkBy June 2018.
5. Kolasib-23640111- Working
6. Doyang – 23640120 – Working(PG to check for low quality voice issue)
7. Mariani (POWERGRID)-Working
8. Mokokchung- Working
9. Kumarghat- Working
10. Khandong.-Working
11. Kohima-Working

It may be noted that Dedicated Voice communication for POWERGRID & ISGS stations target has already been set by Nov'18 (with completion of most of OPGW

links) in Last meeting. However for State Links, VOICE connectivity link in existing infrastructure has to be provided by State utility only. Methodology of connecting VOIP or Analog phone with EPABX Orange supplied VOIP exchange has been documented and shared with all utility. Necessary quantity of Phones also handed over. Connection of the phones at remote site is scope of Utility (is not in scope of Orange). Necessary support will be provided by Orange over telephone. It is further requested that VOIP exchange TOC may be issued to Orange (through POWERGRID) for the part which has already been completed

The Sub-Committee noted as above.

Action: NERLDC, NEEPCO& NERTS.

B.13 ISTS/ISGS CB status out and SOE Problem:

CB status of ISTS and ISGS are out or wrong since long and due to which Sequence of Events report is not indicating correct picture of the Grid. In case of any tripping/disturbance SOE is the main report through which we can analyse any event but as CB status is not updating correctly SOE is not giving correct picture. So POWERGRID/NEEPCO/LOKTAK is requested to look into it and restore all CB status at the earliest.

It is very important to update SOE for proper grid visualization but most of unit outage or line tripping SOE are not updating. Most importantly disturbance/incidence analysis from SOE is not currently possible due to so much misleading information. In some cases misleading information are coming in SOE (say RCN unit 3 is coming as U1 out, same in Salakati ,Ranganadi and Balipara element outage). So all element outages, SOE needs to be checked. For an example one disturbance may be taken as example and may be matched with SOE available to know the mismatch available.

Deliberation in the meeting

DGM, NERTS informed that with NTAMC all data are made OK (Badarpur, Silchar, Balipara, Kumarghat, BNC, Misa, Khliehriat.etc., -others will also be completed with NTAMC project.

Project Manager, GE informed the forum that the RTMC/NTAMC operated stations have 100-1000s of IOs available for each station and only few data is required at RLDC. NERLDC is requested to provide IO list details be mapped to RLDC for

displayas specifically required for grid operation.NERLDC may directly provide the same to POWERGRID.

The Sub-Committee noted as above.

Action: GE, NERTS &NERLDC.

B.14 MW and MVAR data validation:

For correctness of real time data ie MW/MVAR/KV/FREQUENCY validation is required between the real time system and site in every quarter and report has to be maintained for verification. But in absence of this validation process, MW data, MVAR data, Voltage data are not getting reported correctly and ultimately misleading real time grid managers.

Deliberation in the meeting

SE(O), NERPC requested NERLDC to sit together with Constituents one by one each and validate the date. The process may be started with Assam first.

AGM, AEGCL informed the forum that their state SLDC has started validating data by jointly visiting site one by one.

The Sub-Committee noted as above.

Action: NERLDC, All Constituents.

B.15Status of Optical fiber works:

Optical fibre works in NER are going very slow, for example optical fibre works at Balipara-Ranganadi link, Ranganadi-Lekhi link, Ranganadi-Ziro link etc. This delay results in non-availability real time data from Ranganadi, Nirjuli&Ziro at NERLDC.

Availability of real time data at control centres is critical in real time grid operation as well as post disturbance analysis. Many grid disturbances are not being able to analyse properly as a result of non-reporting of RTUs due to delay in completion of optical fibre works.

Deliberation in the meeting

After detailed deliberation the forum decided to review the above agenda item after completion of NER-FO expansion project i. e. November, 2018. However it was highlighted as overview that Issues like strikes in Manipur/Nagaland, landslide in AP, Mizoram, heavy rain fall & flood in Assam& connecting roads,ROW issues in

Upper/Middle & South Assam links, Tough terrains in Hilly terrains had delayed survey & execution (labors flee/go away) in MW Vacation OPGW project especially& FO Expansion works as well in NER.

The Sub-Committee noted as above.

Action: NERLDC/NERTS/NERPC.

