



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
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No. NERPC/SE (O)/NETeST/2019/ **1939-1976**

Dated: January 24, 2019

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (EE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
15. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. GM, NERLDC, Dongtiah, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 12th NETeST Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 12th NETeST Meeting held at Guwahati on the **10th January, 2019** for your kind information and necessary action. The minute is also available on the website of NERPC, www.nerpc.nic.in.

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

Encl: As above

भवदीय / Yours faithfully,

बि. लिं गखोइ / B. Lyngkhai

निदेशक / Director/ SE

Copy to:

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



निदेशक / Director/ SE

North Eastern Regional Power Committee

MINUTES OF THE 12th NER Telecommunication, SCADA & Telemetry

(NE-TeST) COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 10/01/2019 (Thursday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 12th NE-TeST Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 12th North Eastern Telecommunication, SCADA & Telemetry meeting. He stated that the new SLDCs of Ar. Pradesh, Manipur, Mizoram and Nagaland have been commissioned and any unresolved problems would be addressed in the NETeST forum. Further, he appreciated and lauded the efforts of NERLDC especially Shri M.K. Ramesh, GM (SL) and the team of NER in exploration of VSAT installation for the benefits of NER Utilities. He requested members to put in all efforts to bring the power communication in NER at par with the other regions. He requested all members to actively participate during the discussion for fruitful deliberations.

He then requested Shri B. Lyngkhoi, Director (O&P) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF THE 11th MEETING OF "NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)" SUB COMMITTEE OF NERPC.

Director, NERPC informed that minutes of the 11th NETeST Meeting held on 13th November, 2018 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2018/ dated 05th December, 2018.

Some comments were received later from POWERGRID which have been incorporated already.

The Sub-committee confirmed the minutes of the 11th NETeST Meeting as no comments/observations were received from the constituents.

A.1 Status of SLDCs in NER:

The status of setting-up of SLDC as informed by POWERGRID during 12th NETeST meeting is given below:

SN	Utility	Status as informed in 10 th NETeST	Status as informed in 11 th NETeST	Status as informed in 12 th NETeST
UPGRADATION OF SLDCs				
1	Assam	Completed.	DG set- ACDB issue resolved and DG set commissioning by 25.11.2018	DG set installed. Commission by 2nd week Jan19
2	Tripura	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.	Completed in all respects.
3	Meghalaya	Completed.	Completed.	Completed in all respects.
4	NERLDC	Completed.	SAT Completed.	Completed in all respects.
5	Manipur	Completed.	DG set target-Nov18	DG Set installed. Commissioning by 3rd week Jan19
6	Nagaland	Out of 12, 10 RTUs are installed and six tested. DG set space yet not ready.	Completed	DG Set installed & commissioned. RTUs installed but non-reporting.
7	Mizoram	Completed. AMC is still not signed. DG set space yet not ready.	Completion by Nov18	DG Set installed, SAT by 1 st week Feb19. RTUs installed but non-reporting.
8	Ar. Pradesh	8 RTU installed and tested locally without communication links.	Completed.	DG Set installed & commissioned. RTUs installed but non-reporting.

9	Backup NERLDC	Completed.	Completed.	Completed in all respects.
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Deliberation in the meeting

SE(SO&PSC), DoP Ar. Pradesh once again requested that handover of assets under SLDC Project be done by NERTS. NERTS informed that format has been received and the same would be completed by Jan'19.

CGM(NERLDC) suggested NERPC to conduct an official meeting between heads/higher officials of Transmission Department and SLDCs of all state constituents, for the betterment of system.

The forum decided that a list of RTUs be prepared with inputs from NERTS(RTUs supplied under SLDC Upgradation & Expansion Scheme) and all state utilities.

The Sub-committee noted as above.

Action: State Utilities, NERTS, GE

A.2 Status of FO works under different pprojects:

Name of the Project	Status as in 12 th NETeST
MW Vacation & OPGW Project	<p>M/s KEC</p> <ol style="list-style-type: none"> All 17 links already commissioned. 3 nos. of links down due to failure of AEGCL 132kV Srikona-Panchgram tower. AEGCL intimated that there is no place for erection of ERS and 2-3 pile foundation needs to be done. AEGCL informed that tower restoration will take time possibly by Jan'19. Communication Links are restored via new path i.e. <p>Jiribam PG –Pailapool (AEGCL) - Srikona (AEGCL) - Silchar (PG)--Shillong Badapur (Panchgram) AEGCL data is reporting via Badarpur PG upto SLDC.</p> <p><i>NERTS replied that Communication Links are restored via new path i.e.</i></p>

Jiribam PG -Pailapool (AEGCL) - Srikona (AEGCL) - Silchar (PG)--Shillong Badapur (Panchgram) AEGCL data is reporting via Badarpur PG upto Shillong

NERLDC is requested to verify the same

- c. 4 nos. Link requires detail assessment for rectification and job is in progress. Expected completion of rectification by Dec'18.

Rectification work for the links viz. BTPS-Agia, Agia-Sarusajai, Samaguri-Mariani, Namrup-Tinsukia shall be completed by Dec-18.

NERTS intimated that the rectification work is completed. Links are jointly tested as well. BTPS-Agia-{with Boko/Mirza (LILO)} - Sarusajai , Jiribam-Pailapul-Srikona are declared commissioned w.e.f 31.12.2018. AEGCL also confirmed

Sub-committee noted.

M/s TENDOT

- d. WIP in all 14 links
- e. Progress affected due to ROW.
- f. Expected completion March'19.

NOTE

Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from receipt of new tower route schedule.

Railway diversion of POWERGRID also suffering due to ROW in 3 locations to be resolved by Arunachal Pradesh.

NERTS replied that Ranganadi shall be made

	<p><i>reporting through fiber by Feb19 as per Letter of GM-AM (copy given to NERPC), WIP. The same got delayed due to bandh & Other ROW issue.</i></p> <p><i>NERTS to give link-wise status</i></p> <p><i>Action: NERPC</i></p>
<p>NER FO Expansion/Additional requirement of OPGW</p>	<p>TRIPURA</p> <ul style="list-style-type: none"> • 253.7 of 320.319 Km Completed • 63.522 km (02 links viz. SM Nagar~Rokhia & SM Nagar~Monarchak, line is under construction) front not available due to construction of 2 lines by TSECL • Completion: Mar 19 <p>NERTS replied that:</p> <ol style="list-style-type: none"> 1. OPGW part: The scope of OPGW Installation part is completed except 02 links SM Nagar~Rokhia & SM Nagar~Monarchak. Towers are not yet ready for these two links & also doesn't seem to be ready in near future. <p>POWERGRID will take up with TSECL for material hand over to TSECL so that TSECL may take up alter for erection after construction work is over..</p> <ul style="list-style-type: none"> • Completion: July 19 (will be expedited to complete by March19) <ol style="list-style-type: none"> 2. Equipments part: There is space constraint at Rokhia GTP for SDH equipment & at P K Bari for PDH equipment. TSECL will do the needful. <p>MIZORAM & MANIPUR</p> <ul style="list-style-type: none"> • 80% Material supplied. • Target Completion July 19 <p>NOTE</p> <p>Silchar-Pallatana OPGW work under halt due to objection of NETC & OTPC for transient lightning related fault in rainy season.</p>

	<p>P&ED Mizoram informed that for 132kV Aizawl-Zemabawk line fibre is being laid by NERTS, with terminal equipment supplied by NERTS. Compatibility to be confirmed by NERTS.</p> <p>NERTS informed the following:</p> <ul style="list-style-type: none"> a. Manipur: Supply – Complete, Erection: 0 km, Team is mobilized by M/s TCIL. b. Aizawl-Zemabawk-II (Zungtui) is already considered in MW Vacation project. The OPGW cabling part is completed as well. Also, Aizawl~Zemabawk-I (Luangmual) is considered in NER FO Expansion project. Terminal equipments (SDH/PDH) for both locations ie Zungtui & Luangmual and their optical connectivity's are considered in NER FO Expansion equipment packages c. Target completion: July-19 d. Battery bank/DCPS under NERFO- By Mar'19
<p>Upgradation of ULDC FO node</p>	<p>15 Location Completed</p> <p>Except Umtru Power Station. MePTCL informed that there is space constraint in the present PLCC room. A separate room will be needed to accommodate the equipments under this project.</p> <p>NERTS informed that official from NERTS had visited for collection of card and found there is still no space. Without the same, project cannot be completed. And so help from MEPTCL/G division is requested.</p> <p>A second joint visit date & solution: By 1st Week February 2019. MePTCL requested the forum for an official letter from the NERPC Secretariat to be addressed to the Director (Generation), MePGCL highlighting the issue.</p>

Critical Issues against project implementation may be discussed

Name of the Project	Critical Issue
Upgradation of ULDC FO node	All other nodes are commissioned except Umtru. Space related issues are to be sorted out. The delay in some cases are due to lack of space(Umtru, Kohima), lack of AC , re-allocation of space etc.
MW Vacation	04 links where rectification required are already rectified and jointly tested by PGCIL & AEGCL. Further, rectification work wrt DCPS are already in progress. Data & voice of all links are through. Data & voice of Agia-BTPS, Saruajia, Mriza-Boko LILO, Panchgram, Srikona-Paialpul-Jiribam is also made through since 31st Dec2018 after rectification

NERLDC requested NERTS to give completed details of all the links under various FO projects in annexure along with the agenda as well as minutes, for the close monitoring of the work for better system improvement. The detail status with target completion link-wise is given in **Annexure-A.2**.

