

# North Eastern Regional Power Committee

## Agenda

### For

### 10<sup>th</sup> NETeST Sub-Committee Meeting

Time of meeting : 14:00 Hrs.

Date of meeting : 16<sup>th</sup> July, 2018 (Monday)

Venue : "Hotel Nandan", Guwahati.

#### A. CONFIRMATION OF MINUTES

#### CONFIRMATION OF MINUTES OF 9<sup>th</sup> NETeSTS Meeting held on 11.04.2018.

The minutes of 9<sup>th</sup> NETeST Meeting held on 11<sup>th</sup> April, 2018 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2018/ dated 26<sup>th</sup> April, 2018.

*The Sub-committee may confirm the minutes of 9<sup>th</sup> NETeST meeting of NERPC as no comments/observations were received from the constituents.*

#### ITEMS FOR DISCUSSION

##### A.1 Status of SLDCs in NER:

SN	Utility	Present status	Status as informed in 9 <sup>th</sup> NETeST	Target Completion
UPGRADATION OF SLDCs				
1	Assam		Completed.	Assam intimated DG Pad ready Completed. DG set-Target May-18.
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. DG set-Target April-18. Spare hand over July18
3	Meghalaya		Completed.	Completed. DG set-Target June-18. Spare hand over July18
				July18

Agenda for 10<sup>th</sup> NETeST Meeting to be held on 16<sup>th</sup> July, 2018

4	NERLDC		Completed.	Completed. DG set-Target April-18.
5	Manipur		Completed.	Completed. DG set-Target 1st week June- 18
6	Nagaland		Out of 12, 10 RTUs are installed and six tested. DG set space yet not ready.	Completed. DG set-Target May-18.
7	Mizoram		Completed. AMC is still not signed. DG set space yet not ready.	Completed. DG set-Target May-18.
8	Ar. Pradesh		8 RTU installed and tested. Only one left.	Completed. DG set-Target May-18.
9	Backup NERLDC		Completed.	Completed. DG set-Target April-18..

**Members may kindly intimate the status.**

**A.2 Status of FO works under different projects:**

**Status may be referred from item C1 of OCC.** Critical Issues against project implementation may be discussed

Name of the Project	Critical Issue
ULDC replacement	
MW Vacation	
NER-FO Expansion	
Other project by State which cater to Link	

formation/Communication strengthening	
--	--

***NERTS may please intimate the status.***

## **B. NEW ITEMS**

### **B.1 Strengthening of PLCC System by NER States:**

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

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

During 8<sup>th</sup> 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.

In 9<sup>th</sup> NETeST meeting DGM, NERLDC informed that MeECL 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.

***Members may like to discuss.***

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

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

During 8<sup>th</sup> NETeST meeting, DGM NERTS, informed that OPGW installation almost completed except 10km left due to ROW & administrative issue. The matter is being pursued with District administration and splicing under progress. The link will be through by March, 2018.

In 9<sup>th</sup> NETeST meeting, Manager, NERTS informed that RHEP is to be connected via Nirjuli-Ranganadi Link. It may be noted that Nirjuli-Ranagandi (NDTL) is made LILO at Leikhi & Pare. Pare LILO has already been taken care in MW Vacation OPGW project & equipment in NER FO Expansion. However, for Lekhi LILO point connectivity, DOP-AP (transmission division) is constructing TL LILO part up to Lekhi from tower loc.134. The said work is yet to be completed. Further DOP, AP has been asked to provide the exact Tower schedule so that POWERGRID may arrange OPGW accordingly. Target for connectivity-by 2months w.e.f LILO part completion by DOP AP.

***NEEPCO & NERTS may please deliberate.***

### **B.3 Security Arrangement for SCADA System:**

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

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

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

In 9<sup>th</sup> NETeST meeting Regarding Cyber Security, EE(SM),SLDC,Meghalaya requested that Standard Operating Procedures (SoP) be devised in this regard. Director/SE(O&P),NERPC assured that CE(IT), CEA would be invited to the next meeting to give presentation and share the roadmap. For Physical Security it was decided that SLDCs would explore installation of CCTVs independently.

