

North Eastern Regional Power Committee

Agenda

For

7th NETeST Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 17th August, 2017 (Thursday)

Venue : "Hotel Nandan", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 6th NETeSTS Meeting held on 11.05.2017.

The minutes of 6th NETeST Meeting held on 11th May, 2017 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2017/ dated 23rd May, 2017.

AEGCL via mail dated 27.07.2017 requested the NETeST sub-committee to amend the following agenda items.

A.1 Status of SLDCs in NER:

Recorded in Item 7.0 & 8.0

7.0 Assam intimated that though they have requested for RTUs and also consented during prior to engineering stage of RTU supply (input taken for RTU size) under SLDC upgradation project. AEGCL intimated under PSDF, is exploring to buy SAS RTUs in different contract and requested forum if other states can take those RTUs and also requested Alstom if they can consider non-supply. No state expressed their interest for additional RTU at this stage. POWERGRID intimated that as per contract short-closing is only possible before engineering stage/approval. Alstom/GE intimated RTUs are almost ready, engineering done and so even if they don't supply cost will be transferred for the cost already incurred by GE. However GE told as solution that AEGCL may take those RTUs and use the same in their upcoming stations. GE will do necessary co-operation during integration. Forum requested AEGCL to go ahead accordingly.

8.0 Forum opined that necessary insurance against SLDC assets may be taken care by respective/NERLDC/.owner as applicable

Amendment to be Recorded:

7.0 AEGCL would like to inform that CGM SLDC (AEGCL) has already written letter in this regards to PGCIL. PGCIL asked the query raised by AEGCL in this regard to GE for non-supply of RTUs. Moreover PGCIL informed that they will look into this matter and will revert back to AEGCL soon.

8.0 Forum has not opined any insurance related issues; matter may be discussed in next NETeST.

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

Minutes Recorded:

C). AEGCL:

AEGCL intimated that most of the RTUs data are under restoration and with the commissioning of OPGW links under the MW vacation project most of the RTUs will be restored. However action has been taken to restore some PLCC links in which more nos. of RTUs will be reporting and also to make sure that all important substations and generating stations are reporting. All RTUs will be reporting within one year.

Amendment to be Recorded:

C). AEGCL:

30 RTUs are reporting and even AEGCL intimated that stress has given in reporting the most important RTUs at present and with new project in line the reporting status will be improved. Moreover AEGCL also informed the forum that radial stations data can be collected from the feeding station itself at present.

A.3 Status of SDH installation by POWERGRID:

Minutes Recorded:

The project is under execution and will be completed within one year.

Amendment to be Recorded:

AEGCL has requested again to PGCIL to make the project ready for handover.

A.4 Replacement of Multiplexers:

Minutes Recorded:

With request of Assam, PDH multiplexers are to be included for Assam in Pkg-4C are namely—a) Gohpur, b)Kahilipara, c)Mariani Grid S/S, d)Lakwa Thermal Power Station & e)Namrup Thermal Power. The above were requested during MW Vacation project itself but due contractual obligation and as non-inclusion of scope in original project, the same was not included in MW vacation.

Amendment to be Recorded:

AEGCL has requested PGCIL to intimate the cost involvement for this purpose.

A.5. Finalization of Consolidated OPGW Network & Installation Project:

Minutes Recorded:

Final Deliberation Forum recommended for replacement of OPGW installation for links of old ULDC (S.N.4, 6-16) subject to technical requirement & 1158km (new OPGW). For OPGW links S.N.1-5, a meeting will be held separately based on technical requirement.

Amendment to be Recorded:

AEGCL has never deliberated for replacement of fibers on commercial basis for Kahilipara- Umiam-III line. A separate sub-committee has been formed to discuss this matter. One meeting has already taken place at NERPC to discuss this matter with AEGCL but the sub-committee could not come to a unanimous decision. As such a further seating of a sub-committee is sought by AEGCL and AEGCL has discussed in that line only in the meeting.

B.2 Strengthening of PLCC System by NER States:

Minutes Recorded:

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).

Amendment to be Recorded:

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.

B.4 MW Vacation Project:

Minutes Recorded:

KEC further informed that relaying of 24F approach cable in upper Assam has been completed & further requested AEGCL to give receipts of Earth wire reconciliations as submitted.

Amendment to be Recorded:

Initially 12 fiber approach cable was laid by PGCIL, but as per BOQ of MW vacation project 24 fiber approach cable was supplied and as AEGCL asked PGCIL to replace 12 fiber with 24 fiber approach cables.