The Sub-committee noted as above.

Action: State Utilities, NERTS, NERPC.

B. NEW ITEMS

B.1 Strengthening of PLCC System by NER States:

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.

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.

In 9th NETeST meeting DGM, NERLDC informed that MePTCL has submitted their connectivity diagram including planned future expansion. The map for Manipur and Nagaland has also been prepared. The forum once again requested NERTS to submit requisite connectivity schemes planned under NERPSIP. Manager, NERTS requested NERPC to write to ED, NERPSIP for the same.

In 10th NETeST meeting after detailed deliberation both MSPCL and TSECL agreed to submit the PLCC scheme details by Jul'18. The forum once again requested NERPC to ensure participation of POWERGRID-NERPSIP in the next meeting, to update the various communication scheme details. NERLDC informed that communication map has already been drafted and after inputs from remaining utilities it may be finalized. Manager, NERTS informed that the communication grid map attached in the minutes of the 18th NERPC may be perused for this purpose.

In 11th NETeST meeting the following were decided:

a. Communication schemes of Mizoram, DoP Ar. Pradesh, Nagaland and Tripura	By Nov'18
b. Communication map to be prepared by NERLDC	Consolidated map of Assam to be prepared in the Sub-group meeting on 22.11.18. Rest to be prepared subsequently.
c. NERPSIP communication schemes	Already submitted to NERLDC/NERPC. To be included in the map.

During 8th NETeST 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.

Deliberation in the meeting

After detailed deliberation it was decided that a consolidated map would be prepared on 24.01.2019, with the following inputs:

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

The Sub-Committee noted as above.

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

B.2 OPGW link between RHEP Power house and Biswanath Chariali/ Nirjuli sub-station required.

In 10th NETeST meeting NERTS informed that the work is carried under MW Vacation project executed by M/s Ten Dot. The new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line) is yet to be provided by DOP Ar. Pradesh. Rain/landslide/water accumulation is also delaying the project. Target completion is Nov/Dec18.

In 149th OCC meeting DGM(AM) NERTS requested that Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from receipt of new tower route schedule. He further informed that Railway diversion of POWERGRID also suffering due to ROW in 4 locations to be resolved by Arunachal Pradesh. The forum requested DoP Ar. Pradesh to expedite. NEEPCO also requested that alternate path for OPGW may be laid using 400kV lines from RHEP.

NEEPCO has informed that termination of OPGW link in the Ranganadi HE Plant is required at the earliest and Ranganadi station be declared as Wide area network point. The equipment for OPGW is laying in the Power House site since several months awaiting for Termination of OPGW for reliable communication for both Voice and data. In this regard NEEPCO is already entered into the agreement with PLCC for Lease Line. At present ULDC Phone in RHEP is not working since two to three years due to failure in PLCC media and also our plant is operating in web based scheduling system which requires uninterrupted internet facility. This can also be achieved by commissioning of OPGW.

The status as informed in 11th NETeST meeting:

- **Connectivity of RHEP via Nirjuli:** Tower schedule is yet to be provided for connectivity via Nirjuli-Leikhi-Pare-RHEP. Target completion 3 months upon submission of tower schedule.
- **Connectivity of RHEP via Biswanath Chariali:** Delayed due to ROW issue in Arunachal Pradesh-Tower no.1—3 (Railway diversion area).

Sr. Manager, RHEP, NEEPCO requested that the OPGW connectivity of RHEP be completed at the earliest. Further he informed that the terminal equipments are lying at RHEP presently. GM (AM), NERTS assured that the same would be commissioned by Dec'18.

On request of NEEPCO, POWERGRID already prepared a redundant communication scheme for Ranganadi data from RHEP to BNC via PLCC and further connecting to a leased link. The same was shared with NEEPCO for implementation after needful review with copy to NERPC

Deliberation in the meeting

NERTS replied that there may be correction of target date, as per Letter given by GM-AM NERTS, target date is Feb 2019(Copy given to NERPC & NEEPCO ED O&M) keeping in view various field constraints as were earlier well discussed in last 3 OCCs.

However, POWERGRID is taking special care for expediting the work and complete the connectivity by Jan19. NEEPCO was requested to kindly arrange connectivity of Telephone & data up to the wide band equipment. The forum also requested NERPC to write to DoP Ar. Pradesh for resolution of RoW issue.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh/NERTS.

B.3 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 10th NETeST meeting DGM(SL), NERLDC informed that a draft format for the purpose of availability calculation has been prepared by NERLDC. He requested members to submit their suggested changes to the format, after incorporation of which the format may be finalised.

ED, NERLDC opined the following w.r.t. Availability Calculation of communication channels:-

- Presently NERTS should submit the availability data in the format to NERLDC for verification and further certification by NERPC.
- Since the regulation came into effect from 15.05.2017, the data from May'17 to Mar'18 may be submitted forthwith and consequently monthly data may be submitted.
- Availability for communication links associated with ISTS wideband only may be dealt with at the moment.

Manager, NERTS informed that there has been an outage of NMS most probably in the month of Dec17. The forum requested NERTS to submit the data from Date of restoration till Mar'18 and also directed that a backup storage may be installed immediately for NMS. It may be noted that availability calculation is yet to be finalized by NPC & so data wrt NMS may be considered for link availability.

Since it is inferred that the above Regulations would apply to ISTS links / links up to ISTS nodes, ED, NERLDC suggested that to start the process for Availability Calculation of the Communication System for ISTS and to have a related report in place in the event of CERC asking for the same. NERTS was accordingly requested to submit a monthly report from May 2017 onwards subject to availability of link.

In 11th NETeST meeting, the following were discussed and decided:

- *Presently, NERLDC asked that NERTS should submit the availability data in the format to NERLDC for verification and further certification by NERPC - NERTS submitted (attached at **Annexure-B.3(I)**). To be submitted monthly by NERTS.*
- *Since the regulation came into effect from 15.05.2017, the data from May'17 to Mar'18 may be submitted with supporting NMS report forthwith and consequently monthly data may be submitted - Only submitted lumpsum availability (**Annex. B.3(I)**) from Jan'18 to Oct'18.*
- *Availability for communication links associated with ISTS wideband only may be dealt with at the moment - The forum approved the same.*
- *Links diagram data from Assam, Meghalaya states have been received; detailed*

channel routing is yet to be submitted by the all states- Assam has submitted in the desired format (attached at **Annexure-B.3(II)**). Other state utilities and NERTS to submit in the same format.

- A consolidated list of communication links has been made from the details submitted by POWERGRID. The detail list is attached in Annexure-B.3(III). The details of commissioning dates and owner has to be updated and submitted by NERTS, POWERGRID - NERTS to update and submit availability data in similar format to NERLDC.
- The forum may approve the draft format for availability calculation already circulated by NERLDC-. POWERGRID intimated that matter would be reverted back

Deliberation in the meeting

NERLDC requested NERTS to submit monthly availability of each link every month on or before 5th of following month to NERLDC for validation from January 2019 onwards. NERTS informed that the matter has been taken up with POWERGRID-CC, after future approval same would be communicated. CGM, NERLDC stated that to avoid any backlog data should be submitted continuously. It was decided that till further decision NERTS will give a lump sum availability monthly.

The Sub-Committee noted as above.

Action: NERLDC/NERTS

B.4 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.

In 11th NETeST meeting DGM(SL), NERLDC requested that feedback of data validation be given to NERLDC. Members decided that the matter may be discussed in the Sub-group meeting on 22.11.2018.

Deliberation in the meeting

After detailed deliberation it was decided that NERLDC and NERTS will jointly do the data validation from NERLDC for each ISTS station as per the schedule proposed by NERLDC (**enclosed Annexure-B.4**). Onward the same will be jointly checked at

RTAMC-NERTS as well for identification of issues related to replaced data, IO list issue, data validation etc. The same was mutually agreed upon by NERTS & NERLDC. NERLDC team ensured to send all pre-requisite (Signal list/IO list in excel format along with SLDC & other configurations/settings-for all stations at a time in soft folder) for data checking to NERTS by a week as was consented in earlier OCCs/NETeST. In case of any change required by NERTS the date for such stations will be mutually modified. After successful completion of central sector station same procedure will be adopted with state constituents.

The Sub-Committee noted as above.

Action: MeECL.

B.5 Shut Down Procedure for Optical Links:

In 134th OCCM it was decided that communication related shutdown would be approved in OCC forum alongwith generation and transmission element(s) shutdown. However, in absence of list of important links, equipments etc. utilities risk affecting the ICCP system. In 142nd OCCM, the unforeseen outage of ICCP on 10.03.18 was highlighted.

In 10th NETeST meeting the necessity of availability of critical Optical communication links / nodes without hampering monitoring of the power system was discussed. NERLDC informed that the clear list of OPGW/PLCC links (by collecting from all utilities of NER) is being compiled in a Communication map and the detailed end-to-end channel(port to port) list is being prepared and the same would be circulated shortly. The draft Communication map alike POWER map may be prepared & submitted soon by NERLDC so that if any changes are there same may be commented by utilities. NERTS already provided list of links(MW,ULDC,FO expansion) and already prepared a FO Map as circulated in 18th NERPC and same may be taken as reference. After detailed deliberation the forum referred the matter to the next OCC meeting for shut down procedure finalization. Only Meghalaya submitted the communication drawing, Assam submits but not detailed. NERTS referred 18th RPC minutes. DGM(SL) NERLDC opined that the communication drawing submitted in 18th RPC is only links not channel details.