***Members may please discuss.***

### **B.4 Implementation of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017:**

As per section 10 of these regulations, all users of CTU, NLDC, RLDCs, SLDCs, STUs shall maintain the communication channel availability at 99.9% annually: Provided

that with back up communication system, the availability of communication system should be 100%.

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

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

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

In this regard a letter vide Ref: NERLDC/ SL/Telecom\9908 dtd. 29.08.17 and subsequent reminder letter vide Ref: NERLDC/SL/TELECOM/10823 dtd. 03.01.2017 was issued to NERTS, POWERGRID and NERLDC/ SL/Telecom\9928 dtd. 31.08.17 and subsequent reminder letter NERLDC/ SL/Telecom\11402-414 dtd. 13.03.18 to SLDCs for furnishing the list of communication links. POWERGRID has submitted a list of links (enclosed in Annexure-A) for Further details.

However, no data have been furnished by SLDCs till date. The details are required for making complete communication diagram and monitoring of availability of links.

In 9<sup>th</sup> NETeST meeting CE, NPC clarified that the CERC (Communication System for Inter-state transmission of electricity )Regulations, 2017 is meant to bifurcate the cost of transmission of power and transmission of data, among other things. Since CERC has jurisdiction only over ISTS elements it is inferred that only links pertaining to ISTS elements/ nodes are under the purview of the current regulation. So, only ISTS links availability or commissioning may be monitored. DGM(SL),NERLDC opined that later on SERCs would adopt the CERC regulation in toto. Further if state links upto 132kV are not monitored it reduces grid visibility and deteriorates SE also. It was also emphasized by utilities in forum that keeping 99.9% availability is very difficult even for Central or state sector as sometimes in remote NER, time of restoration is delayed due to land slide/strike/local bandhs and spares are not readily available in NER market unlike other parts of India. CE, NPC welcomed the concerns from operators point of view and reiterated that only ISTS links/links upto ISTS nodes are to be monitored for the purpose of availability calculation.

POWERGRID has submitted a list of links. Though links diagram Data from Assam, Meghalaya states have been received; detailed channel routing is yet to be submitted by the all states.

These details are required for making complete communication diagram and monitoring of availability of links.

***Members may please discuss.***

#### **B.5 Optical Fibre connectivity for installation of Line Differential Protection:**

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

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

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

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

During 8<sup>th</sup> NETeST meeting, DGM, NERTS informed the forum that Power Grid has already installed line differential for short lines as per relevant approved scheme of POWERGRID Engg. Dept. (Like Bong-NTPC, Mokokchung -Mokokchung).

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

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

The detailed list of lines identified for Line differential protection is attached at **Annexure-B.5**.

***Members may please update.***

**B.6 Dedicated voice communication:**

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

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

The status as updated in 9<sup>th</sup> NETeST is given below:

Name of station	Agenda	Latest status
Palatana	2nd channel upto 79Tilla details required by OTPC. NERTS has identified links for data & voice channel establishment by OTPC. Links up to wide band location is to be maintained by OTPC. Earlier as per UCC, OTPC is to bring the data to 79Tilla as 2nd	

Agenda for 10<sup>th</sup> NETeST Meeting to be held on 16<sup>th</sup> July, 2018

	path. OTPC may apprise the present status	
132kV SMNagar	Status may be provided.	
Monarchak	By April'18	
Byrnihat	Voice link provided. Tested at SLDC.	
Azara	Dedicated voice link provided. Tested at SLDC.	
Zero, Roing, Tezu & Pasighat	Only Mobile phone working. For Ziro, dedicated Link will be provided by 3 months	
VOIPs not working: Kathalguri, Ranganadi, Kolasib, Doyang, Kohima	Completion of NER FO Expansion by Nov'2018-all nodes will be on FO	
SLDC Assam VOIP not working	Restored/RAT issue/Party rectified 4 times. AEGCL is to implement anti-rodent/rat sealant system	

