

North Eastern Regional Power Committee

Agenda

For

13th NETeST Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 9th April, 2019 (Tuesday)

Venue : "Hotel Nandan", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 12th NETeST Meeting held on 10.01.2019.

The minutes of 12th NETeST Meeting held on 10th January, 2019 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2018/ dated 23rd January, 2019.

The Sub-committee may confirm the minutes of 12th 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	Status as informed in 12 th NETeST	Latest status
UPGRADATION OF SLDCs			
1	Assam	DG set installed. Commission by 2nd week Jan19	
2	Tripura	Completed in all respects.	
3	Meghalaya	Completed in all respects.	
4	NERLDC	Completed in all respects.	
NEW SLDCs			
5	Manipur	DG Set installed. Commissioning by 3rd week Jan19	
6	Nagaland	DG Set installed & commissioned. RTUs installed but non-reporting.	
7	Mizoram	DG Set installed, SAT by 1 st week Feb19. RTUs installed but non-reporting.	
8	Ar. Pradesh	DG Set installed & commissioned. RTUs installed but non-reporting.	
9	Backup NERLDC	Completed in all respects.	

Any pending points may be discussed

Members may kindly intimate the status.

A.2 Status of FO works under different projects:

Latest status as per 12th NETeST:

Name of the Project	Latest status may be intimated
<p>MW Vacation & OPGW Project</p>	<p>M/s KEC Handing over MOM signed with AEGCL</p> <p>A. M/s TENDOT</p> <ol style="list-style-type: none"> a. WIP in all 14 links b. Progress affected due to ROW. c. Expected completion March'19. <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 Ranganadi shall be made reporting through fiber by Feb19 as per Letter of GM-AM (copy given to NERPC), WIP. The same got delayed due to bandh & Other ROW issue.</i></p> <p><i>NERTS to give link-wise status</i></p> <p><i>Action: NERPC</i></p>
	<p>TRIPURA</p> <ul style="list-style-type: none"> • 253.7 of 320.319 Km Completed • 63.522 km (02 links viz. SM Nagar~Rokhia & SM Nagar~Monarchak, line is under construction) front not available due to construction of 2 lines by TSECL • Completion Status : <p>NOTE1: Silchar-Pallatana OPGW work under halt due to objection of NETC & OTPC for transient lightning related fault in rainy season.</p>

NER FO Expansion/Additional requirement of OPGW	NOTE:2: Manipur: Supply – Complete, Erection: 200 km, Team is mobilized by M/s TCIL. Target completion: July-19. Battery bank/DCPS under NERFO- Supplied
Upgradation of ULDC FO node	15 Location Completed Except Umtru Power Station. MePTCL informed that there is space constraint in the present PLCC room. A separate room will be needed to accommodate the equipments under this project. NERTS informed that official from NERTS had visited for collection of card and found there is still no space. Without the same, project cannot be completed. And so help from MEPTCL/G division is requested. A second joint visit date & solution: By 1st Week February 2019. MePTCL requested the forum for an official letter from the NERPC Secretariat to be addressed to the Director (Generation), MePGCL highlighting the issue.

NERTS may discuss the present status:

Critical Issues against project implementation may be discussed

Name of the Project	Critical Issue
Upgradation of ULDC FO Node	
MW Vacation	

NERTS may please submit the latest status link-wise under various FO projects

Members may please discuss.

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.

NERLDC/NERPC may please inform the status.

B.2 Improvement of Data Availability of NER

NERLDC may please deliberate

B.3 Status of URTDSM

In 12th NETeST meeting NERTS intimated the following status:

All PMUs are reporting except Ranagandi (Target 2nd week Feb). Dimapur Target (2nd week March19). Rectification in Assam SLDC PDC done. SAT of NERLDC signed.

NERTS may please intimate the latest status

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

In 12th 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	Balance SIMs yet to be received	To be updated
MSPCL	SIMs received	To be updated
DoP Nagaland	SIMs received. All RTUs would start reporting based on Modem installation completion at each location of Nagaland by Mar'19	To be updated
P&ED Mizoram	SIMs yet to be procured	To be updated

TSECL/MSPCL/DoP Nagaland/P&ED Mizoram/NERTS may please inform the latest status.