Director NERPC mentioned that that preparation/finalization Network is long pending and at first, communication Link network diagram (OPGW/PLCC/Others) just alike power map connecting critical stations of CS/ISGS/States & LDCs of NER may be

prepared by RLDC. Onward, if required, incorporation of channels & other requirements may be done in next stage by RLDC by collecting from respective utility. Issues/requirements from state utility/central utility may be taken up bilaterally and if same is not sorted out, can be discussed in meeting

In 11th NETeST meeting DGM(SL), NERLDC cited the relevant clauses of the regulation. The draft procedure was presented by NERLDC (attached at **Annexure-B.5(I)**). The forum decided that for shutdown of communication links similar procedure as that of Transmission elements is to be followed and approved the one prepared by NERLDC with following modification(s):

For Emergency shutdown requisition has to be given directly to NERLDC by concerned utility and NERLDC would subsequently grant approval if deemed fit.

- Shutdown application format made by NERLDC is attached at Annexure B.5(II).

The list of links alongwith ownership details is to be submitted by NERTS for ISTS & ISGS stations.

POWERGRID intimated matter will be reverted back after due deliberation.

Deliberation in the meeting

Incorporating the modification suggested in 11th NETeST meeting, the procedure for shutdown of fiber optic communication links NERLDC presented (attached at **Annex. B.5**) in 12th NETest meeting. In response CM (NERTS) mentioned that the procedure has been sent to CC for approval / advising uniform procedure for all the regions.

CM(NERTS) requested to follow the same procedure followed for availing shutdown of transmission elements till getting concurrence from their corporate center

The Sub-Committee noted as above.

Action: All concerned utilities

B.6 Discontinuity in links for MW vacation project.

In the MW replacement OPGW project there was discontinuity observed in many links. The same has been intimated to PGCIL. Discontinuity in the fibers will hamper ongoing telemetry status and also upcoming projects if not rectified at the earliest.

The *.sor files taken by OTDR has been submitted to PGCIL for BTPS-Agia, Agia-Boko, Sarusajai-Mirza, Sarusajai-Agia, Samaguri_Mariani and Samaguri-Misa.

In 11th NETeST meeting, NERTS informed that all nodes of Assam are reporting as on date. AEGCL informed that for Samaguri and Mariani one pair of fiber is working, others are damaged. While for Mariani, Namrup and Panchgram there is DCPS failure, which would be rectified by Dec'18.

Deliberation in the meeting

NERTS replied that OPGW links are rectified. Rectification of DCPS shall commence by 1st week of Feb'2019 & after AMC. Once same is consented, between POWERGRID & AEGCL. The forum decided to drop this item and status may be apprised in common status from next meeting.

The Sub-Committee noted as above.

Action: NERTS/AEGCL

B.7 Finalization of agreement/formalities as to be adopted by operators while operating central sector assets (like VOIP, URTDSM, etc.).

Necessary formalities i.r.o operation may be finalized by NERTS, NERLDC & SLDC for proper operation of assets supplied under VOIP, FO EXPANSION, URTDSM etc., where Equipment is installed in a control room but assets are not owned by owner of control room/LDC. Further for state sectors, wherever state links are established (e.g. NER FO Expansion project or similar) by & then AMC payment will be done by POWERGRID, for same billing will be done during AMC period against expenditure & as applicable.

In 10th NETeST meeting it was decided that the modalities would be presented in the next NETeST meeting for further ratification.

In 11th NETeST meeting GM(AM), NERTS informed that the same will be submitted to NERPC by a month after discussing with LD&C and other regions.

Deliberation in the meeting

It was decided that after finalization of formats with concurrence of NERLDC, NERTS would present to the forum for ratification.

The Sub-Committee noted as above.

Action: NERTS.

B.8 Improvement of Data Availability of NER:

In 11th NETeST meeting GM(AM), NERTS opined that after removing non-commissioned stations Data Availability for most utilities and NER as a whole would

improve for e.g. after removing Subansiri HEP data availability of NERTS has improved to 63.21%..

DGM(SL), NERLDC stated that telemetry availability has to be informed to CERC periodically. Deletion of stations is not permissible because in event of disturbance, the figures would represent mal-information to CERC. The forum requested NERLDC to prepare a separate list for internal purposes, which would exclude non-commissioned stations/RTUs. This would enable higher focus and also proper RCA station wise. Members requested NERPC that the matter be discussed at length in Sub-group meeting on 22.11.2018.

To observe and monitor the actual quantity of data that are available to NERLDC control room from Central sector as well as State sector stations, a detailed point list (Analog and Digital) has been prepared by NERLDC and is displayed in OCC and NETeST forum every time (attached in **Annexure-B.8**).

It is requested to rectify all the analog data and digital status data of all stations of Central Sector and State Sector and improve the data availability for smooth Grid Operation.

Deliberation in the meeting

The forum congratulated OTPC for maintaining 100% data availability and timely completion of VOIP phonework by 04.12.18. AEGCL stated that Assam data availability is 48% rather than 34%. CGM, NERLDC opined that in a fast changing and evolving grid, there should be higher stress on data availability and same has to be impressed upon the top management of various STUs.

MePTCL submitted the following w.r.t. data non-availability of Byrnihat S/S:

- PLCC 95 PLF module failed. The module has been replaced and frequency setting tuned to working frequency at EPIP-II.
- PLCC test points measured, tuned for pilot Tx/Rx frequencies and for 1kHz generating signal at both stations.
- Soft loop and hard loop at both the Killing and EPIP-II sub stations upto SLDC, mapping in NMS and testing of data using ASE 2000 completed.

NSK modem restored by loop back test as well as in local loop test.

The data communication from the 400/220/132 KV Killing Sub Station to SLDC has since been restored on the 14.01.2019 after rectification works on PLCC has been completed at both ends.

CGM, NERLDC cited the relevant regulations and stated that wherever data is intermittent, (i) alternate path/alternate technology to be adopted, (ii) OPGW/PLCC to coexist. Further, he suggested that a WhatsApp group can be created so that any information/improvements can be put through. He also mentioned that it would be very difficult for SLDCs to contact the generators for getting the data and requested NERPC Secretariat to call a meeting comprising of senior officers of GENCOMs, TRANSCOMs & SLDC so that the importance of SLDCs can be made impact on them.

Further for early restoration, it was also discussed that for CS/POWERGRID Data outage, NERLDC C/R may intimate to RTAMC C/room & Site I/C (Station In-charge-List of POWERGRID station in-charge {name & phone numbers-Site ULDC nodal officer} will be provided by CM NERTS) as well.

The Sub-Committee noted as above.

Action: All utilities/NERLDC.

B.9 Status of URTDSM

Latest status as per 149th OCC meeting held on 11.10.2018:

- a. SAT in 2nos. PDC completed. SAT for NERLDC PDC started.
- b. 39 out 51 PMUs reporting. WIP for BNC. Target for completion-Jan2019

NOTE:

- a. OPGW installation for Ranaganadi connectivity is on halt due to water log (at loc of shift from 132kV GITL to 400kV Line).

Further Splicing is delayed due to paddy & ROW

Members from various SLDCs informed that important nodes have been excluded from PMU installation under Phase-I & II. The forum decided that those locations would be included under Phase-III. All SLDCs to prepare list and communicate the same to NERLDC.

In 11th NETeST meeting NERTS informed that SAT of SPDC at NERLDC, PDC at Assam & Meghalaya SLDC are completed, 41 PMUs are reporting as on date. Details are attached at **Annex. B.10**. DGM(SL), NERLDC informed the following:-

- More than 15min data cannot be seen in the trend window without distortion at present. *NERTS to explore and peruse the TS.*
- High deviation in phase angle between stations. He cited reference to letter dated. to ED, NERTS. - *GM(AM), NERTS clarified that this is due to phase shift between stations in NER, which is well known. For this possible remedy is to interchange the connections from CT &PT/CVT. He assured that the work at Bongaigaon would be completed by 10.12.2018.*

Deliberation in the meeting:

NERTS submitted the following:

- A) All PMUs are reporting except Ranagandi (Target 2nd week Feb). Dimapur Target (2nd week March19). Rectification in Assam SLDC PDC done. SAT of NERLDC signed. Status of PMUs may be referred as given in last TCC with additional completion of BNC PMUs & SAT signed of NERLDC.
- B) Requirements as mentioned above were additional wrt STA/TS. GE is yet to revert back on the same. However, if the same is done in other RLDC/LDCs, same will definitely be done.

Further, regarding phase/angular deviance issue: Voltage input of Balipara-2 feeder at Bongaigaon was shifted/corrected and found same is now matching the earlier deviated ones. But same is now deviating from those stations which were in match earlier. It is found that there is some phase mis-match in primary sides mostly in transmission links of State under expansion.

CGM, NERLDC stated that the primary requirement of PMUs' is oscillation monitoring, which is not possible at present due to phase shift errors. CM NERTS intimated that issue was anticipated & discussed in 1st NETEST and was referred to OCC/PCC (Refer MOM 1st NETeST, Item B.4/Page-14). It is requested for changes in primary if required by taking shut down & needful action by respective utility.

After detailed deliberation it was decided that physical (primary) matching of phases to be done, wherever anomaly is present. To figure out the detailed action plan and schedule the matter was referred to Sub-group of PCC.

The Sub-Committee noted as above.

Action: NERTS/NERLDC/NERPC.