***Members may please discuss.***

**B.7 ISTS/ISGS CB status out and SOE Problem:**

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

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

During 9th NETeST meeting, For SOE of PG stations, SOE is already available for SAS based stations. However additionally, for ICCP, NERLDC intimated that existing IO list as used in NERLDC SCADA would be used for ICCP integration with RTAMC/NTAMC. NERLDC informed that IO list in totality (in excel format with addresses & eqpt

descriptions & screen shot of SLDs-for all stations at one go) for NERTS-PG substation will soon provided to NERTS. As GE is common to both SLDC/NERLDC project & NTAMC project, M/s GE may do the necessary integration at the earliest. POWERGRID assured that the same would be mapped latest by 30.05.2018 after by 2months on receipt for stations where NTAMC/RTAMC already implemented.

For Other states/Utilities/ISGS, respective state SLDC & Owner(ISGS) of RTU/Gateway station will do needful. NERLDC will do needful coordination

***NERLDC/NERTS may please intimate the status.***

#### **B.8 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.

During 8th NETeST meeting, SE(O), NERPC requested NERLDC to sit together with Constituents one by one each and validate the date. The process may be started with Assam first.

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

In 9th NETeST meeting DM,AEGCL informed that Assam data has been validated. The forum requested Meghalaya SLDC to do likewise.

***NERLDC may please intimate the status.***

#### **B.9 Maintenance & Support Service under "Replacement / Up-Gradaation of existing SCADA/ EMS System of NERLDC and SLDCs of North-Eastern Region" project by GE T&D India:**

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

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

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

During 9th NETeST meeting, NERTS informed the forum that AMC has been signed by GE with DoP Ar. Pradesh. He requested P&ED Mizoram to sign the AMC as early as possible. EE,SLDC, Ar. Pradesh requested NERTS to impress upon GE that atleast 2 personnel must be deputed by them at SLDC at the earliest. This would enable inauguration of Ar. Pradesh SLDC.



***Members may please discuss.***

**B.10 Communication of Pare HEP:**

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

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

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

During 9th NETeST meeting Manager, NERTS informed that the Ranganadi-Lekhi section of the erstwhile 132kV RHEP-NDTL line has been LILO'd at 132kV Pare. The panel shifting works & RTU commissioning has also been completed by NEEPCO & NERTS. However for 132kV RHEP-Pare some integration issues are there. He requested that personnel be sent by NEEPCO to Nirjuli S/S to resolve the issues. Sr. Manager, NEEPCO informed that U#1 of Pare HEP is slated for commissioning by 25.04.18, and all existing requisites would be fulfilled before that. For Pare HEP necessary communication scheme has already been prepared by NERTS & shared with NERLDC, NEEPCO. NEEPCO may bring the data up to nearest wideband (Nirjuli) and connect for onward telemetry up to NERLDC.

***NEEPCO/NERTS may please intimate the status.***

**B.11 Non-Reporting of Agartala PMU:**

As per report of enquiry committee on Grid Disturbance in NR on 30th Jul'12 & in NR, ER & NER on 31st Jul'18, it is recommended that functioning of existing PMUs and availability of their output to RLDCs and accuracy of time synchronization should be monitored on daily basis and, if required, corrective actions should be taken on priority basis.

In North Eastern Region, 8 PMUs have been installed in 400 kV Bongaigaon, 400 kV Balipara, 220 kV Sarusajai, 220 kV Misa, 132 kV Badarpur, 132 kV Agartala, 132 kV Imphal and 132 kV NEHU.

NERLDC on daily basis is monitoring, the availability of PMU data and issues relating to non-availability of PMUs are highlighted.

It has been observed that during recent disturbances, PMU data are not available in some of the locations. 132 kV Agartala PMU is not reporting since 11:40 Hrs of 22.03.18 and after 22<sup>nd</sup> March'18 there were 4 number of grid disturbances in Tripura Power System. Due to non-availability of PMU data, the disturbances could not be analyzed properly. As per information from SEL, the problem lies with CABLE in between FO media converter from PMU panel to FO media converter at Communication panel in the Control Room Building.