B.16 Maintenance & Support Service under “Replacement / Up-Gradation of existing SCADA/ EMS System of NERLDC and SLDCs of North-Eastern Region” project by GE T&D India:

As per Technical specification of ‘Maintenance & Support services’ clause 4.2.1: “At least one software engineer & one hardware engineer having expertise in SCADA/EMS system shall be available during the standard hours of service at each main control centre. The timings for emergency support would be 24 hours a day, 7days a week throughout the year.

The support personnel so deployed shall be qualified personnel having at least 5 years of experience in the delivered SCADA/EMS system. The owner can ask the contractor to replace the personnel deployed for maintenance support if his performance is not found to be satisfactory.”

Performances of the personnel presently deployed in NER are not satisfactory.

Deliberation in the meeting

AGM, NERLDC informed the forum that the performance of the AMC personnel posted in SLDC and RLDC is not satisfactory. The posted person is not able to handle most of the issues and always refers to the back office. This takes very long time in resolving day to day issues.

Project Manager, GE informed the forum that he is aware of the issues and will be arranging for appropriate man power and training. He requested for 2-3 months’ time for resolving the issues.

The Sub-Committee noted as above.

Action: GE.

B.17 Defective VC Equipment:

The VC equipment installed at SLDC, Manipur is non- functional since 5th April, 2017. SLDC, Manipur has made several complaints regarding the issue to GE Energy Connections through e-mails and also the matter was even discussed with the project manager in the 6thNETeST meeting. But till date no appropriate response has

been received from GE Energy Connections. The forum may please look into the matter for rectification of the VC equipment as soon as possible.

During 7th NETeST meeting, Project Manager, GE informed the forum that GE was facing issue with the vendor. The old vendor refused to do the work. The have contracted new vendor but work could not be started due to GST. He assured the forum that they will visit Nagaland SLDC and then Manipur SLDC VC next week and will be rectified without any further delay.

Deliberation in the meeting

Project Manager, GE informed the forum that the problem was rectified. Asst. Manager, MSPCL confirmed that the VC is working properly.

The Sub-Committee noted as above.

Action: The agenda item may be dropped.

B.18 Communication of Pare HEP:

You are kindly aware that 110 MW Pare HEP of NEEPCO is in the last stage of commissioning and it is expected that 1st unit shall be ready for test synchronization by 1st week of March '2018. The LILO of existing Nirjuli-Ranganadi 132 kV line at Pare is part of the approve evacuation scheme for the Project. The LILO part is expected to be ready for charging by mid of February 2018. In this context, following is placed before you for kind perusal:

- a. Shut program of the Nirjuli-Ranganadi 132 kV line for conversion shall be intimated to you shortly.
- b. As per decision of the meeting held on 10.05.2016 at NERTS, two nos. new PLCC panels have been procured and one installed at Pare for Pare-Ranganadi line and other panel shall be installed at Ranganadi end immediately after shifting of existing panel of Nirjuli-Ranganadi 132 kV line. The existing PLCC panel at Ranganadi end of Nirjuli-Ranganadi 132 kV line shall be shifted to Pare for Pare-Nirjuli line.
- c. During the process of shifting and re-installation of PLCC panel from Ranganadi to Pare as mentioned at (b), the communication & data link between Ranganadi and Nirjuli shall be disturbed and the entire process is expected to be completed within 5-6 days' time. It is expected that shifting of PLCC panels work shall be taken up during 2nd week of February '2018.

In view of the above, I would like to request you to kindly advise your concern Officer to finalize the modalities how to proceed to complete the work without much disturbance to avoid inconvenience for real time grid operation. Completion of the shifting and re-installation of PLCC panel works is highly solicited.

Deliberation in the meeting

MS, NERPC gave a strong view in regard to non-compliance viz. telemetry & communication. He stressed that all utilities should plan in advance and put these links in place before commissioning of their units. He urged upon NEEPCO to comply at the earliest.

Sr. Manager, NEEPCO assured the forum that the communication channel will be ready before the commissioning of the project.

The Sub-Committee noted as above.

Action: NEEPCO.

ADDITIONAL AGENDA

B.19Recording of operational instructions over VOIP in RLDC:

As per 139th OCC discussion establishment of recording system for all real time instructions and conversations thro' VOIP network was supposed to be established within Feb'18. It is very important to establish the recording system at the earliest as all verbal communication/ conversations among RLDCs, SLDCs and stations are getting lost. Recording status at SLDC also may be discussed.

Deliberation in the meeting

DGM, NERTS informed that due to GST issue the supply & installation was delayed but the same has been resolved now and the award will be placed by Feb '18.

