



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/ **1622-1659**

Dated: November 07, 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 15th NETeST Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 15th NETeST Meeting held at Guwahati on the **21st October, 2018** for your kind information and necessary action. The minute is also available on the website of NERPC, www.nerpc.nic.in.

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

Encl: As above

भवदीय / Yours faithfully,

बि. लिंगखोइ / B. Lyngkhoi

निदेशक / Director/ SE

Copy to:

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



निदेशक / Director/ SE

North Eastern Regional Power Committee

MINUTES OF THE 15th NER Telecommunication, SCADA & Telemetry

(NE-TeST) COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 21/10/2019 (Monday)
Time : 14:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 15th NETeST Meeting is attached at ***Annexure-I***.

Shri A.K. Thakur, Member Secretary, NERPC welcomed all the participants to the 15th North Eastern Telecommunication, SCADA & Telemetry meeting. He stated that even though new SLDCs of Ar. Pradesh, Manipur, Mizoram and Nagaland have been commissioned but most of the RTUs are yet to report to respective SLDCs and requested that any unresolved problems would be addressed in the NETeST forum. 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&C) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF THE 14th MEETING OF "NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)" SUB COMMITTEE OF NERPC.

Director, NERPC informed that minutes of the 14th NETeST Meeting held on 11th July, 2019 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2019/ dated 29th July, 2019.

The Sub-committee confirmed the minutes of the 14th NETeST Meeting as no comments/observations were received from the constituents.

A.1 Status of SLDCs in NER:

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

SN	Utility	Status as informed in 14 th NETeST
1	Assam	SAS upgradation under progress. Assam to ensure early completion.
2	Tripura	RTUs are not reporting to SLDC. Broadband connection to be provided by 25-07-2019 but getting delayed due to administrative issues.
3	Meghalaya	Completed in all respects.
4	NERLDC	Completed in all respects.
5	Manipur	Three (03) stations not reporting: Kongba, Chandel and Tipaimukh. Feasibility of providing Broadband at the station-level to be explored. Manipur is requested to ensure telemetry of non-reporting station at the earliest.
6	Nagaland	NERLDC team visited Nagaland on 05-07-2019 regarding telemetry of its stations and an action plan has been recorded in signed Minutes of Meeting. Corresponding MoM (enclosed as Annexure-II) has been shared by NERLDC with NERPC. Re-survey of Mon, Tuli, Ganesh Nagar, Tuensang and Zunheboto to be done jointly by NERTS and Nagaland-DoP scheduled from 12-07-2019 to 19-07-2019. Nagaland-DoP to strictly adhere to the timelines for rectification works as per MoM signed with NERLDC.
7	Mizoram	Out of 4 RTUs, only 1 RTU is reporting at present and OPGW between Lungmaul-Aizawl is not working. NERTS conveyed that GRPS to be provided at Zuangtui, Lungmaul and Sihhmui for providing data to SLDC/RLDC. Mizoram is requested to provide GPRS connectivity at the earliest.
8	Ar. Pradesh	Absent. NERLDC requested NERPC to take up the matter of non-participation and telemetry related issue with DoP, AP.
9	Backup NERLDC	Completed in all respects.

Deliberation in the meeting

SN	Utility	Status as informed in 15 th NETeST
1	Assam	<p>It was discussed that the SAS upgradation projects in Assam-owned Stations has severely impacted the real-time data availability of the respective stations in the Assam-SLDC.</p> <p>Hence, the progress of SAS related works needs to be closely monitored by a team formed by NERPC.</p> <p>The NERPC will write a letter to MD-AEGCL to expedite the completion of SAS works.</p> <p>As per mail (attached as Annexure A.1) received by AEGCL, the target dates were updated. However, the target dates are not being followed on strict basis. GM, NERLDC requested NERPC to pursue the matter with higher authorities of AEGCL.</p>
2	Tripura	<p>It was deliberated with TSECL that the FO links which will facilitate the data availability of stations such as Gumti, Dhalabil, Amarpur, S.M. Nagar, Udaipur and Rokhia are pending due to non-availability of shut-down of Palatana-S.M. Nagar and Palatana-Silchar lines.</p> <p>DGM-NERTS requested that the matter shall be escalated in OCC meetings for approval of corresponding shut-down.</p> <p>As informed by NERTS only 12 out of 25 stations of TSECL will be covered into NER FO expansion projects. Stations which will be covered under FO network are: Dhalabil, SM Nagar, BJ Nagar, Gumti, Amarpur, Udaipur, Rokhia, Baramura, Badharghat, Satchand, Sabroom and Agartala.</p> <p>GM, NERLDC requested TSECL to submit an action plan for establishment of communication link in remaining 13 stations which are not covered in NER FO expansion project. GM NERLDC requested TSECL to provide necessary actions plans for improvement of data availability as there is no significant improvement in data availability and data availability is in range of 25 to 27% since last nine (09) months.</p>
3	Meghalaya	<p>GM, NERLDC emphasized that all the telemetry data like MW, MVAR, kV, Hz, OLTC, Isolators, CBs and SOEs to be provided by field to SLDC as well as RLDC for effective grid operation.</p> <p>MePTCL mentioned that it is concentrating on getting the analog and CB data at present. The Isolators data will also be subsequently considered as it requires procurement of DI cards for C264 RTUs which is under discussion with M/s GE T&D India Limited.</p>
4	NERLDC	Completed in all respects.

SN	Utility	Status as informed in 15 th NETeST
5	Manipur	Manipur has to do integration work of all RTUs reporting over FO network. Tipaimukh was reporting through GPRS, but now it is not reporting. The same need to be rectified at the earliest.
6	Nagaland	<p>Out of 17 stations only 4 stations are reporting. Nagaland should submit action plan for remaining 13 stations for providing the data availability as per MoM attached in Annexure B.14.</p> <p>The Forum appreciated DoP, Nagaland for improving data availability from 0% to 35%.</p>
7	Mizoram	<p>DGM, NERTS mentioned that RTU at Kolasib will be delivered by Dec'19. It was also stated that the GPRS works in Zuangtui and Lungmual has been completed and necessary integration works will be completed within one (01) week and the data will be available at SLDC and RLDCs. (Internet link static ip on public domain is to be provided by P&E, Mizoram)</p> <p>A new 25 MVA ICT has been procured by DoP Mizoram and will be installed at Sihhmui station. Once it is charged data will report through FO link.</p>
8	Ar. Pradesh	<p>EE, DoP AP stated that the data of four substations (i.e. Along, Bhalukpong, Khupi and Lekhi) is available in CFE but it is facing some issues in the network switch. After integration of Dikshi over VAST, some new network architecture adopted (one router is incorporated) & some re-work (Server IP & RTU IP management) is to be done by GPRS vendor. Once the network switch issue is rectified by GE, then Along, Bhalukpong, Khupi and Lekhi data will get reported on GPRS.</p> <p>It was also mentioned that VSAT for eight (08) locations was proposed but only one (01) location in Chimpu station has been approved. GM, NERLDC suggested that Chimpu is a local station and reporting can be directly through LAN cables. The VSAT planned for Chimpu station shall be shifted to some other remote location for data transfer.</p> <p>GM-NERLDC requested AP to submit an action plan for establishment of communication in its stations as several stations are not covered under FO Expansion projects.</p>
9	Backup NERLDC	Completed in all respects.

The Sub-committee noted as above.

Action: All state utilities.

A.2 Status of FO works under different projects:

Name of the Project	Status as in 15 th NETeST
<p>MW Vacation & OPGW Project</p>	<p>M/s KEC <i>Handing over MOM signed between AEGCL and PGCIL.</i></p> <p>M/s TENDOT</p> <ul style="list-style-type: none"> a. WIP in all 14 links b. Progress affected due to ROW. c. Expected completion March'20. <p>NOTE</p> <p>Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from receipt of new tower route schedule.</p> <p>Railway diversion of POWERGRID also suffering due to ROW in 3 locations to be resolved by Arunachal Pradesh.</p> <p><i>NERTS replied that OPGW link Nirjuli-Ranganadi with LILO at Lekhi is still having ROW issue. Equipment for the above is also considered in NER FO expansion project. Link wise details are attached at Annexure A.2.</i></p> <p>1. Regarding Nirjuli-Ranganadi (with LILO at Lekhi & Pare) & Lekhi to Chimpu (Lekhi is pass through to connect Chimpu-SLDC). It is proposed that Lekhi (i.e. Chimpu) may be connected from Nirjuli & Pare may be connected from Ranganadi & be commissioned. Accordingly DOCO may be made. Any small left over portion may be done in later course with separate contract</p>

	<p>when ROW is solved.</p> <p>2. Also, Sihmui station (Part of Link Zimabawk-Aizawl LILO at Melriat --Sihmui) is to be made ready by P&E, Mizoram & so commissioning getting delayed.</p>
<p>NER FO Expansion/Additional requirement of OPGW</p>	<p>TRIPURA</p> <ul style="list-style-type: none"> All OPGW completed except links which are under construction by State TSECL. 257km of 320km. (Actual 257km, 63km-no front)-Completed. Shut down for SMNagar-Palatana link is delayed (SD of power line crossing SM Nagar-Palatana & 400KV Silchar-Palatna) and so is delaying other Fiber linking with SLDC. 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 Target : Nov-Dec19(subject to Shut down work done in Nov19) <p>Meghalaya : WIP for both equipment and OPGW part. 40km completed out of 62km (WIP). Completion by Nov., 2019. Action: MePTCL & NERTS.</p> <p>Manipur :</p> <p>1. 132kV Loktak (NHPC) ~ Rengpang: Team retreated after one trial (during Loktak -Imphal was done)/ Links around Loktak area will be tried at one go to avoid ROW/ miscreant/terrorist prone area.</p> <p>Manipur: Erection: 290/365km, Target completion: As per NERPC meeting Annexure A.2 Nov19-March20. (Hindrances are taken care with help from State Transmission</p>

	<p>authority, MSPCL)</p> <p>Nagaland: 26km completed out of 86km OPGW stringing WIP for Wokha-Kohima. SLDC, Nagarjan /Dimapur-State & Mokokchung-State are already connected to wide band in Sept., 19. DoP, State is to co-ordinate for early construction of TL of LILO part of Wokha –Kohima LILO at New Kohima (same is delaying the part of FO expansion project). DoP has been communicated through a letter for readiness of PLCC network as well.</p>
<p>Upgradation of ULDC FO node</p>	<p>15 Locations Completed.</p> <p>A meeting called by PGCIL with MePTCL for making schedule of works held and scheme finalized jointly with MEPTCL. Further, Data is reporting through ECI equipment for completed locations (except Umtru) and 2 more nodes will be added by Nov-Dec, 19.</p> <p>Note1: ULDC nodes are upgraded as per detailed statement given in 20th NERPC. The work is done & booked under MW Vacation OPGW project (status Annexure-A.2/20th TCC). As Shelter space is not available due to ROW in link Balipara-Bongaigaon, same may be diverted/ kept as spare under project.</p> <p>Note2: Further one of the nodes at Kopili is damaged due to Flood/Water burst and one node was damaged at Dimapur Fire incident earlier.</p>

Critical Issues against project implementation:

Name of the Project	Critical Issue
Upgradation of ULDC FO node	<p>Space constraint in Umtru, non availability of fiber in Misa-Dimapur-Imphal(old OPGW) & Space in Kohima</p> <p>Status: Discussed as above</p>

<p>MW Vacation</p>	<p>ROW issue in Nirjuli-Ranganadi Line, non-readiness of two tower peak in DoP, AP transmission Line for LILO to Lekhi. Stoppage of work due to ROW/Paddy field etc. Status: Discussed as above</p>
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The detail status with target completion link-wise is given in **Annexure-A.2**. A list of node reporting at NERTS Shillong NMS as on 18.10.19 is attached in **Annexure-A.2.a** and **Annexure A.2.b**.

The Sub-committee noted as above.

Action: State Utilities, NERTS, NERPC.

B. NEW ITEMS

B.1 Strengthening of PLCC System by NER States:

As per discussion in previous meetings the following were supposed to be completed by Jan'19:

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

In 14th NETeST meeting NERLDC mentioned that Tripura has given comments regarding editing its corresponding network in communication map on 10-07-2019 and the same will be incorporated in the existing communication map. The map will be updated as and when inputs are given by state-utilities and NERTS to keep it up-to-date for necessary use.

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

Deliberation in the meeting

GM-NERLDC stated that NERLDC team should be invited to the quarterly review meeting on NERPSIP projects conducted by MoP. The sub-committee noted as above.

NERPC will write a letter to ED, NERSIP-POWERGRID & NERPSIP-Nodal officer, AEGCL for a joint meeting between AGM (Communication), AEGCL and NER-SIP team for proper co-ordination.