**It is thus requested Agartala to take immediate action in restoring Agartala PMU at the earliest.**

***TSECL/NERLDC may please intimate the status.***

#### **B.12 Shut Down Procedure for Optical Links:**

In 134<sup>th</sup> 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 142<sup>nd</sup> OCCM, the unforeseen outage of ICCP on 10.03.18 was highlighted.

The forum may deliberate on the list of links, equipments and detailed modus operandi for availing communication related shutdown.

In 9<sup>th</sup> NETeST meeting Director/SE(O&P), NERPC highlighted the backdrop and requirement of a specified shutdown procedure/modalities along with finalization of list of links for which shutdown has to be approved in OCC forum. DGM(SL), NERLDC informed that in SR shutdown of all links related to ICCP and PMU data are approved in OCC forum. After detailed deliberation the forum requested NERLDC to prepare a list of important links in consultation with NERTS. SE(O&P), NERPC also requested that the list should contain the path in detail from ISGS/ISTS node/SLDC to NERLDC with name of owner and maintaining utility. During meeting, NERTS had provided the main lists pertaining to ICCP connectivity route etc.

***NERLDC may please intimate the status.***

#### **B.13 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.

The 9<sup>th</sup> NETeST forum requested NERTS to check the discontinuity in links in consonance with AEGCL at the earliest.

***AEGCL/NERTS may please intimate the status.***

**AGENDA ITEM FROM NERPC:**

**B.14 Draft CEA(Technical Standards for Communication System in Power Sector) Regulations, 2018**

CEA has circulated the draft technical standards for communication system in power sector regulations( available at [http://www.cea.nic.in/reports/regulation/draft\\_tech\\_std\\_communication.pdf](http://www.cea.nic.in/reports/regulation/draft_tech_std_communication.pdf) ). The following comments/ additions have been drafted:-

Relevant Clause	Action	Statement
<b>Reg.(3) “Applicability of the Standards”</b>	Add	“Integration requirement for compliance of standard will be full-filled by utility as stand responsible as per CERC( Communication System for inter-state transmission of electricity) Regulations, 2017
<b>Reg.(5) “Functional Requirement”</b>	Modify	“The communication system shall finally form a wideband backbone on all India basis to support the requirement of the Power System Operation and Market operation & <b>power system study been by CTU</b> ”.
<b>Reg.(6) “Standards and codes of practice”</b>	Add under 2)  Add under 4)	Specific standard may be finalized at NERPC level  <b>The standard will be reviewed every 7years at competent level.</b>
<b>Reg.(8) “Access Policy”</b>	Add	The cybersecurity policy will be vetted at regional RPC sub-committee level before implementation.
<b>Reg.(9) “General Conditions”</b>	Add under 6)	Data Provider shall be responsible for the planning, design, implementation and secured operation ( <b>with specific inputs from operators for operational points of view</b> ) of its own equipment to be interfaced with the communication System  d) Operators will explore utilizing single point data from communication service

	Add under 10)	<p>providers for application purpose like Scheduling, SPS, ADMS etc. as far as possible.</p> <p>e) For end SLDC/RLDC location, interface if any will be arranged by nodal agency as responsible for integration as per 7.5 of Reg 134.”</p>
<b>Reg.(10) “Site Responsibility”</b>	Add	<p>f) Cyber Security rules applicable to each equipment wrt specific standard &amp; policy as vetted in respective RPC</p> <p><b>The privacy &amp; confidentiality / authorization authority for communication network configuration details will be maintained under discretion of communication service provider to avoid intrusion &amp; attack. However, output requirement i.e. communication channel requirement as required smooth grid operation in line compliance to relevant regulation &amp; standard will be maintained by communication service provider</b></p>
<b>Reg.(11) “Access at connection site/node”</b>	Add	<p>The privacy &amp; confidentiality / authorization authority for communication network configuration details will be maintained under discretion of communication service provider to avoid intrusion &amp; attack. However, output requirement i.e. communication channel requirement as required smooth grid operation in line compliance to relevant regulation &amp; standard will be maintained by communication service provider.</p>
<b>Reg.(13) “Reliability”</b>	Modify under (1),(2) & 3	<p>"The total period of outages shall be less than 42 24 hours....."</p> <p>"assessment period shall be less than 36 72hours....."</p> <p>Outage Criteria may be considered with</p>