B.5 Outage of Telemetry:

NERLDC/STATE/NERTS Members may please discuss if any critical issue is there wrt present scenario.

B.6 Discussion on visit to KPTCL regarding VSAT(Merged with NERLDC agenda B.16):

B.7 Drawl points data availability:

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

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

In 12th NETeST meeting, it was decided that NERLDC will share list of drawl points with each constituent and constituent will make sure for data availability of those points.

NERLDC may please intimate the status.

B.8 VSAT For Roing Tezu Namsai:

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

The 12th NETeST forum requested NERTS to provide cost breakup.

NERTS may please intimate the status.

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

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

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

The 12th NETeST forum requested NERLDC to discuss with GE and revert back with a solution & target completion date

NERLDC may please intimate the status.

B.10 Non-availability of ICCP data:

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

The 12th NETeST forum requested NERLDC to check and revert back.

NERLDC may please intimate the status.

B.11 Telemetry Status of all constituents:

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 1, which is less than 50% in the region.

All constituents with detailed action plan for ensuring 100% reliable & redundant data to NERLDC

B.12. Data validation status of all PGCIL owned substations:

As per agenda B.4 of 12th NETeST, Data validation is under progress with PGCIL and 20 out of 23 substations are completed under data validation. Out of 20 substations, issues of 04 substations are rectified at site level (Annexure 2).

NERTS expedite the work in remaining stations and complete the work within a month. Deployment of work force in multiple team for the rectification of data at site level is required.

Members may please discuss.

B.13. Data validation status of all stations of Assam:

As per agenda B.4 of 11th and 12th NETeST, Database and Telemetry validation of all stations of AEGCL were completed by NERLDC team along-with SLDC Assam from 27th to 29th March 2019. The relevant letters and MoM of the meeting are attached in Annexure 3.

Action: AEGCL and SLDC Assam give forthcoming plan for rectifying site-level issues with strict time-line.

Members may please discuss.

B.14. No representative of APGCL for database and telemetry validation

On request from NERLDC, APGCL was requested to attend the meeting at SLDC Assam 27th – 29th, but there was no representative from APGCL. Because of which, following stations of APGCL were not validated:

- a. Namrup
- b. NRPP
- c. Lakwa

NERLDC, with consent of NERPC, request the forum to adhere to efforts for completion of data validation.

Members may please discuss.

B15. Schedule for completion of FO projects under execution:

As per clause 7.2 of CERC (Communication system for inter-state transmission of electricity) regulation, 2017 CTU is responsible for carrying out the communication link projects in the region. NER FO and NER MW vacation project is under execution and already delayed. Untimely completion of these projects will be consider as non-compliance of CERC. (Communication system for inter-state transmission of electricity) regulation, 2017.

NERTS may kindly provide detailed schedule of completion of all FO projects under execution with details comprises of: commissioning of link, commissioning of end equipment and data to be transferred over the link as per Annexure 5.

Members may please discuss.

B.16. Status of pilot VSAT project:

NERLDC discussed detailed plan for execution of VSAT pilot project in 12th NETeST meeting, and also presented quotation for the pilot project(annexure 6). In 154th OCC, forum decided all the constituents would share the cost. Further, Brynihat S/s was identified as the location for pilot project. Action: Forum may discuss the forthcoming plan for execution of the same.

Members may please discuss.

B.17. Status of URTDSM punch points:

- a. Angle error and rectification, NERLDC requested NERTS expedite the work with timeline for the each station as per annexure 7.a.
- b. Flexibility of trend window TDF UI and ETV (5 min & 15 min). Action: NERTS may take up with GE T&D for resolution.
- c. Status of Loading of Power System Analysis package by IIT Mumbai.

Members may please discuss.

B.18. Shut Down Procedure for Optical Links:

As discussed in 12th NeTEST meeting, procedure presented (Annexure 8) by NERLDC will be accepted until NERTS gets conformation from their management.

Action: Forum may discuss further steps for implementation of the procedure.

Members may please discuss.

B.19. Drawl points data availability:

A list of drawl points is prepared and is attached in Annexure-9. To effectively monitor the deviation of states and generators as per 4th Amendment of DSM regulation, the drawl points data indicated in the list are very important.