The Sub-Committee noted as above.

Action: NERPC.

B.2 Improvement of Data Availability of NER

As per IEGC 4.6.2, all users shall ensure telemeter power system parameters to RLDC. The present level of data availability of NER grid is as tabled in the **Annexure-B.2**, which is less than 50% in the region.

NERLDC submit to NERPC to advice TSECL, DoP Mizoram and DoP, Arunachal Pradesh for improvement of the data availability of respective state-owned stations.

All constituents are requested to have a detailed action plan and deadlines for strict compliance to ensure 100% reliable & redundant data to its SLDCs and NERLDC for efficient grid operation.

Deliberation in the meeting

The Sub-Committee noted as above.

Action: All state utilities.

B.3 Status of URTDSM

Angle error and rectification: Angle Error/Phase sequence error was solved in six (06) numbers of stations out of nine (09) stations in the month of September'19. However, NERTS is requested to solve the issue in remaining three (03) stations namely, 220 kV Dimapur (PG) S/s, 220 kV Mariani (AS) and Kopili HEP.

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

Five (05) applications of Powergrid Analytics Software (PAS) out of Six (06) were uploaded in NERLDC URTDSM system, by IIT Mumbai and PGCIL officials, in the month of July'19. However, an application for Control schemes for improving system security is still pending for uploading. NERTS is requested to expedite the work.

NERLDC may confirm or update what to be done for rest of that stations based on the feedback by POWERGRID after corrections done as per system study group of NERLDC.

Deliberation in the meeting

Angle error and rectification: DGM-NERTS stated that issues in some of the stations have been rectified. NERLDC may confirm or update what to be done for rest of the stations based on the feedback by NERTS after corrections, as per system study group of NERLDC.

Status of Loading of Power System Analysis package by IIT Mumbai: DGM-NERTS informed that application for Control schemes is still under development stage with IIT Mumbai. It will be installed first at NLDC and then same will be installed in NERLDC. It was deliberated that NERTS will expedite the required works and complete at the earliest.

DGM, NERTS informed the forum that SAT is under process at Tripura SLDC for the diverted PDCs & its associated parts. A cost of 44lakhs (approx.) was incurred due to transportation, insurance and IGST for the diverted PDCs & its associated parts from AP SLDC to Tripura SLDC. It is proposed to be booked to project cost.

Further, he mentioned that Site drawing for PMU connection has been handed over to Assam which would be adopted (for rewiring etc.) by AEGCL during SAS upgradation in four stations.

The Sub-Committee noted as above.

Action: NERLDC, NERTS.

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

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

Name of utility	GPRS SIM/Broadband	Lease Line connectivity at SLDC
TSECL	2 (Dharmanagar and PK Bari) Locations completed (SAT not signed by TSECL) but for other locations, SIM (or broad band) is yet to be provided by State Utility. NERTS informed that Broadband connection shall be provided, wherever possible, for better data connectivity.	Not Available.
MSPCL	All stations are reporting	Available

DoP Nagaland	5 out of 11 locations (Nagarjan, Khipire, Mokokchung, Kohima & LHEP) completed. For other locations, link could not be established due to poor network. Party requested DoP, Nagaland through letter dated 01.07.2019 to provide broadband connection.	Not Available
P&ED Mizoram	3G SIM & Internet link with static IP is yet to be provided.	Not Available

Deliberation in the meeting

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

Name of utility	GPRS SIM/Broadband
TSECL	Data is reporting for P K Bari and Dharamnagar. For others, SIM/Bband to be provided for 79 Tilla, Barmura, Satchand, Sabroom, Amarpur, Gumoti, Rabindranagar, Belonia, Bgafa, Rokhia. Matter is delayed for a long time and TSECL have been pursued for long time. Party wants short closure and payment. TSECL may provide a schedule of site visit along with date when activated 3G SIM/Bband will be handed over.
MSPCL	All stations are reporting. Additional: 2 stations Kongba and Tipaimukh which were not part of GPRS scheme will be done separately.
DoP Nagaland	8 stations are reporting and 4 stations are not reporting. For Zuheneboto 66kV, Tuensang 66kV, Ganesh Nagar/ Paren (Vodafone, Airtel) SIM signal problem is there. Modem was installed in the month of July, 2019. SAT is not signed by customer. Broadband is required for rest of the stations. For MON station, SIM is not available.
P&ED Mizoram	After long persuasion, SIM was given for Indoor Substation, P&E Complex, Luangmual (State) / Zemabawk-I, Zemabawk - II / Zuangtui. SIM was provided but Lease link yet to be provided. The internet in the Lease link is having non-static IP. It was communicated to SE/EE SLDC. One dedicated person is required to be deputed from SLDC for needful.
DoP	Data tested at SLDC via protocol analyzer for Naharlagun (Lekhi),

AP	<p>Along, Bhalukpong, Khupi. Further, SLDC may take up with GE for needful integration and if any issue faced, same may be shared with POWERGRID as well. It was intimated to SLDC through email and letter.</p> <p>Authorized representative from AP SLDC also should visit sites viz., Jairampur, Deomali, Daporijo, Pasighat for joint checking. SLDC may take up with PMAs (through POWERGRID, if required) for completion of rest of stations. If any issue, POWERGRID will intervene.</p>
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Note: It may be noted that GPRS scheme was adopted based on special request of States who requested POWERGRID after SLDC project had already started.

Accordingly LOA was placed to PMAs. Vendor/Sub vendor has **MSME** status (which is highly monitored by Central/State Govt. of India).

The taking over is considered (the scheme has 3 year support warranty) from date of site acceptance test. The scope of vendor is limited to communication establishment from RTU site to SLDC subject to good GPRS/Broadband network) and integration is to be done by SLDC SCADA vendor. Since delay was beyond DOCO period of 3 years and it was beyond the control of PMAs, POWERGRID. State utilities may, in parallel, take up with service providers regularly for better connectivity of SIM-3G Network/ Broadband etc.

All states are requested to complete the SAT wherever work is completed so that payment to MSME could be released.

The Sub-Committee noted as above.

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

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

a) NEEPCO:

i. Ranganadi: The matter was discussed in 14th NETeST Meeting and it was deliberated that 'NERTS will make 2nd path of PLCC between BNC and RHEP as BNC is wideband location. The proposed path will be Ranganadi to BNC (on PLCC) and BNC to NERLDC (on wideband) subsequently. The work will be completed by first week of Sep'19.'

ii. Kathalguri: Single-channel PLCC between Kathalguri and Misa. The matter was discussed in 14th NETeST meeting. NERTS informed the forum that the PLCC link

from Kathalguri to Mariani station has been tested. Mariani station has a wide-band connection for further data transfer. The Kathalguri-Mariani PLCC link may be used as a backup path after completion of FO connection. The work will be completed by first week of September, 2019.

iii. Doyang: Real-time Data of Doyang HEP are not reporting since 16/09/2019. On further observation, it was found RTU is not getting through to communication equipment at Doyang. Phone is also not working as Doyang sub-station is not able to hear voice on Orange-VoIP phone.

Deliberation in the meeting

i. Ranganadi: NERTS informed that work (PLCC path via next station) will be completed after completion of LILO part at BNC as BNC will be wide band location. Agenda may be discussed after completion of LILO part at BNC.

ii. Kathalguri: NEEPCO has placed the PO for deputing the service engineer of RTU and PLCC. The work will be completed by service engineers at the earliest. FO connection is already established up to Kathalguri under NER FO Expansion.

iii. Doyang: The issue is resolved and data is reporting.

The Sub-Committee noted as above.

Action: NEEPCO.

b) NTPC BgTPP: Only one (01) VoIP phone is available and that too in "Switchyard Control Room". No phone is available in the Unit Control Room (03 in nos.).

The matter was discussed in 14th NETeST and NERTS informed that one phone is working. The other voice link which was earlier working via PLCC may kindly be restored by NTPC. NERTS has already allotted port for the same. NTPC representative were absent. Since, NTPC member was absent NERLDC requested Forum to inform about shift of VoIP phone from Switchyard to Unit Control Room in subsequent meeting. NERTS provided "23640135" as second number. The same needs to be extended to all the unit control rooms at the earliest.' However, the VoIP are still not extended till control rooms of NTPC BgTPP.

NTPC may provide dedicated VoIP phones in all Unit Control Rooms on priority with strict deadline.

Deliberation in the meeting

NTPC representative was absent and could not be updated again. The sub-committee recommended that NTPC should provide dedicated VoIP phones in all Unit Control Rooms on priority.

The Sub-Committee noted as above.

Action: NTPC.

c) POWERGRID Salakati: The data of the sub-station takes a lot of time in pooling (happens automatically after every communication failure and restoration). It generally takes about 1 hour for this station. The matter was highlighted in 14th NETeST meeting, it was deliberated that NERTS will address the issue. The matter was also discussed in meeting held between NERLDC and NERTS on 17/09/2019. The issue is long pending and yet to be resolved.

NERTS, POWERGRID may address the issue by finding and resolving the issue of slow pooling on priority with strict deadline.

Deliberation in the meeting

NERTS informed the forum that CPU card is replaced and a joint verification will be carried out with NERLDC to check the status of issue. As the RTU has become old, in the last NERPC, approval accorded for RTU replacement.

The Sub-Committee noted as above.

Action: NERTS & NERLDC

d) OPTC Palatana: Real-time data of Palatana are reporting over single channel of PLCC between Palatana - Silchar. It is observed during data outages that restoration of data takes significant amount of time. However, it is requested to ensure dual channel which can reduce the outage period of data.

Deliberation in the meeting

NER FO expansion could not be completed due to non-availability of shut down.

The Sub-Committee noted as above.

Action: OTPC

e) NHPC Loktak: In 14th NETeST, NHPC informed the forum that the Notice Inviting Tender (NIT) has been approved and will be uploaded in CPP Portal for tendering purposes. The work-order is expected to be placed by Sep'19 with a completion schedule of three (03) months i.e. end of December 2019.

Deliberation in the meeting

NHPC stated that the tender was opened and its TEC is under progress. The award of work followed by the execution will be completed by January 2020.

The Sub-Committee noted as above.

Action: NHPC.

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

In 14th NETeST meeting, Manager, TSECL informed the forum that Tripura will investigate on the mentioned issues and rectify it at the earliest.

ii. Surjamani Nagar: Battery bank issues are being faced in the sub-station. All data goes OUT in case of any power supply failure. In 14th NETeST meeting, Manager, TSECL informed the forum that the battery will be replaced in July, 2019. And NERTS requested that Air-conditioning environment needs to be provided in all battery-bank rooms at the earliest.

Deliberation in the meeting

DGM, TSECL informed the forum that both the issues have been resolved. The agenda item can be closed.

The Sub-Committee noted as above.

g) Meghalaya: SLDC NEHU may update the stations as per observations, in table, in SCADA system of SLDC. Necessary help will be extended by NERLDC.

SI. No.	Station Name	Observation
1.	Ampati	Entire Station not modelled at SLDC.
2.	Rongkhon	EMS database not modelled in SLDC. Only SCADA database is modelled.
3.	Nangalbibra	EMS database not modelled in SLDC. Only SCADA database is modelled.
4.	Nongstoin	EMS database not modelled in SLDC. Only SCADA database is modelled.

Deliberation in the meeting

MePTCL mentioned that **they have** made certain changes in the databases and corresponding files will be shared with NERLDC for incorporation and database on-lining.

The Sub-Committee noted as above.

Action: MePTCL, NERLDC.

h) Mizoram: SLDC Mizoram may update the stations as per observations, in table, in SCADA system of SLDC. Necessary help will be extended by NERLDC.

SI. No.	Station Name	Observation
1.	Saitual	Entire Station not modelled at SLDC.
2.	Khawzawl	Entire Station not modelled at SLDC.
3.	Champhai	Entire Station not modelled at SLDC.
4.	Serchhip	Entire Station not modelled at SLDC.
5.	Lunglei	Entire Station not modelled at SLDC.

Deliberation in the meeting

EE, P&ED, Mizoram informed the forum that some substations are not modeled as its data is not available from the site. GM, NERLDC clarified that the stations need to be configured in SCADA and EMS databases in SLDC and corresponding single-line diagrams shall also be prepared, so that data can be made available immediately after the RTU/Communication related activities are completed at site. It was agreed by Mizoram that the mentioned stations will be modeled in the SLDC's databases at the earliest.

The Sub-Committee noted as above.

Action: DoP Mizoram, NERTS.

i) Assam: SLDC Assam may update the stations as per observations, in table, in SCADA system of SLDC. Necessary help will be extended by NERLDC.

SI. No.	Station Name	Observation
1.	Majuli	EMS database not modelled in SLDC. Only SCADA database is modelled.
2.	Dhemaji	EMS database not modelled in SLDC. Only SCADA database is modelled.