	Add under 2	relaxation of +24hours for utilities' set up in North Eastern Region, Jammu & Kashmir due to terrain.						
	Add under 3	Approved maintenance hours(max 24hrs per link per year) is excluded from reliability						
<b>Reg.(18) "Maintenance"</b>	Add	7) Regular/Updated feedback based on operational point of view against outage & availability will be provided by Concern Load Despatch Center / Service Provider / Market Operator to communication service provider for bettering of communication grid. 8) <b>Maintenance Shutdown will be allowed 24 hrs per Optical OPGW/FO end to end Link per year which will not be considered in outage.</b>						
<b>Schedule Part I 1. Standard Interfaces</b>	Add	<table border="1"> <thead> <tr> <th>Interfaces</th> <th>Type</th> <th>Standard</th> </tr> </thead> <tbody> <tr> <td>MPLS</td> <td>Module/Hybrid</td> <td>As per Rel Standard vetted in RPC</td> </tr> </tbody> </table>	Interfaces	Type	Standard	MPLS	Module/Hybrid	As per Rel Standard vetted in RPC
Interfaces	Type	Standard						
MPLS	Module/Hybrid	As per Rel Standard vetted in RPC						
<b>Schedule Part I 2. Local Monitoring</b>	Add	"All the interfaces shall be provided with <b>minimum.....</b> "						
<b>Schedule Part I 5. Maintainability</b>	Add	"....required testing equipment and tools (as required OPGW,ADSS,SDH-PDH,MPLS,HYBRID,GPRS,VSAT,PLCC as applicable)..." Norms of Testing Tools to be kept may be vetted from respected RPC						
<b>Schedule Part II Standards applicable to wideband</b>	Add under d)	(d) Low speed (300 - <b>600</b> -1200 -9600 bps) data channel support						
<b>Schedule Part II A Standards applicable to wideband</b>	Add under 1 a	".....consisting of underground Fibre optic cable, OPGW & ADSS/ <b>OH FO.</b> "						

<p><b>Schedule Part II B Standards applicable to wideband</b></p>	<p>Modify f)  Add</p>	<p><del>15</del> years. 7 years as per CERC regulation.  g) The requirement may be full-filled by TDM/MPLS/HYBRID/New Generation as required to full-fill technical criteria mentioned herewith.</p>
<p><b>Schedule Part III Standards applicable to PLCC</b></p>	<p>Add under e)</p>	<p>e) Supply voltage 48V+15%, -10%. (positive pole earthed). <b>However supply of 220V DC/110V DC may be adopted if safety requirement of -48V(+earth) is taken care</b></p>
<p><b>Schedule Part III Standards applicable to PLCC 4. Technical Requirement</b></p>	<p>Add under (v)</p>	<p>– The data rates shall be selectable in steps, compliant with commonly used standardized data rates such as <b>1200, 2400, 4800 and 9600Bauds</b></p>

*Forum may please approve.*

**B.15. Establishment of proper AMC set up for Communication system of Back Up NERLDC.**

Members may concur on setting up for proper maintenance of communication system pertaining to Back up NERLDC permanent set up.

*Members may please discuss.*

**B.16 Insurance against SLDC assets:**

*Members may please discuss.*

**AGENDA ITEMS FROM NERTS:**

**B.17 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 proj or similar) by & then AMC payment will be done by POWERGRID, for same billing will be done during AMC period against expenditure & as applicable.

***NERTS may please deliberate.***

**B.18. Establishment of proper AMC set up for Communication system of Back Up NERLDC.**

Members may concur on setting up for proper maintenance of communication system pertaining to Back up NERLDC permanent set up.