SAT for OPGW for a few links which is still not handed over to AEGCL is requested to PGCIL.

AEGCL has requested to handover the materials of MW vacation project against Tinsukia-Rupai to AEGCL.

3. List of change in Nodes of FO Expansion.

- a) Mariani (State) –Kathalguri (NEEPCO): OPGW is laid over Kathalguri-Mariani (PG) which in turn is connected via Mariani (PG) to Mariani (State)

Amendment to be Recorded:

Scheme needs to be explained. Not discussed in meeting.

11.0 VOIP exchange project in NERLDC & SLDC(awarded to M/s Orange):

Minutes Recorded:

NERTS informed that Installation is completed in all states. However Links are to be made ready for Dimapur & AP. POWERGRID intimated the same would be done along with SLDC completion. In line with investment approval, POWERGRID is supposed to book the VOIP exchange project to MW Vacation project. However, forum opined that as VOIP Exchange pertains to all SLDCs specifically separately, hence, POWERGRID may explore cost booking in line with philosophy adopted for SLDC project.

Amendment to be Recorded:

VOIP exchange installed at SLDC Kahilipara but IP phones supplied are not integrated at Substations. Matter not discussed in details. Detail discussion sought by AEGCL.

MePTCL via mail dated 30.06.2017 requested the NETeST sub-committee to amend the following agenda items.

A.5. Finalization of Consolidated OPGW Network & Installation Project:

Minutes recorded at serial no. A.5.b:

However out of 966km (old ULDC link replacement), Committee agreed that original links seems very robust, still there is very less loss. On technical grounds only, replacement of existing fibers to be done. It was concurred that all old ULDC links may be tested for confirmation of fiber healthiness to assess technical requirement.

Amendment to be Recorded:

Out of 966 kms, 91.806 kms (old ULDC link) traverses through the 132 KV transmissions network of MePTCL Viz Umiyam III-Umiyam I- NEHU SLDC- Khliehriat Ckt-I. The existing OPGW 12F has already been proposed to be replace by 24F under the DPR submitted by MePTCL and approved by MeECL management. Therefore, as these link under ULDC scheme` will be handed over to the constituent after the expiry of the agreement (i.e. 2018). Thereafter, it is understood that the technical requirement will be based on MePTCL networking plan and out of 24F, 6F will be provided for ULDC communication.

This suggestion was also placed before the Sub group committee as well as on 6th NeTEST meeting by MePTCL and AEGCL but the proposal and discussion was not recorded.

Minutes recorded at serial no. A.5.d:

However representative of Assam/Meghalaya opined that the links (1, 2, 3 & 5) where the transmission lines belong to States has to be replaced based on commercial requirement. Forum opined that the requirement for replacement was to be concurred based on technical grounds only.

Amendment to be Recorded:

The representative of MePTCL/AEGCL has never put forward the view that the replacement of OPGW project is for the sole purpose of commercial requirement, but the constituent only mentioned and put forth the view that OPGW networks traversing through the state 132 KV Transmission network should be under the purview of the State sector and that with multiple nos of optical fibers, it will create a flexibility of our communication system in the present setup as well as in the near future. The constituent consisting of MePTCL and AEGCL opined that the requirement for replacement of OPGW should be considered as a State subject and the decision pertaining to resolve this issue may be place with the higher management of MePTCL/AEGCL.

It may be stated that the minute at serial no. A.5.d has been recorded wrongly.

Minutes recorded at serial no. A.5.e:

Assam & Meghalaya representative intimated that additional fibers in those links if permitted after new replacement, if approved, the cost will be borne by respective states. Regarding exact requirement of additional fibers, state representative will take up the matter with their higher authority and revert back within 15days.

Amendment to be Recorded:

MePTCL has earlier stated and present before the house that the DPR for Reliable communication has been approved by the management and CEA. So replacement of OPGW along the ULDC section (Link) will be taken up by MePTCL only. However in contrary, the minute at serial no A.5.e indicates that the OPGW along the ULDC section is under the prerogative of the Central sector irrespective of the fact that the network traverses through the Transmission line of MePTCL (State sector) and in addition, if MePTCL requires additional fibers from this network after new replacement, the cost has to be borne by the MePTCL.

It may be stated that this particular item at serial no mentioned above was not discussed nor place before the house but recorded in the minute of the meeting.