Deliberation in the meeting

Assam-SLDC stated that the databases will be checked and issues, if any, will be rectified at the earliest.

The Sub-Committee noted as above.

Action: AEGCL, NERTS.

j) Nagaland: SLDC Nagaland may update the stations as per observations, in table, in SCADA system of SLDC. Necessary help will be extended by NERLDC.

SI. No.	Station Name	Observation
1.	Meluri	EMS database not modelled in SLDC.

		Only SCADA database is modelled.
2.	Kiphire	EMS database not modelled in SLDC. Only SCADA database is modelled.

Deliberation in the meeting

Nagaland-SLDC stated that the databases will be checked and issues, if any, will be rectified at the earliest.

The Sub-Committee noted as above.

Action: DoP Nagaland, NERTS.

B.6 Status of pilot VSAT project:

The quotation for terminal server for converting 101 RTUs to Ethernet output has been acquired which is of cost Rs. 1,40,000.

NERPC may please make consensus and gather purview of constituents in implementation and cost-sharing of VSAT pilot project.

Deliberation in the meeting

GM, NERLDC informed the forum that the total cost of VSAT pilot project will 6.70 lakhs including the protocol converter. GM-NERLDC mentioned that the discussions are under progress with the VSAT service providers as well as Protocol Converters manufacturers and a quotation has been collected. It was also emphasized that the VSAT demo at Tezu substation was successful and all apprehensions of its non-working during rainfall, cloudy weather, etc. can be eliminated. Hence, the VSAT Pilot Project at Killing station of Meghalaya can also be planned and executed. The forum agreed to it. POWERGRID also suggested based on experience, that a router (on both end) may be added as VSAT Hub-series ip & SLDC ip will be separate.

After successful completion of Killing S/s, the VSAT for NER may be considered as backup communication link. Forum has agreed to same in principle.

The Sub-Committee noted as above.

Action: NERPC and NERLDC.

B.7 Drawal points data availability:

In 14th NETeST meeting, MS i/c-NERPC stated that the states have to put efforts to improve the availability of the telemetry, which in turn is causing them huge penalty amounts in the DSM Pool Account, etc. Major steps needs to be taken at the earliest by all utilities so that the drawl point data availability can be ensured at the earliest.

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

Deliberation in the meeting

GM, NERLDC specified that the real-time data availability of the analog points being used in calculation of "State's Actual Drawl" from grid should be maintained at the highest level as any error or non-availability of such data can mislead the grid operator in SLDCs and NERLDC in real-time decision making and such situations may also lead to huge commercial implications in the form of DSM charges to the utilities.

The Sub-Committee noted as above.

Action: All utilities.

B.8 VSAT For Roing Tezu Namsai:

Demo VSAT communication link was established between 132 kV Tezu S/s and NERLDC for transmitting real time data of 132 kV Tezu S/s. The demo was successful and data were transmitting from 21st August 2019 to 30th September 2019 without interruptions in link. NERTS is requested to update the status of data communication link for 132 kV Roing, Tezu and Namsai.

Deliberation in the meeting

DGM, NERTS informed the forum that demo for Tezu was completed. Similar methodology will be adopted for Roing Tezu Namsai-PG stations. Forum suggested for placement of PO to M/s NELCO/Tatanet (or any VSAT service provider) at the earliest.

NERTS informed that the Purchase Order for VSAT equipment along with full scope included will be placed by January, 2020. The Purchase Order for VSAT equipment along with its commissioning at site will be done by January, 2020.

GM, NERLDC mentioned that the data-availability of over 95% was achieved from Tezu station during the VSAT demo period of 27-08-2019 to 30-09-2019. A brief report with graphs/values illustrating the data-availability through VSAT Demo at Tezu prepared by NERLDC is attached as **Annexure-B.8**.

The Sub-Committee noted as above.

Action: NERTS.

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

Two nos. of links have been taken from POWERTEL on cost-plus basis for Badarpur to Backup NERLDC, Misa to Backup NERLDC. Process of procurement of Terminal servers has been initiated by NERLDC, Purchase order will be placed by the month of October'19. Following which vendor will take two-three months for supply, installation and commissioning of the equipment. NERTS is requested to submit the list of stations which can be dropped at Badarpur substation.

Deliberation in the meeting

GM, NERLDC stated that the LOA/PO for the procurement of Terminal Server will be placed to M/s GE T&D India Limited in Oct'19 and the supply of material along with its commissioning at site will be done in subsequent 2 months.

GM, NERLDC requested NERTS to provide the communication channel between Misa and Backup NERLDC on priority. And link between Badarpur to Back-up NERLDC after the commissioning of Badarpur Terminal Server.

DGM, NERTS agreed to extend the communication link between Misa and backup NERLDC.

The Sub-Committee noted as above.

Action: NERLDC.

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

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

Deliberation in the meeting

Engineer, NERLDC informed the forum that the data-validation activities with POWERGRID have been completed for 17 out of 23 stations and pending issues will be resolved at the earliest. NERTS requested NERLDC to omit/exclude the Kopex-EX from list (till revival) as Kopili station as a whole is not in service due to accident.

The Sub-Committee noted as above.

Action: NERTS.

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

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

extended support for integrating data of LTPS and NTPS. However, the data integration of LRPP and NRPP are pending as per MoM attached as **Annexure-B.11b**.

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

Deliberation in the meeting

GM, NERLDC mentioned that several meetings with Assam-SLDC, AEGCL and APGCL have been done by NERLDC and corresponding MoM have been signed with action plan for improvement in data-availability of each station of the Assam utilities.

The Sub-Committee noted as above.

Action: AEGCL, APGCL.

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

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

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

Deliberation in the meeting

GM, NERLDC mentioned that several meetings with Meghalaya-SLDC and MePTCL have been done by NERLDC and corresponding MoM have been signed with action plan for improvement in data-availability of each station of the MePTCL.

The Sub-Committee noted as above.

Action: MePTCL.

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

A meeting on the above referred matter has been done between NERTS, POWERGRID and NERLDC, POSOCO on 17-09-2019. The list of undergoing FO projects can be referred from **Annexure-B.13**.

Deliberation in the meeting

Details already discussed **Agenda item A.2.** Project progress as provided in 20th TCC/NERPC MOM may kindly be referred. Completion is progressively from Nov., 19-March, 20.

The Sub-Committee noted as above.

Action: NERTS, NERLDC.

B.14. Data validation status of all stations of Nagaland:

A meeting on data validation was conducted between POSOCO and DoP, Nagaland on 05th July, 2019. And another meeting on VC between POSOCO, POWERGRID and DoP, Nagaland was conducted on 08th July, 2019. The corresponding MoMs can be referred as Annexure-B.14.

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

Deliberation in the meeting

GM, NERLDC mentioned that several meetings with Nagaland-SLDC and Nagaland-DoP have been done by NERLDC and corresponding MoM have been signed with action plan for improvement in data-availability of each station of the Nagaland.

The Sub-Committee noted as above.

Action: All concerned utilities.

B.15. Shut Down Procedure for Optical Links:

In 14th NETeST meeting, NERLDC mentioned that the shut-down procedure is not being followed by many utilities and at many occasions which is leading to real-time data interruption. Many-a-times the shut-down of communication links is being taken without prior intimation OR just an e-mail is being sent for intimation.

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

Deliberation in the meeting

This was already agreed in principle. The same will be adhered by all utilities.

The Sub-Committee noted as above.

Action: All concerned utilities.

B16. Dual channel availability for reliable and redundant communication system in NER:

The Dual-channel availability for reliable and redundant communication system is to be provided at Main NERLDC, Shillong as well as Backup NERLDC, Guwahati.

NERTS to update the dual-channel reporting considering the completion of FO projects by Dec'19. Dual-channels are required at both Shillong and Guwahati premises of NERLDC, POSOCO.

Deliberation in the meeting

GM, NERLDC informed the forum that separate annexures for forced outages in communication links shall be included and reported to the NETeST forum.

DGM, NERTS informed the forum that FO Equipment for Back Up is already supplied. As building readiness of Back up NERLDC is getting delayed, NERLDC may kindly send a letter for connecting present/temporary Back up NERLDC to wide band node Kahilipara or so through overhead Fiber/ADSS on interim basis. NERTS will act accordingly. The cost will be booked to NER FO Expansion project.

The Sub-Committee noted as above.

Action: NERTS and NERLDC

B.17. Long outage of RTU data:

In 14th NETeST meeting, DGM, NERTS informed the forum that the process for reporting fault & restoration (for each station, NERTS) is under preparation and will be shared by NERTS with NERLDC.

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

Deliberation in the meeting

DGM, NERTS informed the forum that the restoration process (in case of failure whom to contact & how to proceed) has been intimated to NERLDC and same is being followed at Station Level. The agenda item may be closed.

The Sub-Committee noted as above.

Action: The agenda item may be closed.

B.18. Standard procedure to exchange the information regarding the SCADA database between SLDC and NERLDC:

In the 14th NETeST meeting, GM, NERLDC mentioned that the SCADA databases of SLDCs should always be in sync to eliminate the non-availability of data due to mismatch in respective databases. He requested all SLDCs to maintain the databases in sync and inform NERLDC in case of any change.

Deliberation in the meeting

GM, NERLDC stated that it is a routine activity which needs to be followed by all utilities to facilitate the database synchronization among SLDCs and NERLDC. The sub-committee noted as above and the agenda item may be closed.

The Sub-Committee noted as above.

Action: The agenda item may be closed.

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

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

In the 14th NETeST meeting, NERTS informed the forum that the OPGW connectivity for the above stations are covered under NER-FO project and timeline(s) are as follows:

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

Deliberation in the meeting

DGM, NERTS informed the forum that all OPGW FO connectivity has been completed in Aug-Sept, 2019. Pare & Doyang data was jointly tested with NEEPCO. The DHEP and PaHEP related connectivity has been completed. The AGBP related works will be completed at the earliest.

The Sub-Committee noted as above.

Action: NERTS.

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

The issue was discussed in 14th NETeST meeting and NERPC stated that monthly progress report may be submitted to NERPC. Till date, only NERTS is submitting the same. NERLDC & NERTS may discuss between each other as & when required as

needed for smooth grid monitoring. The monthly progress report shall contain information related to projects under micro-wave vacation, FO expansion and PSDF funded projects and State projects.

Deliberation in the meeting

GM, NERLDC stated that a monthly progress report may be submitted to the NERPC with a copy to NERLDC by all utilities to facilitate close monitoring of the progress of works. He also suggested that an interim review meeting at NERPC premises may be carried out in every one and half months for checking the status of the projects/works to facilitate close monitoring.

NERPC intimated that meeting may be called as & when required for state specific issues as it would help the states to solve all the concerns. It was also mentioned that NERLDC is sending a weekly data-telemetry report to all concerned utilities and same needs to be checked and rectified at the earliest. The list of personnel getting marked in the weekly report was also shown to the Forum and any update in the contact-list for sending the weekly report was requested by NERLDC. It was also discussed that the report sent to Head-of-SLDCs can be escalated to the concerned department of the corresponding utility by the SLDC also.

The Sub-Committee noted as above.

Action: NERTS, NERLDC & NERPC.

B.21. Integration of Dikshi HEP real time data and pending Voice communication:

Dikshi HEP generation station data were integrated on 12/09/2019 by extending all technical support from NERLDC. Real time data are reporting over VSAT communication link. However, voice communication is pending. DoP, AR may kindly take up with Dikshi for providing dedicated voice communication from Dikshi to SLDC Arunachal.

Deliberation in the meeting

GM, NERLDC explained about the technical support: Database modelling, display building, Integration of Real time data, extended to SLDC Arunachal Pradesh by NERLDC for Dikshi HEP during the first time charging of aforesaid station. Real time data of Dikshi HEP are reporting through VSAT since the synchronization of machines. However, voice communication is still pending for Dikshi HEP.

Director, NERPC stated that AP, SLDC shall keep pursuing Dikshi for the real-time data and voice communication. A letter should be sent to Dikshi for getting the data/voice at the earliest.

The Sub-Committee noted as above.

Action: DoP, AP/NERLDC.