***NERTS may please deliberate.***

**B.19. Inter country Communication- Bangladesh & India( via SM Nagar -Comilla):**

1.0 During Video Conference (7th Operational Cord meeting) arranged by NLDCs where NLDC-India, NLDC-Bangladesh,PGCB, ERLDC-Kolkata,NERLDC-Shillong, ERTS2,NERTS were present on 04.06.18. During meeting both way telemetry of data/voice SMNagar(Bangladesh) & Comilla(Bangladesh) was also discussed. NLDC wanted that data of Comilla (Bangladesh) SS is to be integrated to NERLDC/NLDC via SMNagar -Commilla T/L link.

2.0 During meeting, following was proposed :

a) Power connectivity from Bangladesh to India is being made at multiple points/lines across diff border links(EHV AC; HVDC). It was proposed that preferably, NLDC India & NLDC Bangladesh/PGCB may take up for ICCP integration directly between each other to get data of specific stations only ( rather than data integration from multiple points/stations across India/Banglades [which might risk cyber security issue ,if so any in future] and so we get solution avoiding scheme" data Staion1 of one country DIRECTLY reporting to LDC of other country").

Note: The above was proposed keeping in view that any EHV station within India ( connected to Inter country TL--to Banglades) will be reporting to respective SLDC/RLDC & so data of that station is already available in NLDC. Now NLDC can directly transfer that "specific data" to NLDC Banglades over ICCP ( ICCP is normally more secure than any random 101/104 integration from substation level).

b) Similarly for voice, Inter exchange connectivity was proposed to be looked in to by NLDC-India & NLDC-Bangladesh directly between each other( rather than voice of station1 of country1 is made integrated at LDC of country2 at multiple points)

3.0 The matter of proposal/idea was appreciated by CE, NLDC Bangladesh . Both NLDC India & NLDC Bangladesh assured to take up the same with higher authorities of respective NLDCs along with other administrative/legal issues.

It may be noted legal or administrative issues (country to country) remain same irrespective of locations of connectivity( either NLDC,Delhi or SM Nagar, border are).

Hence, it is proposed to establish ICCP & inter exchange connectivity from NLDC Delhi to NLDC Dhaka.

*Forum may agree.*

**AGENDA ITEM FROM NERLDC:**

**B.20 Improvement of Data Availability of NER**

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 (attached in Annexure-**B.20**).

In the first phase, it is requested to rectify all the Voltage, Frequency, MW, MVAR (i.e, all analog data except for transformer tap) and CB status data of all stations of Central Sector and State Sector.

*NERLDC may please deliberate.*

**B.21 Status of URTDSM**

POWERGRID is executing URTDSM for NER.

*NERTS may please intimate the status of URTDSM works.*

**B.22 Outage of Telemetry**

There was a major outage of telemetry data of the following central sector stations on 08/07/2018 :

- a) Badarapur S/s since 08/07/2018
- b) Haflong S/s since 19/06/2018
- c) Itanagar S/s since 08/07/2018
- d) Jiribam S/s since 08/07/2018
- e) Roing S/s since 03/07/2018
- f) Salakati S/s since 05/07/2018
- g) Silchar S/s since 08/07/2018
- h) Palatana since 08/07/2018

The some of the RTUs got restored in phase wise manner using ULDC links at night of 09/07/2018. This prolonged outage of data causes difficulties for grid operators. Reasons for such major outage may be informed and Steps should be taken for quick response in case of such failures in the future.

Further, the following RTUs are not reporting till date:

- a) Roing S/s,
- b) Tezu S/s,
- c) Haflong S/s,



Agenda for 10<sup>th</sup> NETeST Meeting to be held on 16<sup>th</sup> July, 2018

- d) Ziro S/s
- e) Melriat S/s
- f) Kolasib S/s

*NERLDC may please deliberate.*

**Any other item:**

**Date and Venue of next NETeST**

It is proposed to hold the 11<sup>th</sup> NETeST meeting of NERPC on second week of October, 2018. The date & exact venue will be intimated in due course.