B.10 GPRS connectivity for Substations and Leased line for SLDC:

In 10th NETeST meeting the following timeline(s) were agreed to by the different utilities:-

Name of utility	Static IP at SLDC	GPRS SIM/Broadband
TSECL	By July'18	By 15.08.2018
MSPCL	-	Remaining By July'18
DoP Nagaland	-	By July'18

It was also intimated to states that instead of 3G SIM, if internet lease link is taken at substations also, then the same is also feasible with the modems provided for states. ED, NERLDC opined that GPRS is a temporary arrangement and should be discouraged. However it may be used as a stopgap arrangement till OPGW is implemented. However PLCC should serve as the backup for all state substations.

In 11th NETeST meeting NERTS informed the following status:

- Only one SIM is provided by TSECL. - *TSECL to provide remaining by Nov'18.*
- SIMs provided by DOP, Nagaland.(One link commissioned).
- SIMs have been provided by DOP,AP.
- Mizoram is yet to provide the SIMs.
- For Manipur, SIMs as provided has been commissioned. Nodes are reporting
- Target completion: 5months subject to receipt of all SIMs.

Deliberation in the meeting

NERTS informed that balance SIMs for TSECL yet to be received, SIMs for Nagaland have been received and all RTUs would start reporting based on Modem installation completion at each location of Nagaland by Mar'19. AEE(MRT), P&ED Mizoram requested that Data Plan per SIM, RTU locations may please be provided so that SIMs can be procured accordingly. NERTS intimated that data plan is min 4GB preferably per month/postpaid type (2 diff service provider 3G SIM-for each location) and one lease line internet connectivity (with static IP-2MBPS) at SLDC.

The Sub-Committee noted as above.

Action: NERTS/TSECL/P&ED Mizoram.

B.11 Outage of Telemetry:

The following stations data are very important for NER grid operation and need to be restored urgently. Kindly update the progress status for the works.

- a. S900 RTU of 400 kV **Ranganadi** (NEEPCO) is not reporting. Kindly update the status of procurement of C264 and MFTs required for integration.
- b. **Mariani S/s and Mokokchung S/s** are not reporting since 30/12/2018.

Further, the following RTUs data over the GPRS/internet is highly intermittent:

- a. Roing S/s,
- b. Tezu S/s,

Deliberation in the meeting

NERTS informed the following status:

- Mariani PG & Mokokchung data were not available due to failure of converter. The same is restored.
- Roing, Tezu intermittent data receipt due to network issue as the locations have been connected via GPRS. NERTS will look into VSAT for providing data of Roing, Tezu and Namsai. The earlier cost is now reduced and revised cost is apx. 54,653,880.00 for 5 years.

NEEPCO informed that materials have been dispatched and RHEP would start reporting by Jan'19.

OTPC informed the following w.r.t. voice communication from Palatana:

- On 13.12.18 voice communication failed. Root cause not yet determined.
- Similar problem exists at NERLDC.
- Minor software issue might be there.

NERLDC requested all generating stations (especially BgTPP) that VoIP phone is to be kept in Control Room.

The Sub-Committee noted as above.

Action: NERTS/NEEPCO/ All generating utilities.

B.12 Discussion on visit to KPTCL regarding VSAT:

As per discussion in previous meetings:

- Leased Line Connectivity has been explored by NERTS for Roing, Tezu & Namsai with recurring expenditure amounting to INR 28 lakhs.

- VSAT Pilot project to be executed at Byrnihat station. The data would be transmitted from Byrnihat to KPTCL (via satellite) to SRLDC to NLDC to NERLDC. This would be kept in monitoring mode in the interim.
- NERPC to take up with proper authorities for funding of VSAT in NER from suitable sources.
- A visit to KPTCL would be done on the 10th of December, 2018 with members from NERLDC, AEGCL and NEEPCO to assess the technical feasibility.

Members of the group which visited Bangalore on 10.12.18 updated the 151st OCC forum of the technical aspects of the visit:

- Extended C Band Technology is being used by KPTCL. Same technology has to be replicated for NER.
- Minimum hardware is required at the remote stations and easy to install with only 3 units (modem, switch and antenna).
- Delay in receipt of data & voice is minimum and negligible.
- Voice communication is reliable and clear.

The team has confirmed that they are convinced about the performance of VSAT Communication Technology and that it is more suitable for NER Region.

Members who went for study tour on VSAT to KPTCL may kindly share their views and further course of action. Consent letter from KPTCL addressed to MS, SRPC is attached in Annexure-D for observation.

Deliberation in the meeting

Members who visited KPTCL regarding VSAT familiarisation informed the following:-

- 9mt diameter antenna at Main Control Room.
- VSAT has NMS capability.
- Weather independent.
- Since NER is in seismic Z-5, Extended C Band VSAT is the best alternative for NER.

The forum expressed apprehension about the scope of the project, cost allocation etc. Also it was unanimously agreed that VSAT when it is implemented shall also cater to the needs of various other schemes which require data from remote locations viz. SAMAST, AMR etc. AGM AEGCL intimated that the requirement of channels as required to take data of Metering scheme (SAMAST/AMR) under process may also be taken into consideration while preparing TS. This might effect in little increase in cost but would benefit constituents in holistic manner. Forum agreed for the same.

Committee appreciated the visit and gave in-principle approval for implementation VSAT project. A pilot project proposal was given by NERLDC. NERLDC presented the implementation methodology of the pilot project along with the quote of around 5.38 Lakhs (exclusive of tax) for 6 months as submitted by VSAT AMC vendor of KPTCL. NERLDC also highlighted the permission letter from KPTCL to execute the project (Copy enclosed at **Annexure-B.12**).

Forum had agreed to share the pilot project expenditure and identified the 400 kV Killing as location to execute the pilot project.

NERLDC requested MePTCL to spare a gateway at 400 kV Killing S/s for IEC-104 protocol to test the real-time data through VSAT system. MePTCL representative agreed for the same and informed that nodal agency for VSAT i.r.o. Meghalaya shall be the Communication Sub-Division under System Protection Division, MePTCL.

The Sub-Committee noted as above.

Action: All utilities as above / NERLDC/NERPC.

B.13 Permission for 1st time charging of 400/132 KV Switchyard of kameng Hydro Electric Project, NEEPCO

OBJECTIVE: To check permission for 1st time charging of 400/132 KV Switchyard of Kameng Hydro Electric Project, NEEPCO with one Data Channel from Powegrid's Balipara Sub-Station to with NERLDC Shillong

BACKGROUND:

- a. NEEPCO's 4X150 MW Kameng HE Project was scheduled for commissioning in Mar-April 2018. However, during pre-commissioning stage on Mar 2018, leakages in penstock have been witnessed. The rectification works are presently on progress and it is anticipated that two units shall be ready for commissioning within March 2019.
- b. In the meantime, NEEPCO has sought from NERLDC on 10/12/2018 for 1st time charging 400/132 KV Switchyard of the Project.
- c. It is to be mentioned that the data telemetry with NERLDC, Shillong has been established subsequently and the data validations for all elements of the switchyard have since been completed.
- d. For data communication, dual PLCC channel till wideband location i.e Balipara has been established. However, from Balipara to NERLDC Shillong, only one channel is presently made available.

- e. For voice communication, dedicated Telephone (landline) has been provided and also alternative dedicated Voice Communication over PLCC has been established.
- f. It has also been certified that the alternative channel through OPGW shall be available after completion of additional communication scheme by NERTS as approved in 18th NERPC meeting (item A.7).
- g. NERLDC, however, desires that complete alternate two channels from Kameng HEP via Balipara to NERLDC shall be provided.
- h. As per Connection Agreement drawn between NEEPCO and Powergrid, establishment of communication system from Balipara to NERLDC is in the scope of CTU i.e. Powergrid, however its cost shall be borne by NEEPCO. NEEPCO accordingly has taken up with Powergrid to provide the two channels from Balipara. Powergrid, however, informed that at present there is no additional spare channel readily available from Balipara to NERLDC and additional one channel shall be made available between Balipara to NERLDC by 2 months with installation of new equipment/cards at Balipara. Powergrid has been requested vide letter dated 03/01/2019 (copy enclosed at **Annexure B.13**) for urgent action to make necessary arrangement to provide complete alternative two channels.
- i. All NEEPCO's contractors viz. BHEL & Techno-Electric and its sub-contractors/vendors engaged in construction of NEEPCO's Switchyard and Power Station are waiting for clearances from NERLDC to charge and commissioning the Switchyard since last week of December 2018.

PROPOSAL:

With the above background and as establishment of the alternative channel from Balipara to NERLDC is beyond the control of NEEPCO, it is solicited that NERLDC may consider granting of provisional clearance to NEEPCO for charging of the Switchyard of Kameng HEP based on the Powergrid's assurance that the additional channel shall be made available in next 2 months' time.

Deliberation in the meeting

NEEPCO has provided the dual PLCC channel till nearest wide-band location i.e. Balipara. But still second channel from Balipara to NERLDC is to be provided by PGCIL. On the basis of same, NEEPCO requested to provide clearance for charging of KHEP.

NERTS assured that the second channel from Balipara to NERLDC will be provided by next 2 months.

NERTS also assured that the second channel from Balipara to NERLDC will be provided by next 2 months (presently there is technical issue) and also intimated that provision of issuing/non-issuing charging clearance may kindly be adhered to as per relevant regulations (IEGC etc.)