B.22. Integration of RTUs over completed FO links:

POWERGRID informed that following FO links are completed:

- a. Imphal(State) to Yaingangpokpi
- b. Yaingangpokpi to Kongba
- c. Nagarjan to SLDC Nagaland.
- d. Dimapur to Doyang

On completion following RTUs should be integrated by respected states:

- a. Yaingangpokpi and Kongba: By Mainpur State
- b. Nagarjan: By DoP, Nagaland.
- c. Doyang HEP: By NEEPCO

Deliberation in the meeting

DGM, NERTS stated that Fiber-Optic links between “Imphal (State) to Yaingangpokpi” and “Yaingangpokpi to Kongba” will be completed by November 2019. Other links will also be completed at the earliest. Nagarjan and Doyang are already reporting.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.23. Issue of mismatch in timestamp of SoE of PGCIL owned Substations:

Mismatch of timing between NERLDC SCADA time and field time is observed in substations of PGCIL. PGCIL has solved the issue in 132 kV Aizawl, 132 kV Kumarghat and 132 kV Nirjuli S/s. However, the issues of few stations are still pending and those are listed in the table below. As Sequence of Events (SoE) is important for grid disturbance analysis. The mismatch should be rectified at the earliest.

Sl. No.	Station Name	SOE mismatch
1	Jiribam	30 min
2	Mariani	60 min
3	Salakati	60 min

4	Silchar	30 min
5	Tezu	05:30 hr
6	Ziro	Date and Time
7	Imphal	20 min
8	Khliehriat	15 min
9	Mokokchung	60min

Deliberation in the meeting

DGM, NERTS stated that the SoE related issues in Mariani, Silchar and Imphal has been resolved. The SoE mismatch in Ziro will be resolved by January 2020 after procurement of new GPS device. Issues in SoE in other stations such as Jiribam, Salakati, Tezu, Khleiriat and Mokokchung will be rectified by December 2019.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.24. Delay of FO Expansion for shut down related issues:

Non availability of Shut down in last 3 OCCs for OPGW Links and related delay in project execution. (Many shutdown like LILO of Ranganandi-Balipara at BNC, LILO of Ranganadi-Nirjuli, SM Nagar-Palatana (Silchar Palatana) has been cancelled or postponed for grid constraints or due to avoiding loss of generation). The executing agencies, like, Tendot, TCIL have been asking gang idling charges. All are requested to put emphasis so that shut down (for power line crossing, critical safety, diamond formation, river cross where earth wire not available) is allowed in time to complete project in time.

Deliberation in the meeting

DGM, NERTS informed the forum the FO links which will facilitate the data availability of stations such as Gumti, Dhalabil, Amarpur, S.M. Nagar, Udaipur and Rokhia are pending due to non-availability of shut-down of Palatana-S.M. Nagar and Palatana-Silchar lines. Further, he requested that the matter should be escalated in OCC meetings for approval of corresponding shut-down.

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.25. Co-ordination issue at some sites where Link is ready but RTU not connected through New Link:

POWERGRID had intimated respective utilities for advance action (what is to be done by State/ISGS & what is in scope of communication vendor). However, for example, even after link & port details are ready & communicated, RTU of Kathalguri, Doyang, Khandong are not integrated.

Deliberation in the meeting

DGM, NERTS requested that dedicated coordinators for testing of links should be nominated from each states for proper co-ordination. The list of coordinators is as follows:

States	Co-ordinator
Arunachal Pradesh	Sh. P. Buchi and Sh. Y. Gey
Assam	Sh Arup Sharma/ Sh P Saha
Manipur	Miss Ritu/ One person from Communication
Meghalaya	Sh. B. Nikhla and Sh. B. Narry
Mizoram	Sh. Benjamin L. Tlumtea
Nagaland	Sh. Akavi Z. Chophi, SDO (MIS)/ Sh Roko
Tripura	Ms Sampa Sen / Mr Dev Barma

The Sub-Committee noted as above.

Action: NERLDC/NERTS.

B.26. Data restoration in minimum possible time:

A brief description will be given by POWERGRID on data restoration in minimum possible time when Kopili Node was disturbed due to water conductor burst.

Deliberation in the meeting

DGM, NERTS gave a brief presentation (copy attached) on how proper network planning helped in restoring data quickly after the Kopili node was disturbed due to water conductor burst.

During presentation (ref **Annexure B.26**) it was noted that

- 1) After 07.10.19 accident (Flood/water conductor burst & damage) in Kopili most of the stations data as was reporting via Kopili was disturbed.
- 2) Kopili node was reporting through OPGW via Kopili-Khandong-Khliehriat---NEHU--Shillong and back up path via Kopili-Misa-Dimapur-Imphal-Silchar-Badrapur-Khliehriat-Shillong. But as Dimapur-Imphal is out of service because of Highway diversion work and landslide, Back up Path was not available.

Keeping in view usual main & back up path, failure of Kopili would have resulted in major outage of maximum data of many grid elements.

3) With guidance and support of NERPC, while planning NER FO Expansion project integrated with original ULDC network, team of CTU/POWERGRID, NERTS had selected some points of fiber bypass (for some nodes) for formation of STM16 ring with Main 1&2 during 17th & 18th NERPC. Accordingly, equipment were placed in Misa & Khandong.

Based on same, Kopili node could be bypassed in one day time & Misa to Khandong OPGW-1 pair was made running via Fibcom equipment installed under NER FO Expansion.

NERTS thanked NERPC for support during planning by CTU/NERTS. Director, NERPC appreciated the efforts taken by NERTS

The Sub-Committee noted as above.

B.26. Data restoration in minimum possible time:

Deliberation in the meeting

GM-NERLDC stated that the health-check of batteries cells needs to be done on periodic basis so as to prevent any failure of the UPS supply in future.

Meghalaya-SLDC mentioned that Advanced Demand Management System (ADMS) is under deployment in many states of NER and following points needs to be considered and any inputs available may be shared –

- Integration between ADMS system and SCADA system.
- What data to be exchanged in ICCP between ADMS to SCADA and vice-versa.
- Cyber security compliance to be specified.
- All concerned states may share the ADMS architecture, if possible, with NERLDC for getting suggestions and preparation of a unified structure for cyber security.
- Any experience of data-sharing standards (such as OPC) may be shared for data exchange, if available.

The Sub-Committee noted as above.

Action: All concerned utilities.

Date & Venue of next NETeST meeting

It is proposed to hold the 16th NETeST meeting of NERPC in second week of January, 2020. 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 15th NETeST Meeting held on 21.10.2019

SN	Name & Designation	Organization	Contact No.
1.	Sh. Sange Phuntso, EE(E)	Ar. Pradesh	09436041217
2.	Sh. Pranab Saha, AGM (Communication)	Assam	09435361717
3.	Sh. Arup Sarmah, DM	Assam	09707854367
4.	Sh. H. Debeswar Singh, Manager, MSPCL	Manipur	09436201742
5.	Sh. B. Nikhla, EE, MePTCL	Meghalaya	09436314163
6.	Sh. B. Narry, AEE, PLCC, MePTCL	Meghalaya	09089000911
7.	Sh. C. W. Chen, AE, SLDC	Meghalaya	09863093311
8.	Sh. D. J. Lyngdoh, EE	Meghalaya	-
9.	Sh. Benjamin L. Tlumtea, EE	Mizoram	09436151424
10.	Sh. Jacob Larinfela, AE	Mizoram	08787688235
11.	Sh. Akavi Z. Chophi, SDO (MIS)	Nagaland	09436260924
12.	Sh. Anil Debberman, DGM	Tripura	09612589250
13.	Sh. Diganta Goswami, DGM	NEEPCO	09435577655
14.	Sh. M.K. Ramesh, GM	NERLDC	09449599174
15.	Sh. Sakal Deep, Engineer	NERLDC	09774528218
16.	Sh. Akhil Singhal, Chief Manager	NERLDC	09650598187
17.	Sh. S. Paul, Chief Manager	PGCIL	09433379985
18.	Sh. Roshitesh Kumar, Asst. Manager	PGCIL	09402184618
19.	Sh. M. K. Baruah, GM	PGCIL	09401454830
20.	Sh. P. J. Singh, Jr. Engg.	PGCIL	09435303572
21.	Sh. Deepak Sanaygadh, Sr. Manager(E)	NHPC	09932029462
	No Representatives	NTPC	
	No Representatives	OTPC	
22.	Sh. A. K. Thakur, MS	NERPC	09810271963
23.	Sh. B. Lyngkhai, SE	NERPC	09436163419
24.	Sh. Sadiq Imam, AD-I	NERPC	07004133772

Fwd: Status report in accordance with MOM dated 29.03.2019

Ramesh MK [rameshgct91@gmail.com]

Sent: 09 October 2019 17:45:45**To:** Sakal Deep (सकल दीप); sakaldeep31@gmail.cg**Attachments:** Telemetry Data Validation~1.xlsx (19 KB)

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

From: Ramesh MK <rameshgct91@gmail.com>**Date:** Wed 11 Sep, 2019, 10:57**Subject:** Fwd: Status report in accordance with MOM dated 29.03.2019**To:** <mkramesh@posoco.in>

Status update from AEGCL

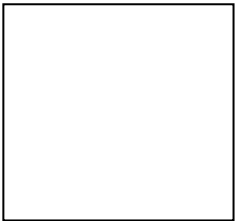
----- Forwarded message -----

From: AGM COMMUNICATION <plccghy@gmail.com>**Date:** Wed 4 Sep, 2019, 16:31**Subject:** Status report in accordance with MOM dated 29.03.2019**To:** Mk Ramesh <rameshgct91@gmail.com>, SLDC SCADA <asldcscada@gmail.com>**Cc:** dgmmrtc <dgmmrtc@gmail.com>

Ref: NERLDC/SL/SCADA/Assam/Aug'19/H-486 dated 2nd August 2019.

Dear Sir,

Please find hear with the attachment with this mail for your kind information.



AGM, Communication Division

AEGCL, Kahilipara

Guwahati-781 019

Phone No: 0361 2380186

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Annexure-A.02

Status of OPGW Links for Manipur State: MSPCL (considered under NER FO Expansion Project) -

SN	Link Name	OPGW (in km)		Target Completion	Remarks
		Supply	Erection		
1	132kV Loktak(NHPC) ~ Ningthoukhong	11.2	11.2	Oct-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. Tower collapse in 2 links connected to Churachandrapur& ROW in one link had delayed the work. (Gang left site, Work was to be to be restated thereafter)
2	132kV Imphal(State) ~ Karong	60	45.4	Nov 19/ ROW to be solved. Matter intimated to State MSPCL	
3	132kV Yurembam ~ Yaingangpokpi	42	42	Oct19	
4	132kV Yaingangpokpi ~ Kongba	33.6	33.6	Oct19	
5	132kV Kongba ~ Kakchinglilo at Thoubal	57.7	57.7	Oct19	
6	132kV Kakching ~ Churachandpur	38	19.6	Nov19/ Work delayed & to restart after collapsed tower restored by State	
7	132kV Yaingangpokpi ~ Hungdung	32	14.5	Nov-19	
8	132kV Kakching ~ Chandel	25	16.37	Oct19	
9	132kV Loktak(NHPC) ~ Rengpang	47	0	March20. ROW/miscrant problem faced. Assistance of supervisor sought from MSPCL	
10	132kV Jiribam ~ Jiribam state	1	0	Jan'20	
11	132kV Ningthoukhong ~ Churachandpur	32	16.8	Oct19/ Work delayed & to restart after collapsed tower in that line. restored by State in Aug19 & work restarted	
	Total	379.5	257.17		Overall Completion Dec19—March20 Progressively / Details Break up given in AnnexD.02 as well

Note1: Data of most stations (includingChandel, Churachandpur, Kongba, Hungdung) are already made reporting through GPRS by POWERGRID in coordination with MSPCL. Spare OPGW & HW-8km also supplied.