The Sub-Committee noted as above.

Action: NEEPCO.

Date & Venue of next NETeST meeting

It is proposed to hold the 9thNETeST meeting of NERPC onsecond week of March, 2018. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I**List of Participants in the 8thNETeST Meetings held on 18/01/2018**

SN	Name & Designation	Organization	Contact No.
1.	Sh. NangkongPerme, EE, SLDC	Ar. Pradesh	09436288643
2.	Sh. Arup Sarmah, Dy. Mgr., Comm.	Assam	09707854367
3.	Sh. Arup Kr. Kalita, AGM (Comm.)	Assam	09435158118
4.	MsJayelaWahengbam, As. Mngr. SLDC	Manipur	09856875084
5.	MsAthokpamSujata Devi, Astt. Mngr.,	Manipur	09615028232
6.	Sh. D. J. Lyngdoh, E.E (S.M), SLDC	Meghalaya	09774285158
7.	Sh. T. Gidon,EE, SLDC	Meghalaya	09774479956
8.	Sh. B. Narry, AEE, PLCC, MePTCL	Meghalaya	09089000911
9.	Sh. S. Saha, AEE, (C& C)	Meghalaya	09436112798
10.	Sh. C. W. Chen, AE, SLDC, MePTCL	Meghalaya	09863093311
	No Representative	Mizoram	
	No Representative	Nagaland	
	No Representative	Tripura	
11.	Sh. B. S. Roy, Asst. GM	NERLDC	09436302719
12.	Ms. Sangita Das	NERLDC	07896863613
13.	Sh. Joypal Roy, Sr. Manager(E/M)	NEEPCO	09435577726
14.	Sh. A. S. Nath, Sr. Manager(E/M)	NEEPCO	09435339743
15.	Sh. PM. K. Baruah, DGM	PGCIL	09401454830
16.	Sh. Rohitesh Kumar, Engineer	PGCIL	09402184678
17.	Sh. Sanjeeb K. Sahoo, Engineer(E)	NHPC	09485211808
18.	Sh. ImtiyazHussain, Project Manager	GE	08800795693
19.	Sh. P.K. Mishra, MS	NERPC	-
20.	Sh. B. Lyngkhai, Director/S.E (C&O)	NERPC	09436163419
21.	Sh. AbhijeetAgrawal, AD-I	NERPC	09871266951
22.	Sh. Sadiq Imam, AD-I	NERPC	07004133772

Annexure – B.2

STATUS : MW Vacation OPGW project KEC Executed

SL No	Link Name	Sector	Erection	
			OPGW Route Length (KM)- COMPLETED	OPGW
1	132KV Silchar (PG)-Badarpur (PG)	Central	19.221	Completed
2	132kV Badarpur-Kolasib		106.759	Completed
3	132kV Kolasib-Aizawl		65.732	Completed
4	132kV Nehu-Khelieriat		5.400	Completed
5	220KV Misa-Samaguri (OSM Supply)		34.373	Completed
6	220KV BTPS(AEGCL)-Salakati400 (OSM Supply) up to NTPC-400		3.490	Completed
7	132kV Badarur(PG)-Badarpur(AEGCL)		1.023	Completed
Total			235.998	
State Sector				
8	132KV Pailapool-Srikona	AEGCL	33.692	Completed
9	132kV Jiribam-Pailapool		12.752	Completed
10	132KV Balipara-Gohpur		101.124	Completed
11	220KV Agia-to Sarusujai (with LILO at Boko, Mirza) --also linking SLDC Kahilipara		130.706	Completed
12	132KV Namrup-Tinsukia		43.571	Completed
13	220KV BTPS-Agia		65.732	Completed
14	132kV Badarur(Panchgram AEGCL)-Srikona(AEGCL)		19.586	Completed
15	Samaguri - Mariani 220KV S/C TL (CKT - II) OSM Suuply		169.717	Completed
16	Mariani - Lakwa 132KV S/C T/L (OSM Supply)		79.298	Completed
17	Lakwa - Namrup 132KV D/C Tr. Line		58.394	Completed
Total			714.572	

Note: All Stations of AEGCL are reporting except 2 stations. Target Completion: 30.04.18 (with all rectification & minor pending works of data reporting of some POWERGRID stations). It may be noted as per last NETeST all stations as covered under MW Vacation OPGW project has been made reported to Kahilipara except 1 station pending.