Minutes recorded at serial no. A.5. Final Deliberation:

Forum recommended for replacement of OPGW installation for links of old ULDC (S.N.4, 6-16) subject to technical requirement & 1158km (new OPGW). For OPGW links S.N.1-5, a meeting will be held separately based on technical requirement.

Amendment to be Recorded:

The OPGW links S.N.1-5 includes:

1. Kahilipara to Umiam III
2. Umiam III to Umaim I
3. Umiam I to Nehu
4. NEHU to Shillong underground FO
5. NEHU to Khliehriat MePTCL

The point no.4 is understood to be from NEHU to NERLDC, this section should be covered under the Central Sector and/or may be thoroughly discuss.

The Sub-committee may discuss and confirm the minutes of 6th NETeST meeting of NERPC as no other comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

A.1 Status of SLDCs in NER:

SN	Utility	Present Status	Status as informed in 6th	Target Completion
UPGRADATION OF SLDCs				
1	Assam		EMS Tuning left. Supply of DG set by left.	Completed. DG set-Target July17.
2	Tripura		EMS tuning completed. Some site requires 48V DC supply and some require civil work.	Completed. DG set-Target July17.
3	Meghalaya		EMS SAT Completed. DG set to be installed later	Completed. DG set-Target July17.
4	NERLDC		Completed	Completed. DG set-Target July17.
NEW SLDCs				
5	Manipur		EMS tuning completed. DG set to be installed later.	Completed. DG set-Target July17.
6	Nagaland		Installation to be completed by May. EMS SAT to be completed by July, 2017.	EMS tuning by July 17.
7	Mizoram		EMS tuning to be done through DTS simulation by June, 2017.	Both EMS tuning and DG set- by July 17.
8	Ar. Pradesh		SAT to be completed by May, 2017. EMS tuning to be done through DTS simulation by June, 2017.	Both EMS tuning and DG set- by July 17.
9	B/UP NERLDC		Completed.	Completed. DG set-Target July17.

During 6th NETeST, It was again confirmed that all State SLDC authority will make DG foundation pad ready wherever left out.

Regarding EMS tuning, EMS tuning for Manipur, Meghalaya have been completed. For others it will be done by simulated data (or during AMC)If real-time sufficient RTU data is not available by 1st week August17. However Alstom/GE confirmed that the same, if permitted from owner, can be done during AMC also. DGM, AEGCL proposed

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for closing the supply/erection contract with declaration from GE that EMS tuning would be done during the AMC period (without any add cost) when maximum RTUs are reporting. Both NERTS and GE agreed with the proposal of doing EMS tuning during AMC period without any additional cost.

Project Manager, GE also informed that for the generator load testing respective states needs to arrange for Fuel and Load. Also the DG set is not allowed to run below 10% load as the manufacturer does not provide warranty for this. States must arrange adequate load for running the DG set.

Further as per additional request from states, POWERGRID has placed an order to M/s PMAS (already communicated to all states). Concern State authority is yet to confirm for arranging GPRS data activated SIMs (2nos. different operators for one location) and broadband connection at SLDC Locations. All state confirmed to arrange the SIM by one month. List of locations already sent to States (also Attached as Annex-GPRS locations)

It was discussed the project has already got delayed earlier due to some issues like non-readiness sites earlier (Manipur, Mizoram, Nagaland, AP) and then issues of trenches/civil works/ foundations(Tripura) and also other issues like strike in Manipur, Nagaland, ILP issues in some states. However, fronts of AP & Nagaland already ready. GE is requested to complete the pending works at the earliest possible.

States who are yet to sign AMC may sign the same without further delay. The same was also emphasized by NERPC representatives

Assam intimated that though they have requested for RTUs and also consented during prior to engineering stage of RTU supply (input taken for RTU size) under SLDC upgradation project. AEGCL intimated under PSDF, is exploring to buy SAS RTUs in different contract and requested forum if other states can take those RTUs and also requested Alstom if they can consider non-supply. No state expressed their interest for additional RTU at this stage. POWERGRID intimated that as per contract short-closing is only possible before engineering stage/approval. Alstom/GE intimated RTUs are almost ready, engineering done and so even if they don't supply cost will be transferred for the cost already incurred by GE. However GE told as solution that AEGCL may take those RTUs and use the same in their upcoming stations. GE will do necessary co-operation during integration. Forum requested AEGCL to go ahead accordingly.