ANNEXURE – A.02

A.1 Project: Microwave Vacation OPGW PROJECT-NER- PART – 2: SUPPLY & ERECTION BY M/S TEN DOT
(Equipment are clubbed with NER FO Expansion) Status of OPGW Links (aspending for DOCO)

S N	Link Name	OPGW Stringing status	Overall reporting of end stations to NERLDC/ SLDC	Remarks (w.r.t terminal equipment & others) DOCO will be done at one go for all left over links under MW Vacation OPGW Proj
1	132KV Silchar-Srikona	Complete	Data reporting	Completed & reporting/ DOCO completed
2	132KV Mariani-Mariani	Complete	Data and voice reported dtd 31.03.2019.	Completed & reporting/ DOCO pending
3	132KV Nirjuli- Ranganadiwith Parey	ROW issue	** 03 months after ROW is resolved	S.N.3&4 may be clubbed to be considered as single link (Nirjuli-Ranganadi LILO at Parey& LILO at Leikhi. OPGW part completed (except Railway/high way diversion part where work is stopped due to ROW)/ Matter taken up through NERPC.
4	132KV LILO of Nirjuli- Ranganadi at Lekhi- This is extended part of Sl.No.3	ROW issue	03 months after ROW is resolved	Equipment installed & Commissioning pending..
5	132kV Imphal(PG)- Imphal (State)	Complete	Oct-19	Equipment installation WIP & Commissioning pending
6	LILO of 132kV Aizawl- Zemabawk-II at MelriatSS	Complete	Oct-19	Completed & reporting/ DOCO pending

7	132KV Melriat-Sihmuii	Complete	Oct-19	Sihmuii end State station not ready -Not charged. Equipment installed at one end
8	132KV Mokokchung(PG)-Mokokchung (state)	Complete	Oct-19	Equipment installed & Commissioning pending
9	Ranganadi-Gohpur (Part-I)- via Nirjuli-Gohpur	Complete	Data and voice reported dtd 18.01.2019.	Completed & reporting/ DOCO pending. May be considered as single link
10	Ranganadi-Gohpur (Part-II)-via Ranga-Balipara	Complete		
11	Aizawl-Zemabawk-II	Complete	Oct-19	Equipment installation WIP & Commissioning pending
11	Dimapur-Dimapur	Complete	Oct-19	Equipment installation WIP & Commissioning pending
12	132kV Ranganadi-Ziro	Complete	Oct-19	Equipment installation WIP & Commissioning pending
13	132KV Lekhi-Itanagar -- Chimpu SLDC	Complete	Oct-19	Equipment installation WIP & Commissioning pending. But same link is also affected by NirjuliRanganadi LINK LILO at Leikho. Then WB is extended from Leikhi to Chimpu
14	BNC LILO-25km	Delayed due to Flood	Oct-19. subject to Shut down clearance in Sept19	Equipment partly installed Yet to be commissioned. Shut down was not approved I 158-159 th OCC & plan delayed

Note: The above is total 13 links as narrated in remarks. Joint verification with NERLDC/ SLDC will be done at one go.

Part3: Status Up gradation of ULDC SDH-PDH equipment (as per 15thNERPC—A.16& A.18) is also clubbed & included in MW Vacation OPGW project.-----

S.N	Name of Nodes	SDH Eqpt (ECI Make)	PDH Equipment (ECI Make)	PDH Equipment (Valiant Make)	Status
1	Umium-III	1	0	2	Completed
2	Umium-I	1	0	2	Completed
3	Nehu	1	0	0	Completed
4	Shillong RSCC	1	2	0	Completed
5	Khliehriat	1	0	2	Completed
6	Khandong	1	0	2	Completed
7	Kopili	1	0	2	Completed
8	Dimapur	1	0	2	Completed
9	Imphal	1	0	0	Completed
10	Kohima	1	0	0	Completed
11	Badarpur	1	0	2	Completed
12	Kumarghat	1	0	2	Completed
13	Agartala Gas-RC Nagar NEEPCO	1	0	2	Completed/ Delay in space allocation. Space given in August19
14	Agartala-79Tilla	1	0	3	Completed
15	Bongaigaon	0	2	0	Completed
16	Repeater between Bongaigaon&Balipara	1	0	0	Space not available in between Trans line at intermediate position/ROW issue for space shelter repeater finalization.
17	Umtru	1	2	0	Space & Optical Link issue from MEPTCL, Meghalaya is yet to be sorted. Front was not clear due to same. Matter jointly taken up i.ro of the ULDC fiber as used by MEPTCL Installation. Target-Nov19
18	Misa	0	0	2	Completed
19	Balipara	0	0	2	Completed
Total Up gradation/ Replacement		16	6	25	

Also PDH (Tejas/ECI) upgraded in 12 locations locations Khliehriat, Badarpur, Kumarghat, Agartala Gas, Agartala SLDC, Khandong, Kopili, Misa, Dimapur, Imphal, Umiam-I, Umiam-III & work is completed. Over All Target- Nov19

Project: NER FO EXPANSION (Status of "Fiber Optic Cable Package for NR fiber optic expansion (additional requirements) and NER fiber optic expansion under establishment of Fiber Optic Communication system in Northern Region"-----)

SI No	Link Name	OPGW Stringing status	End Equipment Status	Overall reporting of end stations to NERLDC/ SLDC
	Central Sector			
1	132kV Melriat (PG) ~ Silchar (PG)	Complete	Complete	Data and voice reported dtd 31.03.2019. SAT Pending.
2	132kV Khandong~Halflong (PG)	Complete	Optical connection established over SDH. Data/Voice integration with PDH in progress	Oct-19
3	132kV Dimapur (PG)- Doyang (NEEPCO)	-do-	Do	Oct-19
4	132kV Doyang (NEEPCO)- Mokokchung (State)	-do-	Do	Oct-19
5	220kV Mokokchung (PG)- Mariani (PG)	-do-	Do	Oct-19
6	400kV Mariani (PG)- Kathalguri (NEEPCO)	-do-	Do	Oct-19
7	400kV Surajmaninagar (TSECL) ~ Pallatana (OTPC)	30.967/36.7 Km	plan delayed due to non-granting of shutdown as crossing	Oct-19 subject to Shut down clearance in Sept19
8	132kV Badarpur(PG) ~ Jiribam(PG)	Stringing progress :48/67.16 Km	Do	Dec19
9	Bongaigaon (PG-400 kV) ~ 220kV Salakati- 220 kV BTPS	0/4.5 Km	Work on halt due to flood	Jan20
10	400kV Mirza (Azara) ~ Byrnihat	0/47.208 Km	Installation to be started	Dec19
11	400kV Silchar ~ Pallatana	Stringing Complete: 61.146/247.409 Km/ROW issue	On halt due to flood & non-issue of on time PTW by Pallatana for grid security	Feb 20

12	132kV Agartala(TSECL) ~RC Nagar (NEEPCO)	Complete	Installation in progress.	Space is provided by NEEPCO IN August only.Oct19
13	132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC)	0/82.461Km	Work to be started, Jiribam state end space issue	Feb 20. Earlier gang faced ROW issue and fled site near/on route to Lokatak
14	132kV Loktak (NHPC) ~ Imphal (PG)	Complete#	OPGW part completed. Equipment I&C in progress.	Oct-19
15	PK Bari (TSECL)--LILO of (NETCL) Belonia	0/10.441Km	Work to be started	Jan20
16	132kV Pare ~ Chimpu	0/31Km	OPGW Supply Completed. Works yet to started for I&C.	Jan20
Manipur State Sector				
1	132kV Yurembam ~ Yaingangpokpi	Complete#	OPGW part completed (except Approach cable).Installation of Equipment are also completed. WIP	Oct-19
2	132kV Yaingangpokpi ~ Kongba	Complete#	-do-	Oct-19
3	132kV Kongba ~ Kakching with LILO at Thoubal	Complete#	-do-	Oct-19
4	132kV Imphal(State) ~ Karong	45.4/60K m.	OPGW Stringing in progress/ ROW Faced	Nov 19/ ROW to be solved. Matter intimated to State MSPCL
5	132kV Kakching ~ Churachandpur	19.60/38 Km.	-do-	Nov19/ Work delayed & to restart after collapsed tower restored by State
6	132kV Loktak(NHPC) ~ Ningthoukhong	Complete	OPGW part completed Installation of Ap Cable/Equipment WIP	Oct-19
7	132kV Yaingangpokpi ~ Hundung	14.5/30Km	OPGW Stringing in progress	Nov-19
8	132kV Kakching ~ Chandel	16.37/25K m	OPGW Stringing in progress	Oct-19

9	132kV Loktak(NHPC) ~ Rengpang	0/47Km	OPGW stringing work yet to start. ROW/miscrant problem faced. Assistance of supervisor sought from MSPCL	March -20
10	132kV Jiribam ~ Jiribam state	0/1Km	OPGW stringing work yet to start.	Jan'19
11	132kV Ningthoukhong ~ Churachandpur	16.80/32Km	OPGW Stringing in progress	Oct19/ Work delayed & to restart after collapsed tower in that line. restored by State in Aug19 & work restarted
Tripura State Sector				<i>Dhalabil, badarghat, budhjangnagar , SM Nagar reporting to SLDC</i>
1	132kV Agartala(TSECL) ~ Barumura(GTP)	Complete	Complete	SAT-Oct19
2	66kV 79 Tilla Grid (TSECL) ~ Badharghat	-do-	-do-	Data Reporting.
3	132kV Surajmaninagar(TSECL) ~ Budhungnagar	-do-	-do-	-do-
4	132kV Agartala(TSECL) ~ SM Nagar (TSECL)	-do-	-do-	-do-
5	132kV Pallatana(OTPC) ~ Udaipur(TSECL)	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
6	132kV Udaipur(TSECL) ~ Rokhia GTP	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
7	66kV Udaipur(TSECL) ~ Gumti HEP	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
8	66kV Gumti HEP ~ Amarpur(TSECL)	-do-	With the completion of SM Nagar-Palatana	Oct-19
9	66kV Satchand(TSECL) ~ Sabroom(TSECL)	-do-	Islanded link. Neither of Terminal stations is a wideband location	Oct-19

10	132kV 79 Tilla Grid (TSECL) ~ Dhalabil(TSECL)	-do-	PDH installation & commissioning pending	Oct-19
11	132kV Rokhiya (GBPP) ~ Surajmaninagar(TSECL)	Supply Complete. Front Not ready (TL under construction)	Front Not Ready	Link to be deleted. Supply material isto be handed over to TSECL. DOCO will be done with consent from TSECL
12	132kV Surajmaninagar(TSECL) ~ Monarchak (NEEPCO)	-do-	Front Not Ready	
Meghalaya State Sector				
1	132kV Nehu ~ Neigrihms	0/7.7Km	OPGW stringing work yet to start.	Jan20
2	132kV Khliehriat(PG) ~ Khliehriat (State)	Complete#	OPGW part almost complete (Except Approach cable part).	Oct-19
3	132kV Khliehriat(State) ~ MyntduLeshka-HEP	24.932/24.932Km	OPGW part complete (Except Approach cable part).	Oct-19
4	132kV Khliehriat(PG) ~ Lumshnong (S/C)	5/25.19Km	Work on halt due to rainy season	Oct-19
Nagaland State Sector				
1	132kV Kohima (132KV) ~ Kohima (220KV)	0/25Km	OPGW stringing work yet to start.	Dec19
2	132kv Kohima ~ Wokha	0/58Km	OPGW stringing work yet to start./ DOP to ensure completion of Links of LILO of WokhaKohima at New Kohima/Jadhima	Dec19
3	132kV Doyang (NEEPCO) ~ Sanis	0/10Km	OPGW stringing work yet to start.	Jan20
Mizoram State Sector				
01	Aizawl--Zemabawk I	0/1Km	OPGW stringing work yet to start.	Dec-19
Stations of Assam AEGCL namely LakwaNamrupGohpurMarianiKahilipara-SLDC also considered in NER FO expansion(equipment installed & commissioned) SDH PDH for SLDC AP, Leikhi also considered in NERR FO Expansion (Equipment commissioning by Dec19)				

NOTE1: Above mentioned communication links got delayed due to certain unavoidable situation like;

- 1) Strike & Protest in Northeast due to GST Amendment bills
- 2) Strike, Curfew in Ar Pradesh in the month of Feb-19
- 3) Strike, Curfew in Meghalaya in the month of May-Jun-18
- 4) Floods in Assam & Manipur - July 17
- 5) ROW issues (paddy field/ asking additional compensation)
- 6) Work connected to Trans line connected to Loktak was stopped two times due to miscreants. The same will be restarted soon.
- 7) Recent flood in June & July 19 across upper Assam, Lower & South Assam has hindered movement of Fibcom team, Tejas team to Tripura, Meghalaya & AP. However teams have been re-mobilized

NOTE-2:

1. All concerned stations (State or ISTS/ISGS) where End equipment being installed are to provide
 - a) Auxiliary power as input to charger of DCPS
 - b) Air conditioning environment for equipment under ULDC packages
 - c) PDH distance to RTU should be within 20 meter of RTU/Gateway if data path is serial type
 - d) SDH distance to PDH should be within 15-20 meter of PDH & SDH is to be placed within 15-20 meter of FODP
 - e) Respective station owner has to arrange of their own-
 - 1) 2 wire normal telephone (along with telephone wire from control desk/control room up table) to the PDH/SDH to be provided by user
 - 2) For RTU data also, necessary cable is to be provided by RTU-owner/owner of station.
 - 3) one Ethernet cable (shielded) for serial data (if K 101) reporting by RTU & one Ethernet cable (shielded) to be laid & connected (between RTU/GATEWAY up to the Communication equipment-SDH/PDH for data & voice by user/owner RTU station
 - f) State will jointly check with POWERGRID & one dedicated coordinator at State SLDC/Department will be assigned for communication.
 - g) State can opt to keep Earth Wire or may ask contractor to take the same back.
 - h) AMC after execution will be supervised by respective state & paid by respective state directly to contractor. However for achieving competitive price, AMC rate was included in original tender