The forum unanimously requested NERLDC to give first time charging clearance of 400/132kV switchyard at Kameng HEP. NERLDC agreed. Forum thanked NERLDC for the same.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.14 Outage of telemetry during grid disturbance:

At 10:19 Hrs of 05/12/2018, there was a grid disturbance in North Eastern Region. During the grid disturbance following RTUs were not reporting which caused inconvenience in grid restoration:

- a. 400 kV Bogaigaon
- b. 400 kV Misa
- c. 200 kV Salakati
- d. 132 kV Nirjuli
- e. Pare HEP

It is requested to provide necessary details for failure of aforementioned data and take necessary action to avoid the same in future.

Deliberation in the meeting

NERTS informed that the issue of DC supply port failure (due to earth fault & onward) in equipment at Balipara (bringing Bong & Salakati data) was intimated in the meeting after grid failure. The matter has been sorted out by providing UPS supply. POWERTEL has been asked to emphasize on quality ULDC links & best maintenance thereof. Matter intimated to DGM-POWERTEL, Guwahati & RTCC Kolkata to take special care for ULDC links, NER as same is related to power system & maintain links as per norms of power system data.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.15 Dual channel availability for reliable and redundant communication system in NER:

As per section 10 of CERC communication regulations, 2017 "all users of CTU, NLDC, RLDCs, SLDCs, STUs shall maintain the communication channel availability at 99.9% annually: Provided that with back up communication system, the availability of communication system should be 100%".

As such to improve the reliability of the communication system it is required to establish dual channel as a part of back up communication system.

The attached list in Annexure-B shows the status list of central sector stations with dual channel.

It is requested to provide dual channel for all the central sector stations where it is not available.

Deliberation in the meeting

NERTS stated that for central sector stations & POWERGRID stations, CTU (LD&C-CC, PGCIL) being the designated nodal agency for designing the communication channel will approve the channel pathway for Central sector stations and will intimate to NERPC. Under NER FO expansion, it is being planned that central sector data main channel will report to NERLDC and 2nd channel will report to Back up NERLDC. NERLDC requested NERTS to provide dual channel to maximum extent possible. NERTS agreed accordingly.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.16 Drawal points data availability:

A list of drawl points is prepared and is attached in **Annexure-B.16**. To effectively monitor the deviation of states and generators as per 4th Amendment of DSM regulation, the drawl points data indicated in the list are very important.

It is requested to every constituent to maintain the data availability of drawl points to help themselves for better real time monitoring of the grid and the deviation from schedule.

Deliberation in the meeting

After detailed deliberation it was decided that NERLDC will share list of drawl points with each constituent and constituent will make sure for data availability of those points.

The Sub-Committee noted as above.

Action: NERLDC/All STUs.

ADDITIONAL AGENDA FROM NERTS:

B.17 VSAT For Roing Tezu Namsai:

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

Deliberation in the meeting

The forum requested NERTS to provide a cost breakup.

The Sub-Committee noted as above.

Action: NERTS.

B.18: Readiness of Permanent NERLDC Back Up Building & Providing space for communication system in Temporary B/U NERLDC

It may be noted that permanent Back up NERLDC building is not yet ready and at present NERLDC Back Up Building is temporarily set up at Kahilipara. As a result permanent set up for Communication System could not be established. Date of readiness of permanent building of NERLDC (along with a dedicated communication Room with sitting space of 2 persons) may be ensured by NERLDC.

Further is requested that NERLDC may provide space for set up of communication system (SDH -2panels (1 no. SDH, 1no big NMS), PDH-2nos. 1mx1.8mx 2.5m each) UPS(Battery bank & charger) & sitting-space/arrangement for 2 persons (commissioning & AMC) in temporary set up B/U NERLDC so that links under NR FO

Expansion can be planned for connectivity. Fibcom & Tejas will be asked to first do the same initially in temporary set up of B/U RLDC and later in permanent set up in later years (as rework)

Deliberation in the meeting

CM, NERTS informed that presently space is required for installation of communication system at B/U NERLDC. CGM, NERLDC stated that permanent building of NERLDC would be ready by June'2020.

After detailed deliberation it was decided that AEGCL would explore hiring out space to NERLDC for Comm equipment set up in/around temporary building of Back up NERLDC. NERLDC will take up with higher authority of AEGCL as well.

The Sub-Committee noted as above.

Action: NERLDC/AEGCL.

B.19: Readiness for supply of CFEs in Badarpur (2nd TS Node)

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

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

Deliberation in the meeting

The forum requested NERLDC to discuss with GE and revert back with a solution & target completion date

The Sub-Committee noted as above.

Action: NERLDC.

B.20: URTDSM Project Taking Links from POWERTEL :

It is proposed that following links may be taken from POWERTEL as there is no direct OPGW link till now. The links may be kept in NER for back up to main links and will be kept for first 1.5 years.

- 1) NERLDC to B/U NERLDC-4mbps
- 2) NERLDC to NLDC-4MBPs
- 3) NERLDC to B/U NLDC—4MBPs (will be in place only after all equipment in NLDC B/UP is in place)

Similarly, wherever possible, for PMU to PDC, links from POWETELMPLS architecture may be taken as back up to ULDC's own TDM SDH architecture. Cost may be booked to O&M of URTDSM project

Deliberation in the meeting

The forum requested NERLDC to explore in line with the other regions. However technical requirement of the same was agreed upon by forum. POWERGRID may take necessary action as required to full-fill different communication requirements of URTDSM project as per TS.

The Sub-Committee noted as above.

Action: NERLDC & NERTS.

ADDITIONAL AGENDA FROM SLDC NAGALAND:

B.21 Non-availability of ICCP data:

Nagaland SLDC intimated that data of Doyang GS & Karong is available at NERLDC & SLDC/NERLDC respectively. But same is not available over ICCP at Nagaland SLDC. NERLDC may kindly coordinate in this matter for needful

Deliberation in the meeting

The forum requested NERLDC to check and revert back.

The Sub-Committee noted as above.

Action: NERLDC.

ADDITIONAL AGENDA FROM NHPC:

B.22 Maintenance of S900 RTUs:

Manager, NHPC informed that the maintenance of S900 RTUs is difficult due to (i) non-availability of spares, (ii) RTUs being past their terminal life of 15 years. He also cited replacement of S900 by C264 in Teesta Project by POWERGRID.

Deliberation in the meeting

The forum decided the following:

- New RTUs be procured and installed by NHPC since availability of S900 RTUs is very poor.
- Same Technical Specifications of RTUs as in SLDC RTUs project may be used for procurement.

The Sub-Committee noted as above.

Action: NHPC.

DDITIONAL AGENDA FROM AEGCL/MePTCL:

B.23 Status of ULDC fiber for 132kV Kahilipara-Umtru:

The useful life of 15years for 132kV Kahilipara-Umtru has expired on Jul'18. Presently commercial fibers are running on it, with no benefits to constituent owners (AEGCL/MeECL).

Deliberation in the meeting

The forum requested AEGCL/MePTCL to write to ED, Telecom-POWERGRID & ED, NERTS-POWERGRID in this matter with copy to NERPC.

The Sub-Committee noted as above.

Action: AEGCL/MeECL.

Date & Venue of next NETeST meeting

It is proposed to hold the 13th NETeST meeting of NERPC on second week of April, 2019. 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 12th NETeST Meeting held on 10.01.2019**

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, SE (E) SO&PSC	Ar. Pradesh	09436288643
2.	Sh. Pranab Saha, AGM (Communication)	Assam	09435361717
3.	Sh. Narayan Sarma, DGM (MRTC)	Assam	09435040035
4.	Sh. Arup Sarmah, DM	Assam	-
5.	Sh. R. Das, AM	Assam	-
6.	Sh. D.Saikia, DM	Assam	-
	No Representatives	Manipur	-
7.	Sh. F.E. Kharshiing, SE, SLDC	Meghalaya	-
8.	Sh. B. Narry, AEE, PLCC, MePTCL	Meghalaya	09089000911
9.	Sh. D. J. Lyngdoh, E.E (S.M), SLDC	Meghalaya	09774285158
10.	Sh. D. Marsharing, AE, SLDC	Meghalaya	-
11.	Zoramdina Ralte, SDO, MRT	Mizoram	-
	No Representatives	Nagaland	-
	No Representatives	Tripura	-
12.	Sh. Tanya Tazi, Sr. Mgr.	NEEPCO	09436042053
13.	Sh. Joypal Roy, Sr. Manager (E/M)	NEEPCO	09435577726
14.	Sh. M.K. Ramesh, GM	NERLDC	09449599174
15.	Sh. V. Suresh, CGM	NERLDC	09449599156
16.	Sh. Sakal Deep, Asst. Engineer	NERLDC	-
17.	Sh. Yogendra Singh, JE, Backup	NERLDC	08794836476
18.	Sh. S. Paul, Chief Manager	PGCIL	09433379985
19.	Sh. Roshitesh Kumar, Asst. Manager	PGCIL	09402184618
20.	Sh. N. Yugandhar, Sr. Manager	NHPC	09800003819
21.	Sh. Subhajit Ganguly, Sr. Executive	OTPC	07980010258
22.	Sh. Kumar Shiva, Manager	TCIL, N. Delhi	08800505997
23.	Sh. P.K. Mishra, MS	NERPC	09968380242
24.	Sh. B. Lyngkhohi, Director (C&O)	NERPC	09436163419
25.	Sh. Srijit Mukherjee, AD-I	NERPC	08794277306