Forum opined that necessary insurance against SLDC assets may be taken care by respective/NERLDC/.owner as applicable

All state representative asked GE.

- A. That AMC rate on prorata calculation (i.e. AMC of item as executed wrt items as was in original scope) may be submitted against AMC to each state separately.
- B. Further Alstom during AMC start , should submit a excel sheet with components & availability/outage calculation which will show all items of BOQ incorporating item wise formula of availability calculation.
- C. Forum asked Alstom/GE to open an office in Guwahati. Director NERPC requested Alstom to pass on the message to highest authority for benefit of region

Members may kindly intimate the status.

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

A) 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. All data of Balipara RTU is wrong.
- c. Roing and Tezu RTUs do not report constantly.
- d. Ziro out since 21.07.2017
- e. Kolasib out since 06.07.2017
- f. Haflong out since 30.06.2017
- g. 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)
- h. CB status of the following RTUs are not reporting:
 1. Biswanath Chariali
 2. Bongaigaon
 3. Balipara
 4. Itanagar
 5. Kolasib
 6. Dimapur
 7. Haflong
 8. Ziro

POWERGRID may kindly give the status.

B) NEEPCO:

- a. Kopili HEP not reporting from 09.05.2015.
- b. Ranganadi HEP is not reporting constantly and RTU needs to be restarted every day to get data.
- c. Khandong HEP not reporting from 16.09.2016
- d. 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. As per intimation, vide Ref No NEEPCO/ED(O&M)/OPR-01/16-17/638-40 dated 9.1.2017 Doyang, Kopili and Khandong RTUs are under process of installation. Though Doyang started reporting (12.07.2017), others need urgent attention.

NEEPCO may kindly intimate the current status.

C) AEGCL:

In the new system, only 25 RTUs are reporting partially against 61 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.

AEGCL may kindly intimate the current status & reasons.

D) MePTCL/MeECL: 18 RTUs are reporting out of 23 RTUs.

Generating Stations: New Umtru is not reporting. Dedicated voice communication is yet to be established for Leshka HEP.

Sub-Stations Not Reporting: Umium , EPIP-I , Lumshnong , Cherrapunji.

MePTCL may kindly intimate the current status & actions taken.

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

Non-reporting RTUs are given below:-

Generating Stations: Gumti (since Jan, 2011), Rokhia (all CB status suspect)

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

TSECL may kindly intimate the current status

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 6 nos of RTUs are found to be reporting out of 11 RTUs as on 08/08/2017 and No ULDC Communication system is established till date.

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

Manipur may kindly intimate the current status & actions taken.

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.

Mizoram may kindly intimate the current status.

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

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.

Realtime drawal for Assam and Meghalaya affected due to non-telemetry problem.
Realtime Grid Management process hampered.

Status in both the S/S may be intimated at the earliest.

A.3 Status of SDH installation by POWERGRID:

As per deliberation of 21st UCC meeting due to some unavoidable contractual issue/constraints beyond POWERGRID's control, though awarded but implementation has been delayed. Now the matter has been sorted out with M/s KEC, supply has been confirmed for SDH units for ULDC nodes and target completion date is May 2015.

During 5th NETeST meeting, it was informed that LOA has already been placed to ECI for installation in ULDC nodes by M/s ECI. The materials were supplied by KEC under MW vacation project. All utilities have been asked to ensure healthiness of air conditioning and DC/Aux supply as required. Further, during survey of ECI, it was requested that all necessary help may be extended by utilities States & Central Sectors. It has been deliberated that necessary shut down as required during replacement of SDHG equipment (Siemens make by ECI make) will be provided by NERPC/NERLDC from time to time basis. Further it was discussed that new SDH may be kept parallel for some days before fully dismantling of old. However same will be done subject to space constraint.

During 6th NETeST meeting, Manager NERTS informed the forum that the project is under execution and will be completed within one year.

NERTS may kindly intimate the status.

A.4 Replacement of Multiplexers:

As per deliberation of 21st UCC meeting POWERGRID informed the forum that ABB has replied for repair of cards. As discussed with AEGCL, MePTCL has been again requested to take up checking of healthiness of FOX515-Mux & then repairing of existing Mux through ABB alike NERTS. Contact details will be provided to MePTCL.

During 5th NETeST meeting, Manager NERTS informed that he had already mailed the details of nodes to all states and requested all the states to reply/give comments at the earliest. He requested all State utilities to give feedback after the meeting.