\*\*\*\*\*

## List of Lines for Line Differential Protection

## Annexure-B.5

Sl.No	Name of Element (Emanating - Terminating)	Ckt ID	Tower Configuration (S/C or D/C)	Agency at End 1	Agency at End 2	Line Length in km	Owner	OPGW present (YES/NO)	Timeline for OPGW installation
<b>C. 400 kV Lines</b>									
1	BgTPP - Bongaigaon	1	D/C	NTPC	POWERGRID	3.1	POWERGRID		
2	BgTPP - Bongaigaon	2	D/C	NTPC	POWERGRID	3.1	POWERGRID		
<b>F. 220 kV Lines</b>									
1	Balipara - Sonabil	1	S/C	POWERGRID	AEGCL	10.0	AEGCL		
2	BTPS - Salakati	1	D/C	AEGCL	POWERGRID	2.7	POWERGRID		
3	BTPS - Salakati	2	D/C	AEGCL	POWERGRID	2.7	POWERGRID		
<b>G. 132 kV Lines</b>									
1	Agartala - AGTCCPP	1	D/C	TSECL	NEEPCO	8.4	POWERGRID		
2	Agartala - AGTCCPP	2	D/C	TSECL	NEEPCO	8.4	POWERGRID		
3	Agartala - Bodhjannagar	1	S/C	TSECL	TSECL	8.0	TSECL		
4	AGTCCPP - Kumarghat	1	S/C	NEEPCO	POWERGRID	7.8	POWERGRID		
5	Aizawl - Luangmual	1	S/C	POWERGRID	P&ED, P&ED, Mizoram	0.8	P&ED, Mizoram		
6	Aizawl - Melriat(PG)	1	S/C	POWERGRID	POWERGRID	6.7	POWERGRID		
7	Badarpur - Panchgram	1	S/C	POWERGRID	AEGCL	1.0	POWERGRID		
8	Balipara - Sonabil	1	S/C	AEGCL	AEGCL	10.0	AEGCL		
9	EPIP II - Umtru	1	D/C	MePTCL	MePTCL	0.7	MePTCL		
10	EPIP II - Umtru	2	D/C	MePTCL	MePTCL	0.7	MePTCL		
11	Haflong - Umranshu	1	S/C	AEGCL	POWERGRID	8.2	AEGCL		
12	Imphal (MSPCL) - Imphal (PG)	1	S/C	MSPCL	POWERGRID	1.5	POWERGRID		
13	Imphal (MSPCL) - Imphal (PG)	2	S/C	MSPCL	POWERGRID	2.3	POWERGRID & MSPCL		
14	Kahilipara - Sarusajai	1	D/C	AEGCL	AEGCL	3.5	AEGCL		
15	Kahilipara - Sarusajai	2	D/C	AEGCL	AEGCL	3.5	AEGCL		
16	Kahilipara - Sarusajai	3	D/C	AEGCL	AEGCL	3.9	AEGCL		
17	Sarusajai - Sishugram	1	D/C	AEGCL	AEGCL	3.9	AEGCL		
18	Khliehriat (MePTCL) - Khliehriat (PG)	1	S/C	MePTCL	POWERGRID	7.8	POWERGRID		
19	Khliehriat (MePTCL) - Khliehriat (PG)	2	S/C	MePTCL	POWERGRID	5.4	MePTCL		
20	Kumarghat - P K Bari	1	S/C	POWERGRID	TSECL	1.0	TSECL		
21	Lekhi - Nirjuli	1	S/C	DoP, Arunachal Pradesh	POWERGRID	9.5	DoP, Arunachal Pradesh & POWERGRID		
22	NEHU - Mawlai	1	S/C	MePTCL	MePTCL	7.9	MePTCL		
23	Mokokchung (PG) - Mokokchung (DoP, Nagaland)	1	D/C	POWERGRID	DoP, Nagaland	1.4	POWERGRID		
24	Mokokchung (PG) - Mokokchung (DoP, Nagaland)	2	D/C	POWERGRID	DoP, Nagaland	1.4	POWERGRID		
25	NEHU - NEIGRIHMS	1	S/C	MePTCL	MePTCL	6.7	MePTCL		
26	NEHU - Umiam	1	D/C	MePTCL	MePTCL	6.2	MePTCL		
27	Ranganadi - Pare	1	S/C	NEEPCO	NEEPCO	9.0	POWERGRID		
28	Silchar - Srikona	1	D/C	POWERGRID	AEGCL	1.2	POWERGRID		
29	Silchar - Srikona	2	D/C	POWERGRID	AEGCL	1.2	POWERGRID		
30	Umiam - Umiam St I	1	S/C	MePTCL	MePTCL	5.1	MePTCL		
31	Umiam St III - Umiam St IV	1	D/C	MePTCL	MePTCL	8.0	MePTCL		
32	Umiam St III - Umiam St IV	2	D/C	MePTCL	MePTCL	9.7	MePTCL		