ANNEX-A.2

A. NER FO EXPANSION PROJECT OF NERTS

SN	Link Name	OPGW		Terminal Equipments (SDH-Fibcom& PDH-Tejas)		Comm. Target	Remarks
		Supply(SDGI)	Erection(TCIL)	Supply	Installation		
CENTRAL SECTOR							
1	132kV Khandong~Halflong (PG)	62.398	62.398	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: Mar-19	WIP. However, equipments can't be powered on as DC Power Source Supply still pending. WIP. Further OPGW stringing work are also not yet completed for most of the links.	Apr-19	Names of nodes 1. Aizawl 2. B/U NERLDC 3. Badarpur 4. BNC 5.Bongaigaon 6. Byrnihat 7.Balipara 8.Dimapur 9.Doyang 10.Halflong 11.Imphal 12.Jiribam 13.Kathalguri NEEPCO 14. Khandong 15.Khlehriat 16. Kumarghat 17. Loktak NHPC 18. Melriat 19. Mariani 20. Mirza 21.Mokokchung 22. Misa 23. Pallatana OTPC 24. Parey NEEPCO 25. RC Nagar 26. Ranganadi
2	132kV Dimapur (PG)~ Doyang (NEEPCO)	91.567	91.567			Apr-19	
3	132kV Doyang (NEEPCO)~ Mokokchung (State)	26.913	26.913			Apr-19	
4	220kV Mokokchung (PG)~ Mariani (PG)	48.788	48.788			Mar-19	
5	400kV Mariani (PG)~ Kathalguri (NEEPCO)	159.245	159.245			Mar-19	
6	132kV Badarpur(PG) ~ Jiribam(PG)	67	28			Jul-19	
7	Bongaigaon (PG-400 kV) ~ 220kV Salakati- 220 kV BTPS	0 (R L:4.5KM)	0			Jun-19	
8	400kV Mirza (Azara) ~ Byrnihat	47.208	0			Jul-19	
9	400kV Silchar ~ Pallatana	247.414	61.146			Aug-19	
10	400kV Surajmaninagar(TSECL) ~ Pallatana(OTPC)	36.714	27.976			Apr-19	
11	132kV Agartala(TSECL) ~ RC Nagar (NEEPCO)	7.656	7.656			Mar-19	
12	132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC)	82.461	0			Jul-19	
13	132kV Loktak (NHPC) ~ Imphal (PG)	34.578	11.496			Jul-19	
14	132kV Melriat (PG) ~ Silchar (PG)	142.905	142.905			Apr-19	

SN	Link Name	OPGW		Terminal Equipments (SDH-Fibcom& PDH-Tejas)		Comm. Target	Remarks
		Supply(SDGI)	Erection(TCIL)	Supply	Installation		
15	PK Bari (TSECL)--LILO of (NETCL) Belonia	0 (Route Length:10.441)	0			Jul-19	27. Rangia HVDC 28. Salakati 29. Shillong NERLDC 30. Silchar 31. Ziro
16	132kV Parey ~ Chimpu	0 (Route Length:31)	0			Jun-19	
	Total	1054.847	668.09				
STATE SECTOR MANIPUR							
1	132kV Loktak(NHPC) ~ Ningthoukhong	11	0	Completed		Jul-19	Equipment Nodes: 1.Churachandpur, 2.Imphal State(SLDC), 3.Jiribam State, 4.Kakching, 5.karong, 6.Kogba, 7.Rengpang, 8.Thoubal, 9.Yaingangkopi, 10.chandel, 11.Hungdung All GPRS node (asked by TSECL) are already reporting to SLDC
2	132kV Imphal(State) ~ Karong	60	0	Completed		Jul-19	
3	132kV Yurembam ~ Yaingangpokpi	42	0	Completed		Jul-19	
4	132kV Yaingangpokpi ~ Kongba	32	0	Completed		Jul-19	
5	132kV Kongba ~ Kakching	55.626	0	Completed		Jul-19	
6	132kV Kakching ~ Churachandpur	38	0	Completed		Jul-19	
7	132kV Yaingangpokpi ~ Hundung	32	0	Completed		Jul-19	
8	132kV Kakching ~ Chandel	25	0	Completed		Jul-19	
9	132kV Loktak(NHPC) ~ Rengpang	47	0	Completed		Jul-19	
10	132kV Jiribam ~ Jiribam state	1	0	Completed		Jul-19	
11	132kV Ningthoukhong ~ Churachandpur	32	0	Completed		Jul-19	
Total =		375.626	0				

NER FO EXPANSION PROJECT

Status of links considered in FO Expansion Project								
SI No	Link Name	OPGW		Terminal Equipments		Overall Comm. Target	Remarks	Data reporting through GPRS Modems
		Supply Status	Erection Status	Supply	Erection			
Tripura State Sector								
1	132kVAgartala(TSECL) ~ Barumura(GTP)	34.817	34.817	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: April-19	WIP. However, equipments can't be powered on as DC Power Source Supply still pending	Apr-19	Equipment Nodes: 1.Baramura GTP 2. SM Nagar 3. Badharghat 4.Budhjungnagar 5. Udaipur 6. Rokhia 7. Monarchak 8. Gumti 9. Amarpur 10. Satchand 11.Sabroom 12. Dhalabil 13.Agartala SLDC	1. Rabidranagar 2. Belonia 3. Satchand 4. Sabroom 5. Bogafa 6. Amarpur 7. Gumti 8. Rokhia 9. Baramura 10. P K Bari 11. Dharmanagar Target: 04 months after all SIMs handed over. Only one SIM handed over
2	66kV 79 Tilla Grid (TSECL) ~ Badharghat	12.39	12.39			Apr-19		
3	132kV Surajmaninagar(TSECL) ~ Budhungnagar	17.863	17.863			Apr-19		
4	132kV Pallatana(OTPC) ~ Udaipur(TSECL)	11.528	11.528			Apr-19		
5	132kV Udaipur(TSECL) ~ Rokhia GTP	45.291	45.219			Apr-19		
6	66kV Udaipur(TSECL) ~ Gumti HEP	37.678	33.904			Apr-19		
7	66kV Gumti HEP ~ Amarpur(TSECL)	24.003	24.003			Apr-19		
8	66kV Satchand(TSECL) ~ Sabroom(TSECL)	12.244	12.244			Apr-19		
9	132kV 79 Tilla Grid (TSECL) ~ Dhalabil(TSECL)	43.037	43.037			Apr-19		
10	132kV Rokhiya (GBPP) ~ Surajmaninagar(TSECL)	21.35	0			Line under Construction. Material to be handed over to TSECL for stringing		
11	132kV Surajmaninagar(TSECL) ~ Monarchak (NEEPCO)	42.172	0					
12	132kV Agartala(TSECL)	17.918	17.918					

	~ SM Nagar (TSECL)							
	Total	320.291	252.923					
Meghalaya State Sector								
1	132kV Nehu ~ Neigrihms	1.722 (RL:7.665)	0	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: Jun -19	WIP. OPGW stringing work is not yet started.	July-19	Equipment Nodes: 1. Lumshnong 2. Myndtu Leshka-HEP 3. Nehu 4. Neigrihms 5. Khlehriat State	
2	132kV Khliehriat(PG) ~ Khlehriat (State)	5.282	0			July-19		
3	132kV Khliehriat(State) ~ MyntduLeshka-HEP	24.932	0			July-19		
4	132kV Khliehriat(PG) ~ Lumshnong (S/C)	25.19	0			July-19		
	Total	57.126	0					
Nagaland State Sector								
1	132kV Kohima (132KV) ~ Kohima (220KV)	25	0	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: May-19	Equipment for the connectivity of all the nodes are supplied. Only Auxilliary Power Supply part Pending. Target: June-19	July-19	1. Materials of Doyang ~ Sanis is not yet supplied. Target:Mar-19 Equipment Nodes: 1.Nagaland SLDC 2.Kohima 132kV 3. Kohima 220kV 4. Wokha 5. Sanis 6. Nangarjun As discussed in meeting with DOP, Nagaland on 8-9.1.19, DOP will erect some poles so that OPGW	1. 66kV Power House 2. 66kV Paren 3. 132kV Kohima 4. LHEP 5. 66kV Tuensung 6. 132kV Zunhenboto 7. 132kV Wokha 8. 132kV Kiphire 9. 66kV Tuli 10. 66kV Mon 2 nos. locNagarjan&Kohima is reporting via GPRS Target: 04 month
2	132kv Kohima ~ Wokha	58	0			July-19		

3	132kV Doyang (NEEPCO) ~ Sanis	0 (R Length: 10 Km)	0			July-19	may be strung between Nagarjan to SLDC. Stringing is proposed to be done by TCIL from spare material of DOP.	
	Total	83	0					
1	132kV Loktak(NHPC) ~ Ningthoukhong	11	0	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: Mar-19	WIP. However, equipments can't be powered on as DC Power Source Supply still pending	July-19	Equipment Nodes: 1.Churachandpur, 2.Imphal State(SLDC), 3.Jiribam State, 4.Kakching, 5.karong, 6.Kogba, 7.Rengpang, 8.Thoubal, 9.Yaingangkokpi, 10.chandel, 11.Hungdung	1. Chandel 2. Churachandpur 3.Jiribam 4.Rengpeng 5.Hungdung Data is reporting for Kongba, Hungdung, churchanpur&Chandel
2	132kV Imphal(State) ~ Karong	60	0			July-19		
3	132kV Yurembam ~ Yaingangpokpi	42	0			July-19		
4	132kV Yaingangpokpi ~ Kongba	32	0			July-19		
5	132kV Kongba ~ Kakching	55.626	0			July-19		
6	132kV Kakching ~ Churachandpur	38	0			July-19		
7	132kV Yaingangpokpi ~ Hundung	32	0			July-19		
8	132kV Kakching ~ Chandel	25	0			July-19		
9	132kV Loktak(NHPC) ~ Rengpang	47	0			July-19		
10	132kV Jiribam ~ Jiribam state	1	0			July-19		
11	132kV Ningthoukhong ~ Churachandpur	32	0			July-19		
	Total	375.626	0					
	Mizoram State Sector							

01	Aizawl~Zemabawk I	1 (R Length 1)	0	Equipments (SDH & PDH) supply completed. Auxiliary Power Supply Pending. Target: Mar-19		July-19	Equipment Nodes: 1. Zemabawk I 2. Zemabawk II 3. Shimui 4.Aizawl SLDC	1. Zemabawk I 2. Zemabawk II 3. Shimui SIM is yet to be provided by P&E Mizoram
	Total	1						

Note:

a) **SDH Nodes:** SLDC Kahilipara (State) & Back Up RLDC(CS) for STM-16 ring formation considered for Assam

b) Total State Sector FO Expansion OPGW: Manipur(375.626 km)+ Tripura(320km) + Nagaland(83km)+Meghalaya-57km= 836km--Apx

(c) ROW issue solving for TL or Substation location if any and Space ,AC Power supply, air conditioning of equipment is to be provided/done by owner of stations/utility where equipment is installed.