With request of Assam, PDH multiplexers are to be included for Assam in Pkg-4C are namely— a) Gohpur, b)Kahilipara, c)Mariani Grid S/S, d)Lakwa Thermal Power Station & e)Namrup Thermal Power. The above were requested during MW Vacation project itself but due contractual obligation and as non-inclusion of scope in original project, the same was not included in MW vacation.

Further in line with 15th TCC/RPC (Replacement of PDH nodes of ULDC Phase1 locations in NER" was approved in 15th NERPC-Aug'2015. MOM -Item.A.18 /page33), replacement of PDH mux FOX615 may be taken care in the package-4C awarded to M/s Tejas. Further for inclusion of PDHs/SDHs as required for SLDCs, Manager, NERTS stated to refer the RPC MOM.

During 6th NETeST meeting, Manager NERTS informed that the project is under execution and will be completed before October, 2018.

NERTS may kindly intimate the current status.

A.5 Finalization of Consolidated OPGW Network & Installation Project:

During 4th NETeST meeting, Manager (AM), NERTS informed that as per earlier decisions, it was again requested to all constituent again that all may submit the state-wise total network to NERPC and a meeting through study group & representatives from states may be called for consolidated discussion on channel planning etc. For ring format formation/redundancy as per network shown necessary fibers along with protection pair will be provided as & where required

OPGW network (962 Kms) implemented under ULDC project by POWERGRID has completed more than 13 years after commissioning. This will achieve its useful life of 15 years in 2018. There is a need to take up replacement of the same so that the replacement is in place by the time 15 years period is complete and data communication is not hampered. Also, around 1158 Kms OPGW is also required to be established on various lines of Central Sector to provide redundancy in the system. It is proposed to constitute a Committee comprising members from various constituents to study the requirement in detail and come out with their recommendations for implementation of the OPGW requirement.

LIST OF OLD CS LINKS: SC&C--ULDC Project Central sector OPGW (running with 12F only) which are to complete 15years in 2018			
	FROM	TO	KM RL
1	Kahelipara	Umiam III (ASEB/MESEB)	59.132
2	Umiam III	Umiam I(MESEB)	17.455
3	Umiam I	NEHU(MESEB)	10.257
4	NEHU	Shillong***UNDER GROUND FO	6.23
5	NEHU (MESEB)	Khliehriat (MESEB)-ckt-1	64.094
6	Khliehriat (MESEB)	Khliehriat (PGCIL)**	7.791
7	Khliehriat	Khandong(PGCIL)	40.99
8	Khandong(PGCIL)	Koplili (PGCIL)	11.191
9	Misa(PGCIL)	Koplili (PGCIL)	73.186
10	Misa(PGCIL)	Balipara(PGCIL)	94.046
11	Misa(PGCIL)	Dimapur(PGCIL)	119.192
12	Badarpur(PGCIL)	Khelihriat(PGCIL)	73.183
13	Badarpur(PGCIL)	Kumarghat(PGCIL)****	117.519

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14	Agartala Gas(PGCIL)	Kumarghat(PGCIL)****	99.817
15	Agartala (PGCIL)	Agartala Gas(PGCIL)****	7.416
16	Dimapur (PGCIL)	Kohima(PGCIL)	59.8
17	Kohima(PGCIL)	Imphal(PGCIL)	105.64
Sub Total SC&C			966.94

During the 17th TCC meeting, the matter of replacement of ULDC OPGW link and NER- FO expansion was referred to NETeST for discussion. A committee may be constituted for finalization of schemes regarding replacement of ULDC OPGW replacement, NER-FO expansion. Forum may also co-opt members for installation of terminal equipments etc.

In line with guidelines of 17th RPC (No. A.12 –Reliable Communication Scheme - 966 [old ULDC link] +1158 [new] = 2124km-Central sector links, the committee was formed in 5th NETeST to finalize CS links and discussions was held amongst members of committee during 6th NETeST is as follows:

- a) Regarding 1158km, as the transmission lines do not belong to state authority, hence the same is recommended to be approved.
- b) However out of 966km (old ULDC link replacement), Committee agreed that original links seems very robust, still there is very less loss. On technical grounds only, replacement of existing fibers to be done. It was concurred that all old ULDC links may be tested for confirmation of fiber healthiness to assess technical requirement.
- c) NERLDC representative intimated that links 1-5----17 (of old ULDC link) are used mainly connect the NERLDC & Back-Up NERLDC & SLDC Assam along with further connection to other region & regional optical grid, hence these were treated Backbone connection under Central Sector . GM NERTS & Director NERPC also opined the same on technical grounds.
- d) However representative of Assam/Meghalaya opined that the links (1, 2, 3 & 5) where the transmission lines belong to States has to be replaced based on commercial requirement. Forum opined that the requirement for replacement was to be concurred based on technical grounds only.
- e) Assam & Meghalaya representative intimated that additional fibers in those links if permitted after new replacement, if approved, the cost will be borne by respective states. Regarding exact requirement of additional fibers, state representative will take up the matter with their higher authority and revert back within 15days.
- f) After detailed deliberation, the forum requested NERPC to convene one more meeting with higher authorities of each state/utility/member of NETeST to conclude the issue(S.N.1-5)

Final Deliberation Forum recommended for replacement of OPGW installation for links of old ULDC (S.N.4, 6-16) subject to technical requirement & 1158km (new OPGW). For OPGW links S.N.1-5, a meeting will be held separately based on technical requirement.

Members may like to discuss.

B. NEW ITEMS

B.1 On Job Training for SCADA for identified employees of new SLDC:

It is proposed that NERLDC & SLDC-Assam, Tripura, and Meghalaya may facilitate on the job training for to be deployed employees of new SLDCs of Manipur, Mizoram, AP, and Nagaland.

During 6th NETeST meeting, the forum once again requested all SLDCs officials from Ar. Pradesh, Manipur, Mizoram & Nagaland were requested to send their representative to SLDC Assam & NERLDC for training as per their requirement & with mutual discussion.

All SLDCs & NERTS may kindly intimate current status.

B.2 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 6th NETeST meeting, the forum once again requested all states to send a complete list of their PLCC networks to NERPC except Meghalaya (already sent).

Members may like to discuss.

B.3 MW Vacation Project:

During 6th NETeST meeting, Project Manager KEC confirmed the following:

- a) All OPGW stringing-by June'17
- b) All splicing, testing of OPGW, OTDR trace submission-By July'17 (Compliance of request from AEGCL, Upper Assam is requested against submission OTDR & final testing for old links by KEC as per commitment of 5th NETeST—KEC confirmed to complete all)
- c) All rectification of OPGW by August-17
- d) All Equipment Installation & commissioning –By July, 2017 all equipment installation will be completed and project will be handed over onward.

It was also discussed that there has been delays due to unavoidable circumstances in Manipur, Nagaland as well as in Bodoland, supply of Materials & erection could not take place. Further, there were some lightning issues to be taken care for which rectification was required in some sections of OPGW of AEGCL. Forum opined that project is already delayed and all action to be taken by KEC & POWERGRID to hand over the project as per original scope of project.

AEGCL, POWERGRID may kindly intimate the status.

B.4 Additional MUX, STM for completion of connectivity:

- a. PDH multiplexers -additional 4nos. are also considered from AEGCL.
- b. PDH mux considered for new SLDC locations, Old ULDC nodes-CS part & Kahilipara SLDC.
- c. SDH-STM 16 considered for ring formation & SLDCs as per diagram. STM-4 considered for branches of FO network which are not required in loop.

Network is proposed keeping in view data congestion & redundancy considering PMU, SCADA, VOICE network/projects. List is attached

During 6th NETeST meeting, Manager NERTS, informed the forum that all additional MUX is being taken care in NER-FO expansion project in Package- IV(A) and Package IV(C).

All Constituent may please deliberate.

B.5 Maintenance of RTUs installed under ULDC Projects for Central Sector Generating stations.

As part of the ULDC projects, RTU which are commissioned at various Central Sector Generating stations are presently maintained by Powergrid. As per CERC Regulation for ULDC projects, the recovery period of the capital cost towards investment by Powergrid through tariff is 15 years and accordingly Powergrid will maintain there RTU till the completion of 15 years since DOCO for the respective region.

All the concerned Generating Companies/ utilities are requested to take necessary action for maintenance / replacement of the aforesaid existing RTU installed in their respective Power plant after completion of useful life of 15yr from DOCO to ensure continuous reporting of data to respective RLDCs.

During 6th NETeST meeting, DGM, NERTS informed the forum that NEEPCO has already started the process of replacing the obsolete RTUs with new one. He requested NHPC to take up the same.

NEEPCO & NHPC may please deliberate.