Project: URTDSM PROJECT STATUS

N	Equip.	Scope		Status				Status / Remarks
		Nos.	Location	Erection	SAT	Reporting/ Commission	Data Validation	
1	SPDC		NERLDC	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
2	PDC		Assam	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
3	PDC		Meghalaya	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
4	PDC		Arunachal/ Tripura	0	0	0		Diversion completed & Materials delivered in Tripura. Work is targeted completed by 2 months (SAT). Additional cost of Rs.43lac (Tax amount) is involved for GST/IGST diversion from one state to other state
	Total	4						
5	PMU	3	Salakati	3	3	2	3	Completed
6	PMU	6	Balipara	6	6	6	6	Completed
7	PMU	6	Bongaigaon	6	6	6	6	Completed
8	PMU	4	BNC	4	4	4	4	Completed
9	PMU	4	Silchar	4	4	4	4	Completed
10	PMU	7	Misa	7	7	7	6	Completed
11	PMU	3	Mariani	3	3	3	3	Completed
12	PMU	5	Dimapur	5	5	5	3	Completed
13	PMU	1	RHEP - NEEPCO	1	1	1	2	Completed
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 –	2	2	2	2	Completed

			Assam					
18	PMU	2	Tinsukia - Assam	2	2	2	2	Completed
		51		51	51	50	47	Note: There was some delay (around months July & Aug19) due to Flood in South Assam, South Tripura & North Tripura

Over all Target-URTDSM project

1. Tripura PDC/System as diverted from Arunachal Pradesh under central sector: Site Acceptance: Nov19, System Availability Verification Test: Dec19
2. UPS etc.: By Dec19

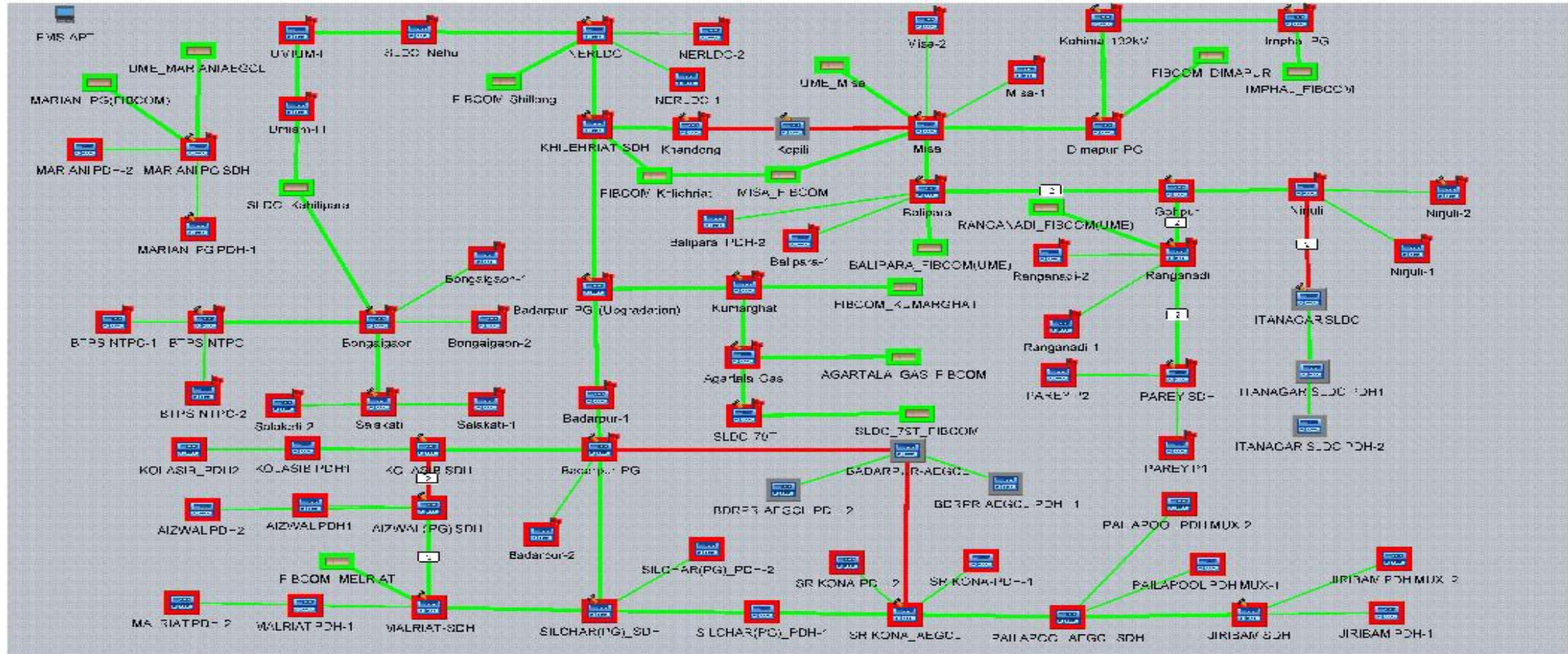
Reporting of Network Element (SDH/PDH) to NMS

Jointly Verified with NERPC on 18.10.2019

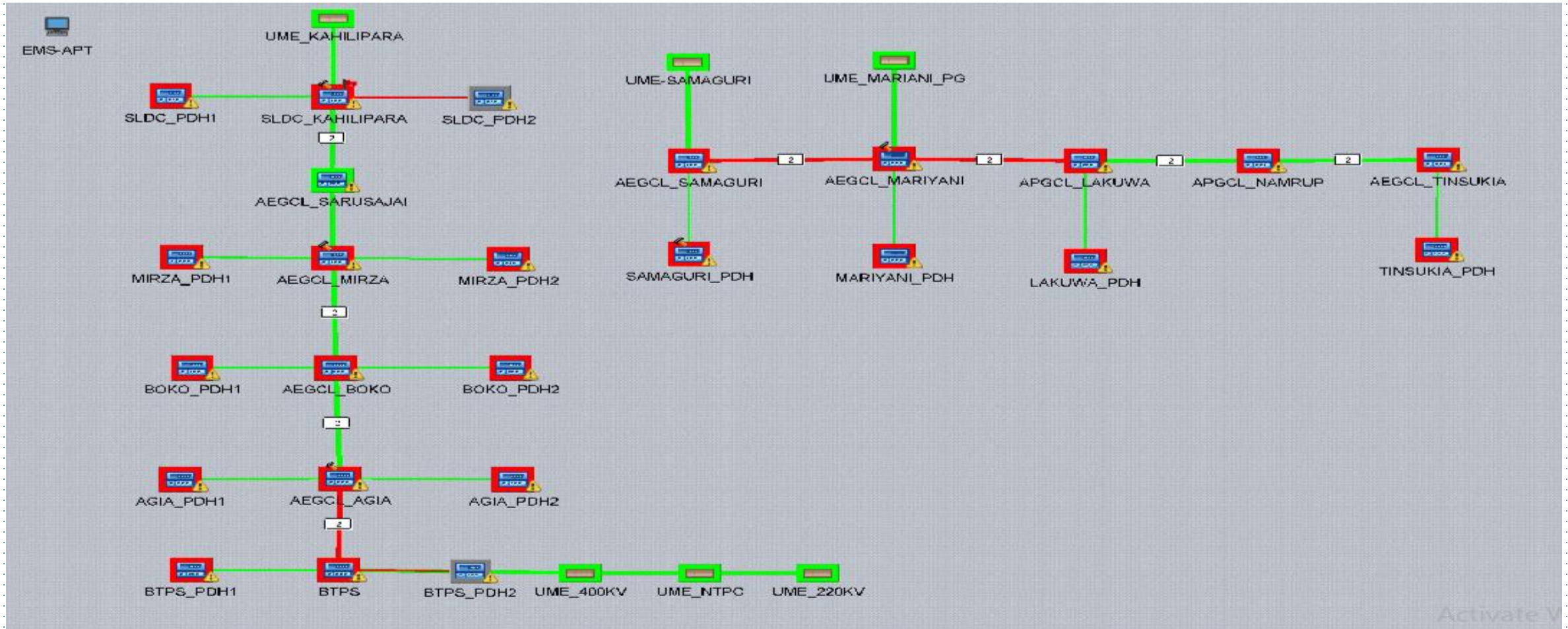
MW Vacation Project (Central & AEGCL State Sector)

- All nodes (Except Umtru) are made reporting to Load dispatch Center.
- All SDH/PDH are ECI Make.

ECI Make– Central Sector Stations along with some AEGCL Nodes (MW Vacation Project)



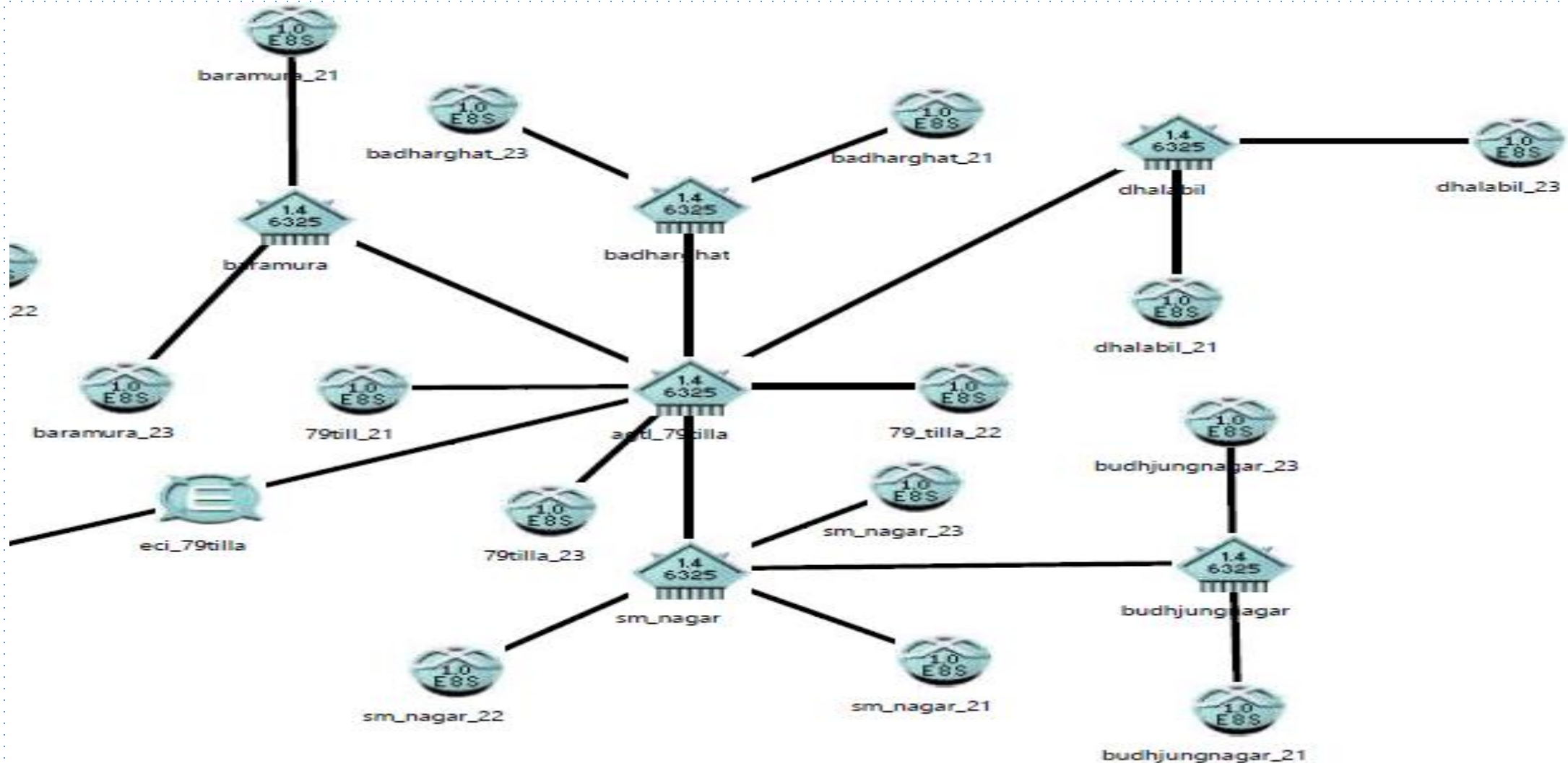
ECI Make-AEGCL Nodes (MW Vacation Project)