B. STATUS OF ESTABLISHMENT OF OPGW COMMUNICATION LINK IN NER UNDER NER MW VACATION PROJECT:

PART – I: The status of CS and AEGCL Links being executed by M/S KEC is as below:

SN	Link Name	Sector	OPGW Erection (in KM)	Remarks / Status
1	132KV Silchar (PG)-Badarpur (PG)	CS	19.221	Complete
2	132kV Badarpur-Kolasib	CS	106.759	Complete
3	132kV Kolasib-Aizawl	CS	65.732	Complete
4	132kV Nehu-Khelieriat	CS	5.400	Complete
5	220KV Misa-Samaguri	CS	34.373	Complete
6	400KV BTPS-Salakati via NTPC	CS	3.490	Complete
7	132kV Badarur(PG)-Badarpur(AEGCL)	CS	1.023	Complete
Sub Total (A) = TOTAL (Central Sector) =			235.998	

SN	Link Name	Sector	OPGW Erection (in KM)	Remarks / Status
8	132KV Pailapool-Srikona	AEGCL	33.692	Complete
9	132kV Jiribam-Pailapool	AEGCL	12.752	Complete
10	132kV Badarur(AEGCL)-Srikona(AEGCL)	AEGCL	19.586	Complete
11	132KV Balipara-Gohpur	AEGCL	101.124	Complete
12	132kV S/C Mariani - Lakwa TL	AEGCL	79.298	Complete
13	132kV D/C Lakwa - Namrup TL	AEGCL	58.394	Complete
14	220kV BTPS-Agia	AEGCL	65.732	Complete
15	220kV Agia-Sarusujai (with LILO at Boko, Mirza)	AEGCL	130.706	Complete
16	132KV Namrup-Tinsukia	AEGCL	43.571	Complete
17	220kV S/C Samaguri - Mariani TL (CKT - II)	AEGCL	169.717	Complete
Sub Total (B) = TOTAL (State Sector) =			714.572	
Grand Total (Sub Total A+B) =			950.570	

Note: OPGW link of 132kV Badarur (AEGCL) - Srikona (AEGCL) is down due to Tower failure which will be rectified by AEGCL in totality including OPGW part break along with Tower. AEGCL nodes are reporting via Silchar PG (Pailapool-Srikona-Silchar-Shillong-Kahilipara).

ANNEXURE-B.4

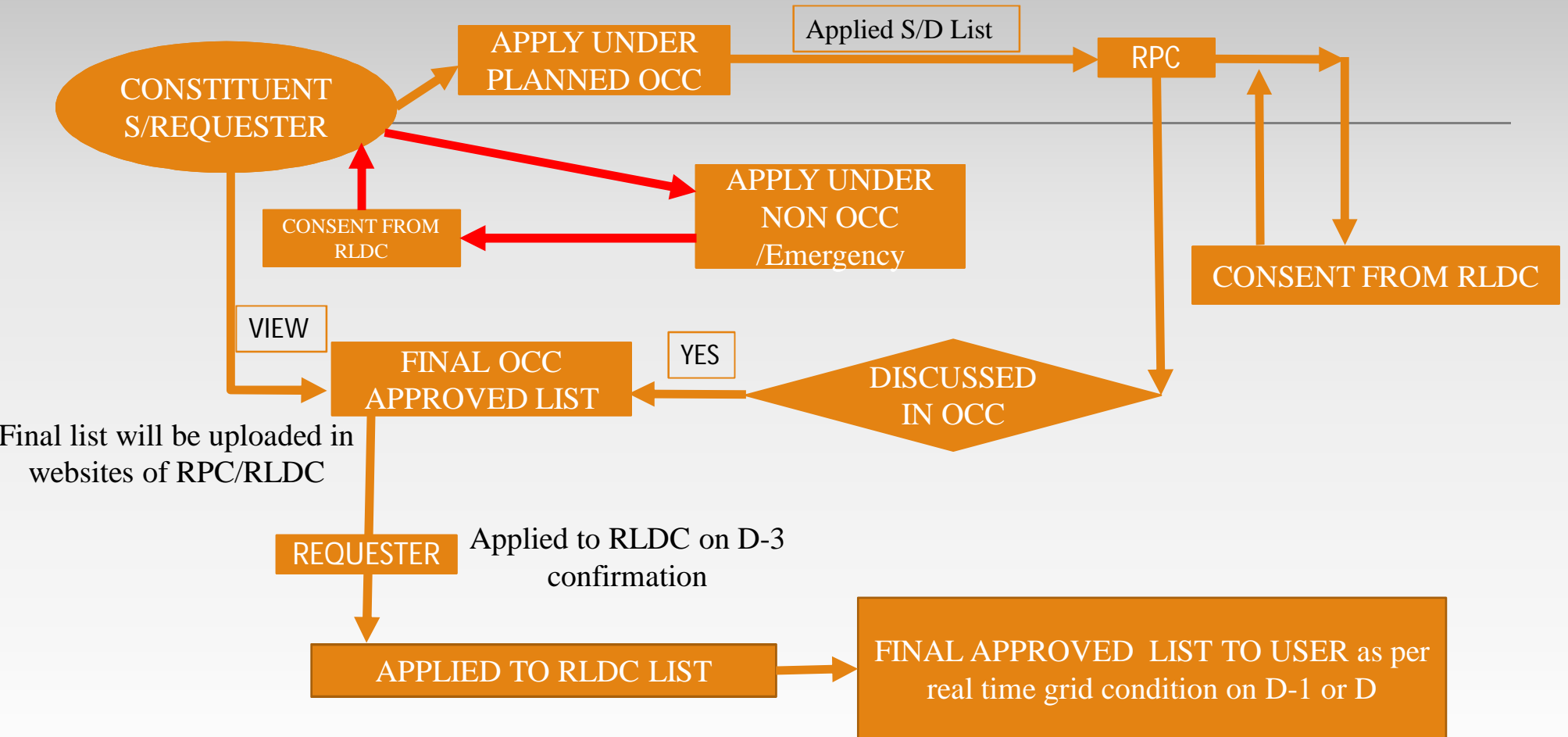
Sl. No.	Name of Station	OWNER	VALIDATION DATE
1	Aizawl	PG	1/15/2019
2	Badarpur	PG	1/16/2019
3	Balipara	PG	1/17/2019
4	BNCHVDC	PG	1/18/2019
5	Bongaigoan	PG	1/21/2019
6	Dimapur	PG	1/22/2019
7	Haflong	PG	1/23/2019
8	Imphal	PG	1/24/2019
9	Itanagar(Nirjuli)	PG	1/25/2019
10	Jiribam	PG	1/28/2019
11	Khandong	PG	1/29/2019
12	Khleiriat	PG	1/30/2019
13	Kopili-Ex	PG	1/31/2019
14	Kumarghat	PG	2/1/2019
15	Mariani	PG	2/4/2019
16	Melriat	PG	2/5/2019
17	Misa	PG	2/6/2019
18	Mokokchung	PG	2/7/2019
19	Namsai	PG	2/8/2019
20	Roing	PG	2/11/2019
21	Salakati	PG	2/12/2019
22	Silchar	PG	2/13/2019
23	Tezu	PG	2/14/2019
24	Ziro	PG	2/15/2019

Pre OCC and NON OCC/Emergency:

Utility	RPC	RLDC
Request on at least before D-3 days	Approved by RPC	
Avail/confirmation of OCCM approved shutdown send to RLDC on D-3		Final approval/deferred/Reject any shutdown as per real time grid condition on D-1 or D

As per 7.3(iv) of CERC (Communication System for inter-State transmission of electricity) Regulations, 2017, '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.