B.6 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 6th NETeST meeting, it was decided that NEEPCO and NERTS personnel will make a joint visit and resolve the issue by May, 2017.

NEEPCO & NERTS may please deliberate.

B.7 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 6th NETeST meeting, it was decided that NERLDC will write a letter to Powergrid Engineering department to explore the proposal so that state SLDCs can get PMU data.

NERLDC & NERTS may please deliberate.

B.8 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 6th NETeST meeting, the forum requested NERLDC to circulate a common policy followed by NLDC and NERLDC for safety and security of LDCs. The same may be discussed on the next NETeST meeting and adopted as common policy for all SLDCs.

To avoid unauthorized access to the SLDC, all members requested GE to configure security measure to the system as per contractual obligation.

Project Manager, GE informed the forum that the SLDCs need to come up with their security policy and GE will be implementing it.

Manager NERTS, suggested all SLDCs to take insurance for their assets.

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EE Nagaland, requested the forum to write a letter to their respective state authority to declare all SLDCs as restricted and prohibited area considering the importance of SLDCs in grid management.

Members may please discuss.

B.9 Furnishing of detail parameters for the On-going Projects likely to be commissioned within 6 months by Constituents:

NEEPCO Projects:

1. Kameng HEP (4X150 MW)
2. PARE HEP (2X55 MW)
3. Tuirial HEP (2X30 MW)

POWERGRID :

1. 400KV D/C Balipara-Kameng
2. 400 KV Imphal s/s & associated lines Thoubal S/S (Manipur)
3. 400 KV D/C Silchar-Melriat line
4. 132 KV Silchar-Hailakandi & Bays at Hailakandi.
5. 400/132KV, 1X315MVA ICT-III at Silchar, 220/132 KV, 2X160 MVA ICTs at Balipara, 220/132 KV, 1X160 MVA at Kopili,

AEGCL : 220 KV Rangia-Salakati

Tripura : 132 KV D/C Manarchak –Surjamaninagar

This is for kind information 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 centres alongwith 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 Centres 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 informations/ parameters are required to be furnished to NERLDC in advance for making the platform for Database:-

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

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

During 6th NETeST meeting, all constituent agreed to provide the requisite information of all new projects before commissioning.

NERLDC may please deliberate.

B.10 Status of Optic fiber works in NER:

Optic fiber works in NER are going very slow, for example optic fiber works at Balipara-Ranganadi links, Ranganadi- Lekhi links, Ranganadi-Ziro link, Silchar Palatana link etc. This delay results in inter alia, non-availability real time data from Ranganadi, Nirjuli, Ziro and Palatana 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 analyze properly as a result of non-reporting of RTUs due to delay in completion of optical fiber works.

Palatana RTU data goes out frequently & it is given to understand that the reason of outage being high S/N ratio in PLCC link under bad weather condition. Palatana being a large generating station, outage of SCADA data frequently & for significant duration of time is unacceptable. A permanent solution to the problem is urgently needed. It is requested to expedite the OPGW link work between Palatana & Silchar.

During 6th NETeST meeting, Manager NERTS, informed the forum that all links will be through once the NERFO expansion project is completed.

NERLDC & NERTS may please deliberate.

B.11 Status of RTU replacement and procurement of new RTUs:

SCADA data from Kopili, Khandong, Kolasib, Ziro, Haflong etc are out since long due to which Grid management activity is severely affected.

RTU Outage details are given below:

Sl. No.	Station Name	Date of Outage
1	Ziro	07.08.16
2	Kopili	09.05.15
3	Khandong	16.09.16
4	Haflong	30.06.17
5	Kolasib	06.07.17

Out of 61 RTUs of Assam, only 25 RTUs are reporting partially.

Most of the data points from Balipara RTU are erroneous.

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Khandong and Kopili RTU installation is under process and target date for completion is to be intimated.

Kolasib RTU is also not reporting.

Ranganadi RTU does not report continuously, RTU needs to be restarted every day to get data.

Tezu and Roing Data fluctuates frequently due to unstable GPRS connection. Dual redundancy is to be implemented.