SYSTEM LOGISTICS, NERLDC

# Telemetry Statistics of States and Central Sector RTUs



# **DATA AVAILABILTY AS ON 14/06/2018**

## **10:00HRS**

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 Availabil ity of Analog Points	%age Availab ility of Digital Points	%age Availability
1	A.P	104	149	253	0	0	0	0%	0%	0%
2	Assam	1230	1739	2969	573	552	1125	46.58 %	31.74 %	37.89 %
3	Manipur	180	255	435	58	83	141	32.22 %	32.54 %	32.41%
4	Meghalaya	433	450	883	311	116	427	71.83 %	26%	48.36%
5	Mizoram	71	50	121	9	9	18	12.67 %	18%	14.87%
6	Nagaland	237	270	507	7	13	20	2.95%	4.81 %	3.94%
7	Tripura	524	715	1239	165	195	360	31.49 %	27.27 %	26.95 %



# **DATA AVAILABILITY AS ON 14/06/2018**

## **10:00HRS**

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	1083	1709	428	683	1111	68.15 %	63.06 %	65.08%
2	NEEPCO	188	267	455	133	188	321	70.74 %	70.41 %	70.55%
3	NTPC	31	49	80	23	43	66	74.19 %	87.75 %	82.5%
4	OTPC	44	90	134	41	81	122	93.18 %	90%	91.04%
5	NHPC	18	29	47	16	13	29	88.88 %	44.82 %	61.70%



# **DATA AVAILABILTY AS ON 14/06/2018**

## **10:00HRS**

Sl No.	State	Total No. of Analog Points Excluding OLTC status	Total No. of Digital Points (only CB status)	Total No. of Points	Analog Points Reporting Excluding OLTC status	Digital Points Reporting (only CB status)	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	Arunachal Pradesh	104	43	147	0	0	0	0%	0%	0%
2	Assam	1088	470	1558	566	274	840	52.02 %	58.29 %	53.91 %
3	Manipur	156	66	222	57	26	83	36.53 %	39.39 %	37.38%
4	Meghalaya	404	158	562	289	147	436	71.53 %	93.03 %	77.58%
5	Mizoram	64	21	85	9	5	14	14.06 %	23.8 %	16.47%
6	Nagaland	207	84	291	7	13	20	3.38%	15.47 %	6.87%
7	Tripura	460	191	651	190	68	258	41.3%	35.6 %	39.63 %



# **DATA AVAILABILTY AS ON 14/06/2018**

## **10:00HRS**

Sl No.	State	Total No. of Analog Points Excluding OLTC status	Total No. of Digital Points (Only CB Points)	Total No. of Points	Analog Points Reporting Excluding OLTC status	Digital Points Reporting (Only CB Points)	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	PGCIL	581	293	874	399	190	589	68.67 %	64.84 %	67.39%
2	NEEPCO	167	73	240	133	55	188	79.64 %	75.34 %	78.33%
3	NTPC	24	11	35	23	11	34	95.83 %	100%	97.14%
4	OTPC	40	24	64	39	23	62	97.5%	95.83 %	96.87%
5	NHPC	18	7	25	16	3	19	88.88 %	42.86 %	76.00%