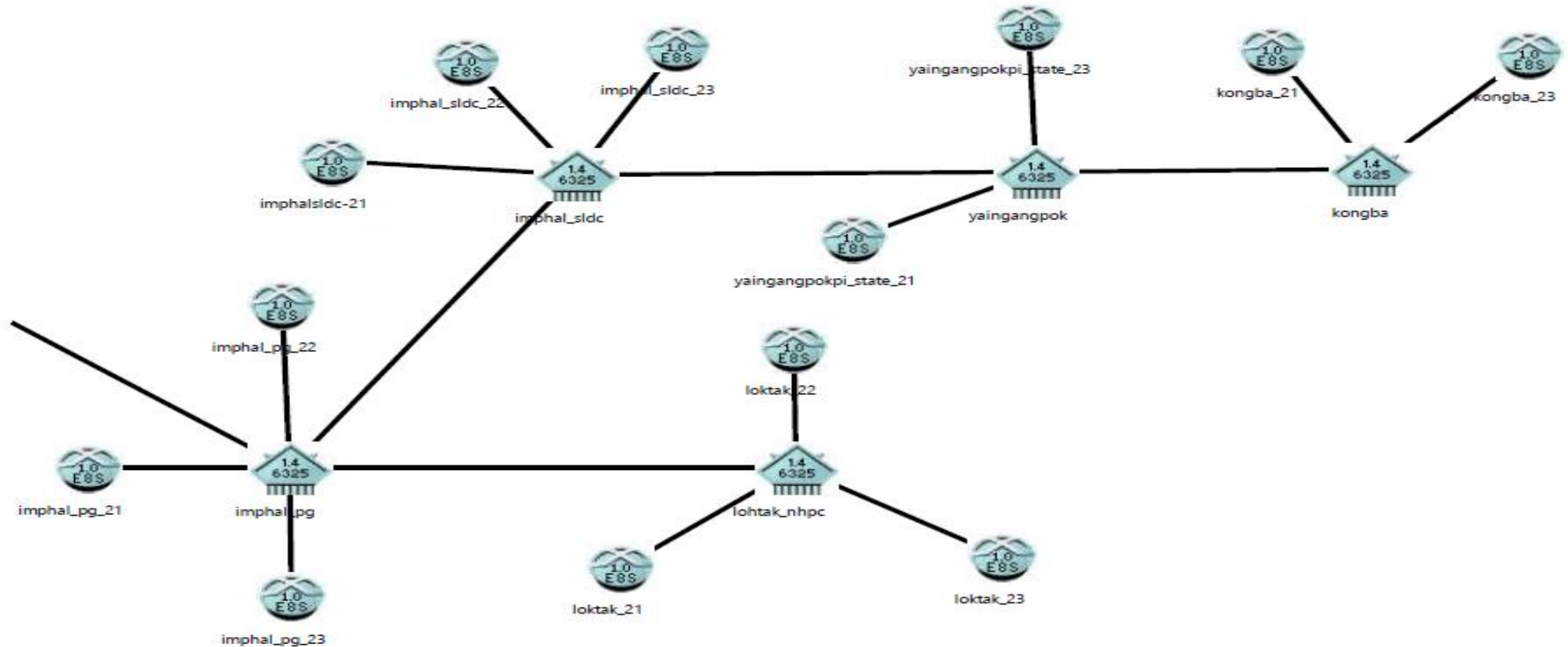
Status of Nodes (Central Sector) reporting to NMS – (screenshots attached)

SL No	Nodes reporting to NERLDC	SL No	Nodes reporting to NERLDC		SI No	Nodes Yet to be made reporting		
1	Aizawl	15	Loktak NHPC		1	B/U NERLDC		
2	Badarpur	16	Melriat		2	BNC		
3	Bongaigaon	17	Mariani		3	Byrnihat		
4	Balipara	18	Mokokchung		4	Mirza		
5	Dimapur	19	Misa		5	Pallatana		
6	Doyang	20	RC Nagar		6	Pare		
7	Halflong	22	Ranganadi		7	Rangia HVDC		
8	Imphal	23	Shillong		8	Salakati		
9	Jiribam	24	NERLDC			Salakati		
10	Kathalguri	25	Silchar					
11	NEEPCO	26	Ziro					
12	Khandong							
13	Khlehriat							
14	Kumarghat							

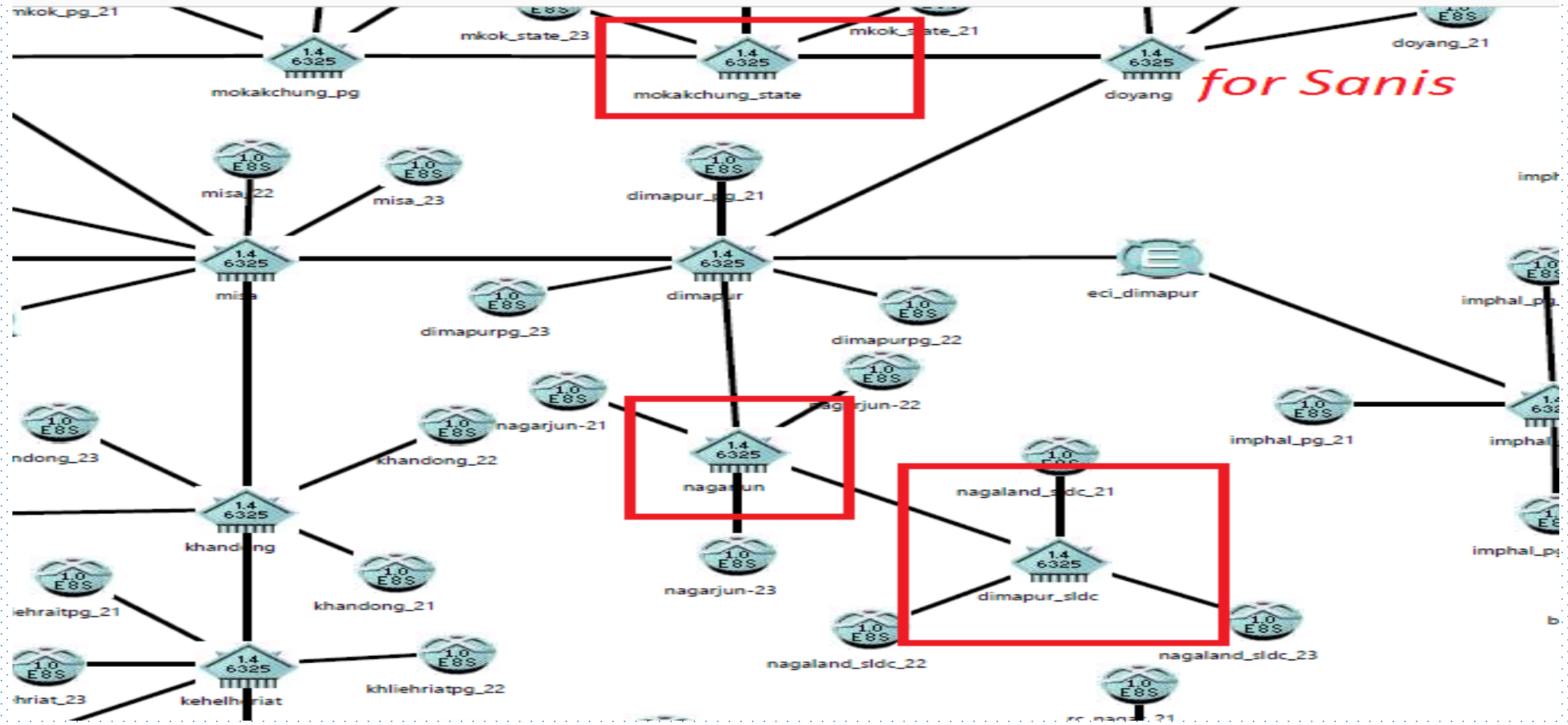
Node reporting on NMS (SDH Tripura State Sector)



Node reporting on NMS (SDH- Manipur State Sector)



Node reporting on NMS (SDH- Nagaland State Sector)



Node reporting on NMS (PDH Node—Valiant make)

The screenshot displays the NMS Monitor interface. At the top, it shows the title "NMS Monitor" and configuration fields for "Community: public" and "Port: 162". To the right of these fields are four colored squares (red, orange, yellow, green) with the number "0" next to each. On the left side, there is a tree view titled "System Network" with a list of IP addresses, each preceded by a "+" sign. The main area of the interface shows a network topology diagram with nodes represented by green boxes. The nodes are arranged in a hierarchical structure, with lines indicating connections between them. The nodes and their IP addresses are as follows:

- 192.168.9.201 (Computer icon)
- BADARPUR (192.168.9.3)
- BADARPUR (192.168.9.4)
- LIEHRIAT_ (192.168.9.11)
- LIEHRITA_ (192.168.9.12)
- KHANDONG (192.168.9.25)
- IMAPUR_P (192.168.9.22)
- IMAPUR_P (192.168.9.21)
- HAFLONG (192.168.9.16)
- HAFLONG (192.168.9.15)
- KHANDONG (192.168.9.26)
- MISA (192.168.9.37)
- MISA (192.168.9.38)
- NERLDC (192.168.9.45)
- NERLDC (192.168.9.46)
- Nagarjan (192.168.9.130)
- Nagaland SLDC (192.168.9.133)
- Nagaland SLDC (192.168.9.132)
- ZIRO (192.168.9.40)
- ZIRO (192.168.9.39)
- Nagarjan (192.168.9.131)
- Loktak-1 (192.168.9.27)
- Loktak-2 (192.168.9.28)
- Imphal PG-1 (192.168.9.13)
- Imphal PG-2 (192.168.9.14)

At the bottom left, there is a "Select All" checkbox which is checked. In the center, there is a "Search" button. At the bottom right, there is a "Pages:" label followed by four numbered circles (1, 2, 3, 4).

Node reporting on NMS (PDH Node—Valiant make)

The screenshot displays the NMS Monitor interface. At the top, it shows the title "NMS Monitor" and configuration fields for "Community: public" and "Port: 162". To the right of these fields are four colored squares (red, orange, yellow, green) with the number "0" next to each, indicating the count of nodes in each status category.

On the left side, there is a "System Network" tree view with a list of IP addresses, each preceded by a plus sign (+) for expansion. The visible IP addresses are: 192.168.9.3, 192.168.9.4, 192.168.9.11, 192.168.9.12, 192.168.9.15, 192.168.9.16, 192.168.9.21, 192.168.9.22, 192.168.9.25, 192.168.9.26, 192.168.9.37, 192.168.9.38, 192.168.9.45, 192.168.9.46, 192.168.9.39, 192.168.9.40, 192.168.9.132, 192.168.9.133, 192.168.9.130, 192.168.9.131, and 192.168.9.27.

The main area of the interface shows a network topology diagram. The nodes are arranged in three rows, connected by lines. The nodes are:

- Row 1: Nagarjan (192.168.9.131), Loktak-1 (192.168.9.27), Loktak-2 (192.168.9.28), Imphal PG-1 (192.168.9.13), Imphal PG-2 (192.168.9.14)
- Row 2: ngangpok (192.168.9.101), ngangpok (192.168.9.100), Manipur SLDC-2 (192.168.9.121), Jathalguri- (192.168.9.19), Manipur SLDC-1 (192.168.9.120)
- Row 3: Jathalguri- (192.168.9.102), Jathalguri- (192.168.9.103), Jathalguri- (192.168.9.20), Jathalguri- (192.168.9.23), Jathalguri- (192.168.9.24)

Additionally, there is a node "Iokokchun State-1" (192.168.9.122) located below the main grid, connected to the Jathalguri- node at 192.168.9.24.

At the bottom left, there is a "Select All" checkbox and a "Search" button. At the bottom right, there is a "Pages: 1 2 3 4" indicator.

Annexure B.2

Telemetry Availability Status at NERLDC from Constituents (as on 03-10-2019):

Sl. No.	Name of the Constituents	Total Analogue Data points	Total Digital Data points	Total Data Points	Analogue Data points Reporting	Digital Data Points Reporting	Total Reporting	Total Percentage of data Availability
1	Arunachal Pradesh	128	172	300	3	38	41	13.66%
2	Assam	1476	1994	3470	697	809	1506	43.40%
3	Manipur	180	255	435	48	77	125	28.73%
4	Meghalaya	409	386	795	232	97	329	41.38%
5	Mizoram	71	50	121	12	12	24	18.60%
6	Nagaland	237	270	507	51	128	179	35.30%
7	Tripura	524	715	1239	168	178	346	27.92%
8	PGCIL	568	1147	1715	470	973	1443	84.14%
9	NEEPCO	205	295	500	137	214	351	70.2%
10	NTPC	28	53	81	28	53	81	100%
11	OTPC	41	78	119	41	78	119	100%
12	NHPC	20	36	56	17	29	46	82.14%
	NER	3867	5423	9290	1887	2657	4544	48.91%

Report on Tezu S/s availability

Sakal Deep (सकल दीप)

Sent: 04 October 2019 10:25:25

To: pukhrambamjohnysingh@powergridindia.com

Cc: Akhil Singhal (अखिल सिंघल); Tapobrata Paul (तपोबराता पॉल); Paominal Doungel [paominal@posoco.in]

Attachments: TEZU LOG.xlsx (1 MB)

Dear Sir,

Please find the attached log of Tezu S/s from 27/08/2019 1609 hrs to 01/10/2019 1200 hrs.