Status as per discussions in 130th OCC

Sl. No.	Station Name	Status as informed in 130th OCC	Status as informed in 6th NeTEST
1	Ranganadi	Re-tendering stage. Work will be completed by Dec'2017.	by December, 2017
2	Ziro	ABB has done site visit. Report awaited.	by 25th May, 2017
3	Kopili	By 31.05.2017 will be commissioned.	By 30th June, 2017
4	Khandong	By 31.05.2017 will be commissioned.	Started reporting by 31st May 2017
5	Haflong	PLCC panel shifted. Link yet to be established. Will be complete by 31.01.17.	temporarily restored
6	Itanagar	NERLDC to update the latest status.	sending intermitting data

Doyang Data started reporting at NERLDC from 12.07.16. The Sub-Committee took serious note of non-reporting of new RTUs due to link non-restoration/failure. Since the issue involves common link jurisdiction between CSGS and CTU, the matter was referred to next NETeST meeting for resolution.

During 6th NETeST meeting, NEEPCO intimated that Doyang and Kopili RTU would be commissioned by 30th July and 30th June, 2017 respectively. For Khandong RTU, new RTU already supplied and will start reporting by 31st May 2017. Regarding Ranganadi RTU, the same is under process and will be commissioned by December, 2017.

Manager NERTS, informed that Ziro will be restored by 25th May, 2017. Regarding Haflong it is temporarily restored. Itanagar RTUs is sending intermitting data. NERLDC may please confirm the status of Haflong and Itanagar RTUs.

Members may please intimate the latest status.

Additional Agenda items from NERLDC

B.12 Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017:

These regulations are available in CERC website and the link for the same is <http://www.cercind.gov.in/2017/regulation/134.pdf>.

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

Role and responsibilities of various organisations and their linkages with respect to Communication System for Inter-State transmission of electricity is given in section 7 of these regulations.

As per section 9(i) of these regulations, all users that have provided the communication systems shall facilitate for periodic testing of the communication system in accordance with procedure for maintenance and testing to be prepared by CTU within 60 days of notification of Regulations and approved by Hon'ble CERC.

As per section 9(ii) of these regulations, testing process for communication network security should also be included even for third party system if exists in accordance with procedure for maintenance and testing to be prepared by CTU and approved by Hon'ble CERC.

As per section 10 of these regulations, the RPC Secretariat shall conduct performance audit of communication system annually as per the procedure finalised in the forum of the concerned RPC. Based on the audit report. RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat. An Annual Report on the audit carried out by respective RPCs shall be submitted to the Commission within one month of closing of the financial year.

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%

As per section 7.3 (iv) of these regulations, the RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

Members may please discuss.

B.13 Status of Implementation of URTDSM Project in NER:

At present, there are only 8 Nos PMUs installed in NER at Bongaigaon, Balipara, Sarusajai, Misa, Badarpur, Agartala, NEHU and Imphal as part of Pilot Project. Under

URTDSM Scheme around 90 number of PMUs are expected to be installed at various locations across NER which will provide better visibility into Grid events.

Due to delay in commissioning of PMUs under URTDSM monitoring and analysis of Grid events could not be done. It is necessary to expedite the commissioning of PMUs in NER under URTDSM scheme.

In 129th OCCM, NERLDC informed forum that analysis of some events could not be done due to delay of the URTDSM project. The matter was referred to next NeTEST meeting of NERPC.

NERTS, PGCIL may provide the current status.

B.14 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. Myntdu Leshka (3 nos.)
20. New Umtru (2 nos.)

Members may please discuss.

B.15 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

Members may please discuss.

B.16 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.

Members may please discuss.

B.16 Recent outage of multiple RTUs:

There have been 3 incidents on 21.07.17, 22.07.17 and 06.08.17 where more than 10 RTUs stopped reporting.

Reasons for such major outage should be intimated and preventive measures should be taken to avoid such incidents in future.

Members may please discuss.

B.17 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.

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)

Members may please discuss.

B.17 Maximum ISTS/ISGS CB status out:

NERLDC grid management is facing very difficult situation as most of the CB status of ISTS/ISGS stations are out. So any tripping/synchronization of Lines/units are not viewable in real time. SOE application is not usable as large no of CB status are out. Hence smooth grid operation is unthinkable. To identify and overcome the above problem forum may discuss the gravity of the problem and form a committee with a member from SO-1 to identify the breakers which are not reporting and put up to forum for discussion and corrective action by appropriate authorities to overcome the problem because long time it is not possible to avoid the problem.

Members may please discuss.

Additional Agenda items from MSPCL

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 6th NETeST 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.

MSPCL may please deliberate.

Any other item:

Date and Venue of next TeST

It is proposed to hold the 8th NETeST meeting of NERPC on second week of October, 2017. The date & exact venue will be intimated in due course.