Draft Communication Outage Procedure



Thank you





SYSTEM LOGISTICS, NERLDC

Telemetry Statistics of States and Central Sector RTUs



DATA AVAILABILTY AS ON NER 31/12/2018

Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
3647	5063	8710	1556	1945	3501	42.66%	38.41%	40.19%



DATA AVAILABILITY OF STATES AS ON 31/12/2018

Sl No.	State	Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	Arunachal Pradesh	106	152	258	0	0	0	0	0	0
2	Assam	1217	1731	2948	492	512	1004	40.42%	29.57%	34.04%
3	Manipur	180	255	435	106	179	285	58.88%	70.19%	65.51%
4	Meghalaya	409	388	797	220	56	276	53.79%	14.43%	34.63%
5	Mizoram	71	50	121	9	7	16	12.67%	14%	13.22%
6	Nagaland	237	270	507	5	2	7	2.11%	0.74%	1.38%
7	Tripura	524	715	1239	138	134	272	26.33%	18.74%	21.95%



DATA AVAILABILITY OF CENTRAL SECTOR AS ON 31/12/2018

Sl No.	State	Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	PGCIL*	628	1082	1710	396	764	1160	63.05%	70.60%	67.83%
2	NEEPCO	202	286	488	125	157	282	61.88%	54.89%	57.78%
3	NTPC	31	49	80	23	49	72	74.19%	100%	90%
4	OTPC	42	85	127	42	85	127	100%	100%	100%
5	NHPC	18	29	47	17	27	44	94.44%	93.10%	93.61%

* Due to failure of several converter PGCIL data reporting was around 40% On 31.12.2018. After restoration, the data availability figure on 02.01.2018 is reflected for PGCIL above.

ANNEX-B.10 UPDATED (Ref Item B.9-12th NETEST)

URTDSM PROJECT (M/S GE) STATUS-NER Part

SN	Equip.	Scope		Status				Status / Remarks
		Nos.	Location	Erection	SAT	Reporting/ Commission	Data Validation	
PDC/SPDC of Control centre status								
1	SPDC	1	NERLDC	1	1	1	ok	15.11.18 SAT completed.
2	PDC	1	Assam	1	1	1	ok	Completed
3	PDC	1	Meghalaya	1	1	1	ok	Completed
4	PDC	1	Arunachal	Apx.8 Months from Decision of diversion to Tripura SLDC as per TCC.				
	Total	4	As above	3	3	3	3	
PMU (Central sector) Status :								
5	PMU	3	Salakati	3	3	3	3	Completed
6	PMU	6	Balipara	6	6	6	6	Completed
7	PMU	6	Bongaigaon	6	6	6	6	Completed
8	PMU	4	BNC	4	4	4	4	31.12.18
9	PMU	4	Silchar	4	4	3	4	Completed
10	PMU	7	Misa	7	7	6	6	Completed
11	PMU	3	Mariani	3	3	3	3	Completed
12	PMU	5	Dimapur	5	5	0	0	*Fire Hazard /By 1 st week March19
13	PMU	1	RHEP - NEEPCO	0	0	0	0	By 1 st week March19
14	PMU	2	Kopili - NEEPCO	2	2	2	2	Completed
15	PMU	4	Samaguri – Assam	4	4	4	4	Completed
16	PMU	2	Agia - Assam	2	2	2	2	Completed
17	PMU	2	Mariani – Assam	2	2	2	2	Completed
18	PMU	2	Tinsukia - Assam	2	2	2	2	Completed

		51		50	50	43	44	
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Over all Target: 31.03.2019 (except 1 no. PDC which under diversion).

ANNEX-B.4

NERLDC & POWERGRID will jointly do the same to complete all validation by 1.5 months as per schedule given by NERLDC

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Phone: Off : 2226 7034
2225 9719
Fax: 2228 2287



Office of the
Chief Engineer, Electy.,
State Load Despatch Centre,
#28, Race Course Cross Road,
KPTCL, Bengaluru- 560 009

No: CEE/SLDC/SEE/SCADA/EE-
SCADA-Design/AEE-SCADA-2/2018-
19/ 13766-69

Date: 28/11/18

To,

**The Member Secretary,
GoI, Central Electricity Authority
Southern Regional Power Committee,
Bengaluru-560 009.**

Sir,

Sub: Regarding providing Data and voice channel for Demo purpose through VSAT from Meghalaya to KPTCL VSAT hub located at premises of SLDC, A.R Circle, Bengaluru

Ref : 1) NERC Ltr No:NERPC/SE(O)/OCC/2018/3680-3681 Dated:05-10-2018

2) Letter No: SRPC/SEII/2018 Dated:11-10-2018; Member Secretary,
Central Electricity Authority Committee Bengaluru

Inviting to above subject, KPTCL in principle has agreed to extend VSAT service for data and speech channel for demonstration purpose in one of the substations in Meghalaya for the period of 12 months for monitoring the performance of communication links.

It is Suggested to establish the following:

1. Required Hardware at site may kindly be arranged from M/s.Gilat or Authorized service provider of Original Equipment Manufacturer.
2. Statutory clearance from SACFA, WPC, NOCC, CUG may please be obtained.
3. Data routing from SLDC to RLDC and to NERLDC has to be taken care by RLDC/NLDC.
4. Further, as a first step technical signal survey also has to be conducted for signal availability.

Necessary coordination will be extended by KPTCL-SCADA wing for establishing network.

Thanking you

Yours faithfully,

**Chief Engineer (Electy.),
SLDC, KPTCL, Bangalore**

gato K

Ref: ENTL/NOM/1901.01

7th Jan 2019

To,
Mr M K Ramesh,
General Manager
PSOCL
North Eastern Regional Load Despatch Center,
Lapalang, Shillong 793006

Sub: Commercial Offer for Supply of Complete VSAT one set & maintenance for 6 months

Dear Sir,

This has reference to your enquiry for one VSAT's supply, installation & maintenance for the purpose of demonstration to North East Escoms about VSAT connectivity. We are glad to offer the below given proposal.

#	Description Of Material	Qty	Unit Price INR	Ext Price exclusive of Tax INR	Tax Rate
1. VSAT Supplies Portion					
1.1	Gilat make SkyEdge IP VSAT Unit & Accessories	1	243,200	243,200	18.00%
	Consisting of:				
	• SkyEdge IP IDU				
	• 2W Ext C ODU				
	• LNBC				
	• 1.8 M antenna with ExtC feed				
	• IFL cables				
	• 8 port Switch				
	• IP Telephone adapter with 2 telephone set				
	• Wired rack & patch cords				
1.2	Cisco Integrated Services Router C881-K9	2	63,800	127,600	18.00%
	Total (VSAT Supplies)	1	127,600	370,800	18.00%
2. Services : I&C & Approvals					
2.1	VSAT installation & Commissioning	1	40,000	40,000	18.00%
2.2	Liasoning of VSATs (AIP, SACFA & OL)	1	50,000	50,000	18.00%
	Total	1		90,000	18.00%
3. Services : Operation & Maintenance					
3.1	VSAT Maintenance for 7 months	7	10,000	70,000	18.00%
	Grand Total			530,800	18%



Envision Network Technologies Pvt. Ltd.

Envision Technology Center, #119, Road No. 3,
EPIP Area, Phase 1, Whitefield, Bangalore 560066

Tel: +91-80-46623200\201\202

Web : www.envision.in

envision

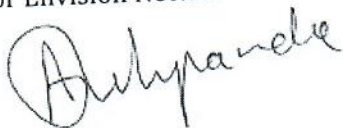
We are assuming that there is an ethernet / fibre connectivity between KPTCL Hub at Anand Rao circle & PSOCL office at Anand Rao circle and therefore considered only routers. If the fibre / ethernet to be laid the same shall be done at a separate cost.

Similarly, we are assuming that at remote end and also PSOCL end, you have UPS supply and hence the same is not quoted. We would need 230 V AC supply at all ends.

We trust our offer is in line with your requirements, should you have any queries feel free to get in touch with us. Looking forward for your valuable purchase order.

Thanking you & assuring you of our best services at all times.

For Envision Network Technologies Pvt. Ltd.,



Ashok Deshpande
CEO & Managing Director
9845099875

TERMS AND CONDITIONS

Taxes	:	Taxes extra as applicable at the date of billing. Presently GST @ 18%
Delivery	:	12 to 14 Weeks from the date of confirmed PO/ work order.
Payment for Supplies	:	<ol style="list-style-type: none"> 1. For item 1.1 & 1.2, 100% payment within 30 days of delivery to your stores or your inspection at our stores whichever is earlier. 2. For item 2.1, 2.2 & 3.1 100 % payment within 30 days from date of completion individual services on pro-rata basis. The completion of services means services covered under this contract & scope only. If the delay is from PSOCL end for non-availability of other items like RTU, UPS etc, then our payments should not be held up and should be paid as per our service rendered date.
Order Placement	:	Orders to be placed in the name of Envision Network Technologies Pvt Ltd., Bangalore.
Warranty	:	Standard 1 Year Warranty as per Manufacturer policy
Disputes	:	Bangalore jurisdiction only
Force Majeure	:	As Applicable.
Validity	:	30 Days



Envision Network Technologies Pvt. Ltd.

Envision Technology Center, #119, Road No. 3,
EPIP Area, Phase 1, Whitefield, Bangalore 560066
Tel: +91-80-46623200\201\202
Web : www.envision.in

envision

ANNEXURE-B.16

		DATA AVAILABILITY	
	SEM POINTS	CS/PG END/OTHER State END	CONSTITUTENT END
1	Nirjuli Transformer Incomer-I	DATA WRONG	
2	Nirjuli Transformer Incomer-II	DATA WRONG	
3	132 kV Naharlagun-Pare	NO	NO
4	132 kV Ziro - Ranganadi	YES	NO
5	132 kV Deomali - Kathalguri	NO	YES
6	132 kV Balipara - Khupi	YES	NO
7	132 kV Pare-Chimpu	YES	NO
8	132 kV Ranganadi-Chimpu	YES	NO