The percentage availability for the above mentioned time is 75%.

It is to be noted that the mentioned availability includes all duration for all the testing carried out for VoIP and complete black out of station.

This is for your information and necessary actions.

Regards,

Sakal Deep (सकल दीप)

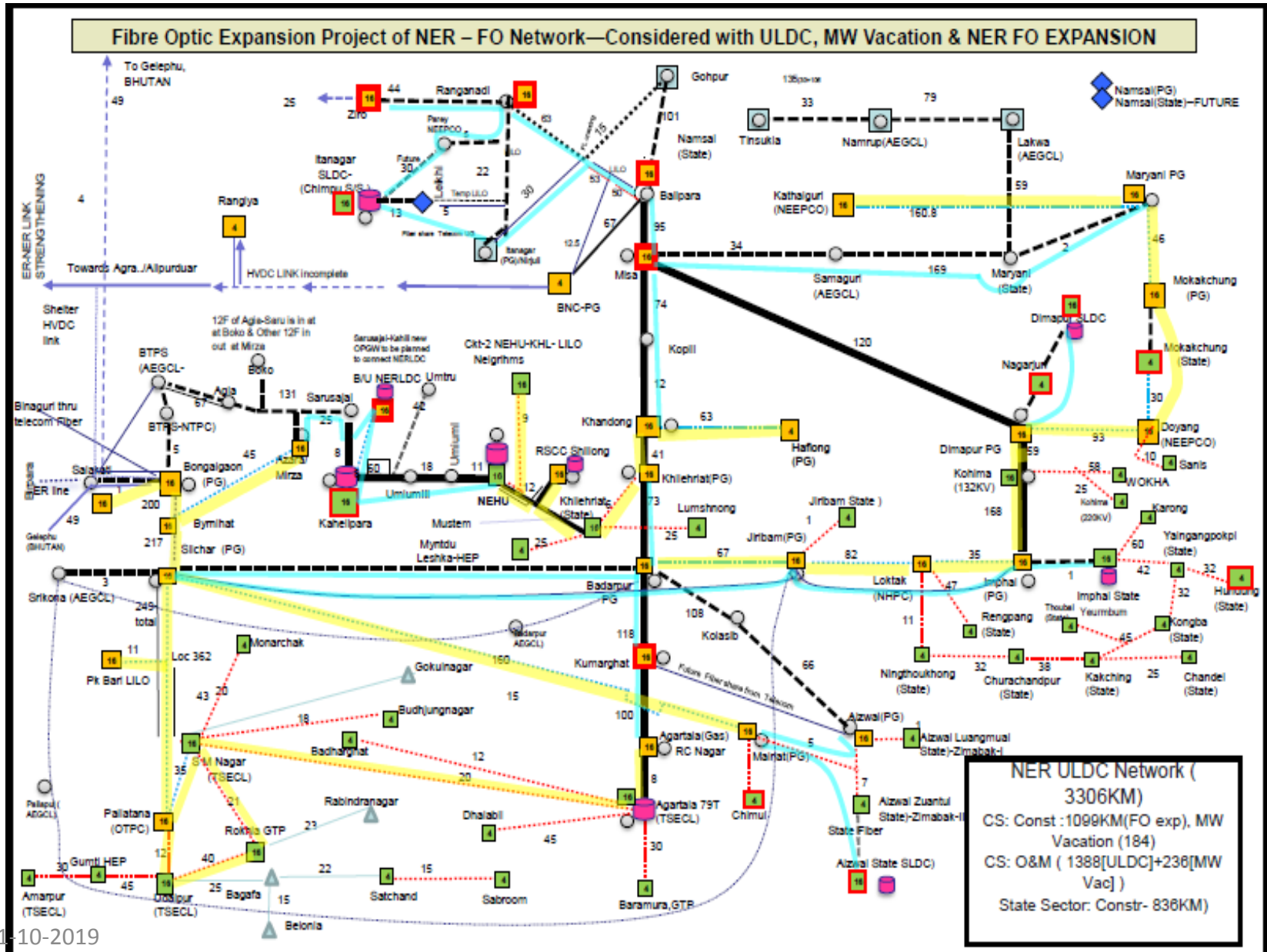
System Logistics

North Eastern Regional Load Despatch Centre, Shillong

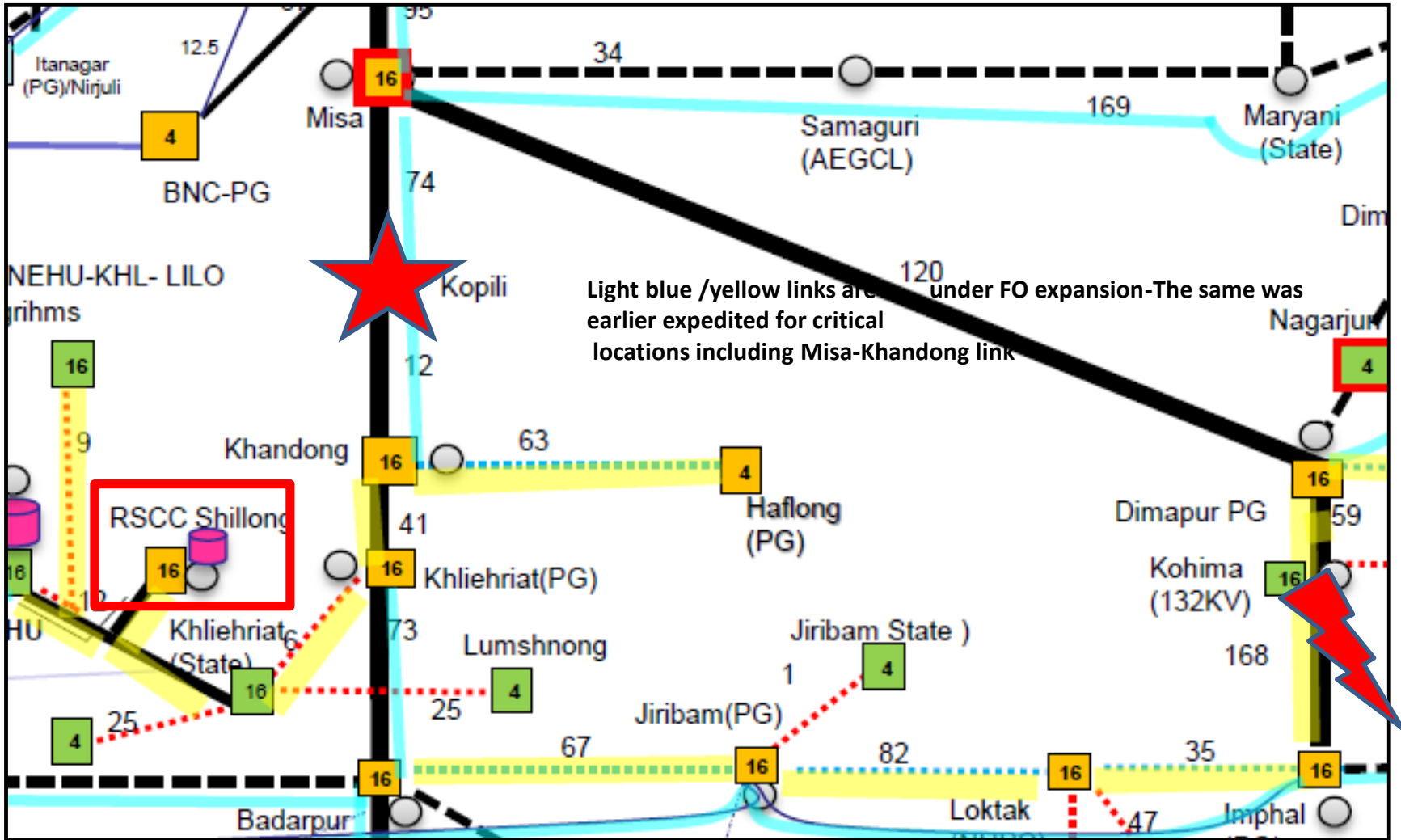
Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कारपरेशन लि.

(A Government of India Enterprise)

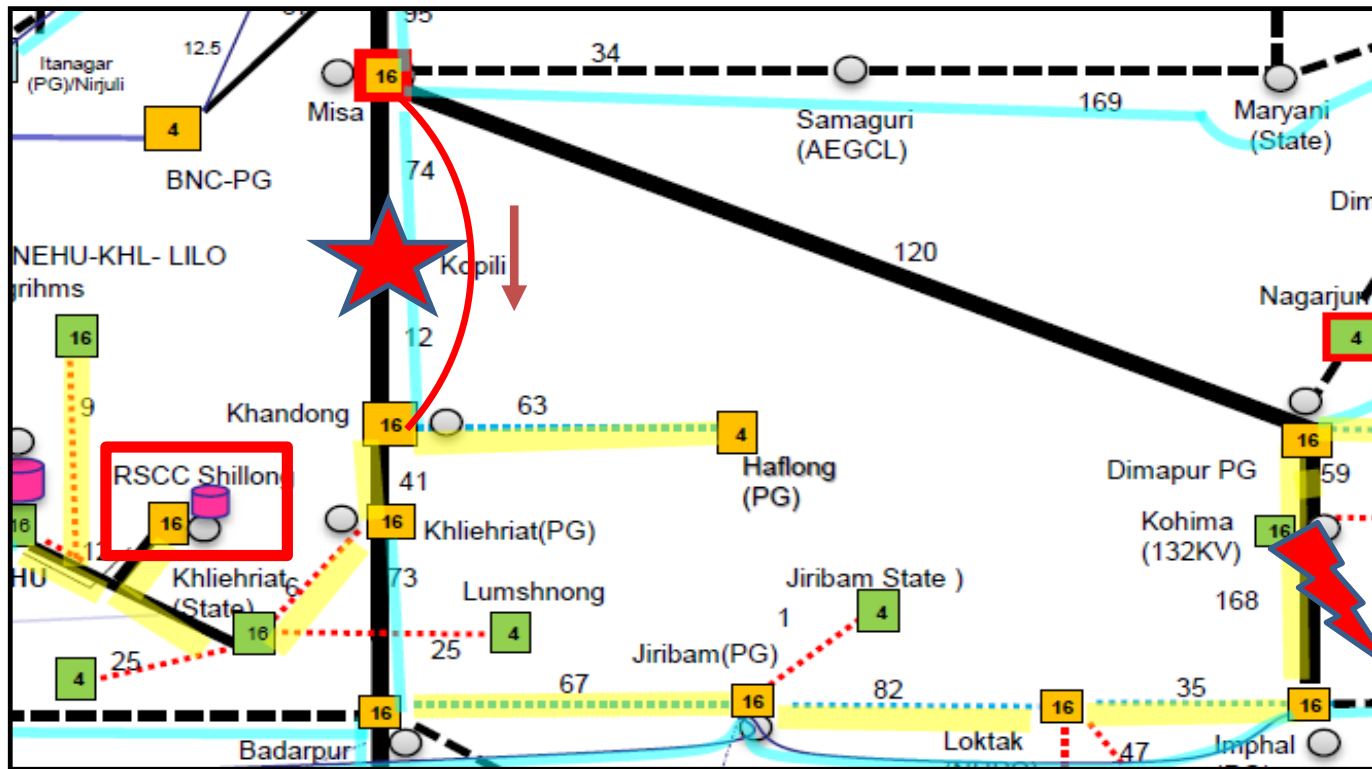
NETWORK AS APPROVED IN 17th-18TH NERPC Meeting



Kopili node was reporting through OPGW via a) Kopili-Khandong-Khliehriat---NEHU---Shillong & back up path via b) Kopili-Misa-Dimapur-Imphal-Silchar-Badrpur-Khliehriat-Shillong. But as Dimapur-Imphal is out of service because of Highway diversion work & landslide . Back up Path was not there. Keeping in view usual main & back up path, failure of Kopili would have resulted in major outage of max data of many grid elements



While planning NER FO Expansion project integrated with original ULDC network, team of CTU/POWERGRID,NERTS had selected, some points of fiber bypass (for some nodes) for formation of STM16 ring with Main 1&2 during 17th & 18th NERPC. Accordingly equipments were placed in Misa & Khandong. Based on same, Kopili node could be bypassed in one day time & Misa to Khandong OPGW-1 pair was made running via Fibcom equipment installed under NER FO Expansion.



** Most of data were restored via Misa-Khandong path wef 02.00hrs 08.10.19- THANK YOU