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

Members may please discuss.

B.20. Dual channel availability for reliable and redundant communication system in NER:

As per section 10 of CERC communication regulations, 2017 "all users of CTU, NLDC, RLDCs, SLDCs, STUs shall maintain the communication channel availability at 99.9% annually: Provided that with back up communication system, the availability of communication system should be 100%". As such to improve the reliability of the communication system it is required to establish dual channel as a part of back up communication system. The attached list in Annexure-10 shows the status list of central sector stations with dual channel. Central sector stations provide dual channel for respective stations.

Members may please discuss.

B.21 Long outage of RTU data:

As per clause 11.ii of CERC (Communication system for inter-state transmission of electricity) regulation, 2017 communication provide shall explore and provide route diversion during outage of original. Nevertheless, there were significant long outages of real time data of various RTUs due to link failure. During these periods, data were restored after restoration of links only. NERTS may divulge the reason for non-compliance with aforementioned clause. Please find the details in Annexure 11. Forum may discuss for the steps to avoid such long outages.

Members may please discuss.

B.22. Standard procedure to exchange the information regarding the SCADA database between SLDC and NERLDC.

Mismatch in SCADA database between SLDCs and NERLDC is affecting the availability of telemetry at NERLDC. As data is exchanged between SLDCs and NERLDC over ICCP, which needs synchronised database between the both the control centres. As a standard procedure followed at NERLDC, NERLDC apprise about any changes in NERLDC SCADA to NLDC within a week of the implementation of changes. Action: NERLDC suggest forum to follow the same practice in order to mismatch in database, which will help in increase in telemetry availability of the region.

Members may please discuss.

B.23. Updated Communication map of NER:

A communication map (Annexure 13.a) is prepared by the inputs from NERPSIP FO project, NER FO, NER MW, ULDC, AEGCL communication department and Meghalaya department. Action: Forum may discuss about the path diversification of all stations. Moreover, envisage about the alternate path of tail end stations, as enclosed in Annexure 13.b.

Members may please discuss.

B.24. Establishment of Link between Badarpur to Backup Guwahati and Misa to Backup Guwahati(Earlier agenda B.9):

As terminal server is installed at Misa and terminal server will be installed at Badarpur, NERLDC request NERTS to establish following links:

- a. Misa to Guwahati
- b. Badarpur to Guwahati .

Members may please discuss.

B.25. The time line for OPGW connectivity to the following Power Stations of NEEPCO:

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

It may kindly be noted that due non-availability of standby data channel and dedicated voice channel, RLDC is not giving clearance for 10MVA SST (Regional Spare) which had been kept ready since long time. The station is now totally dependent on emergency DG set only in case of outage of machines.

Members may please discuss.

B.26. Disturbance of data of RHEP of NEEPCO:

Snapping of OPGW has taken place between Balipara- Gohapur- Restoration of the same should be done by Assam immediately. At present RHEP data is not report to RLDC.

Members may please discuss.

B.27. SCED Project Link-NERLDC to NLDC:

NERTS intimated that as per urgent request from NLDC , link from NLDC to NERLDC at 10MBPs has by POWERGRID with link been taken from POWERTEL. The cost will be booked to additional communication project in NER.

Members may please discuss.

B.28. Exploring Back Up SLDC:

Keeping in view geographical set up and security concern, SLDCs in NER may explore creating Back Up SLDC. However cost can be optimized if SLDC of one state may become back up to the other (& vice versa) with minimum addition of hardware/software. Feasibility of same may be studied by NERLDC in coordination with SLDCs.

Members may please discuss.

B.29. Lack of information w.r.t tripping of 132kV Kopili-Khandong-II on 06.03.2019

Deliberation in the 154th OCC meeting:

It was observed that at 132kV Kopili-Khandong -II no status was available at local level/NERLDC: After detailed deliberation the forum decided that the availability of data at LDMS/NERLDC to be ensured. Matter was referred to next NeTEST meeting.

Members may please discuss.

B.30. Upgradation of Communication System under MePTCL Network:

Need for reliable communication is necessary for coordinating preventive measure to be taken by authorities on receive of warning for Natural Disaster and also during restoration operation during natural calamities and grid disturbances.

MePTCL may please be deliberated.

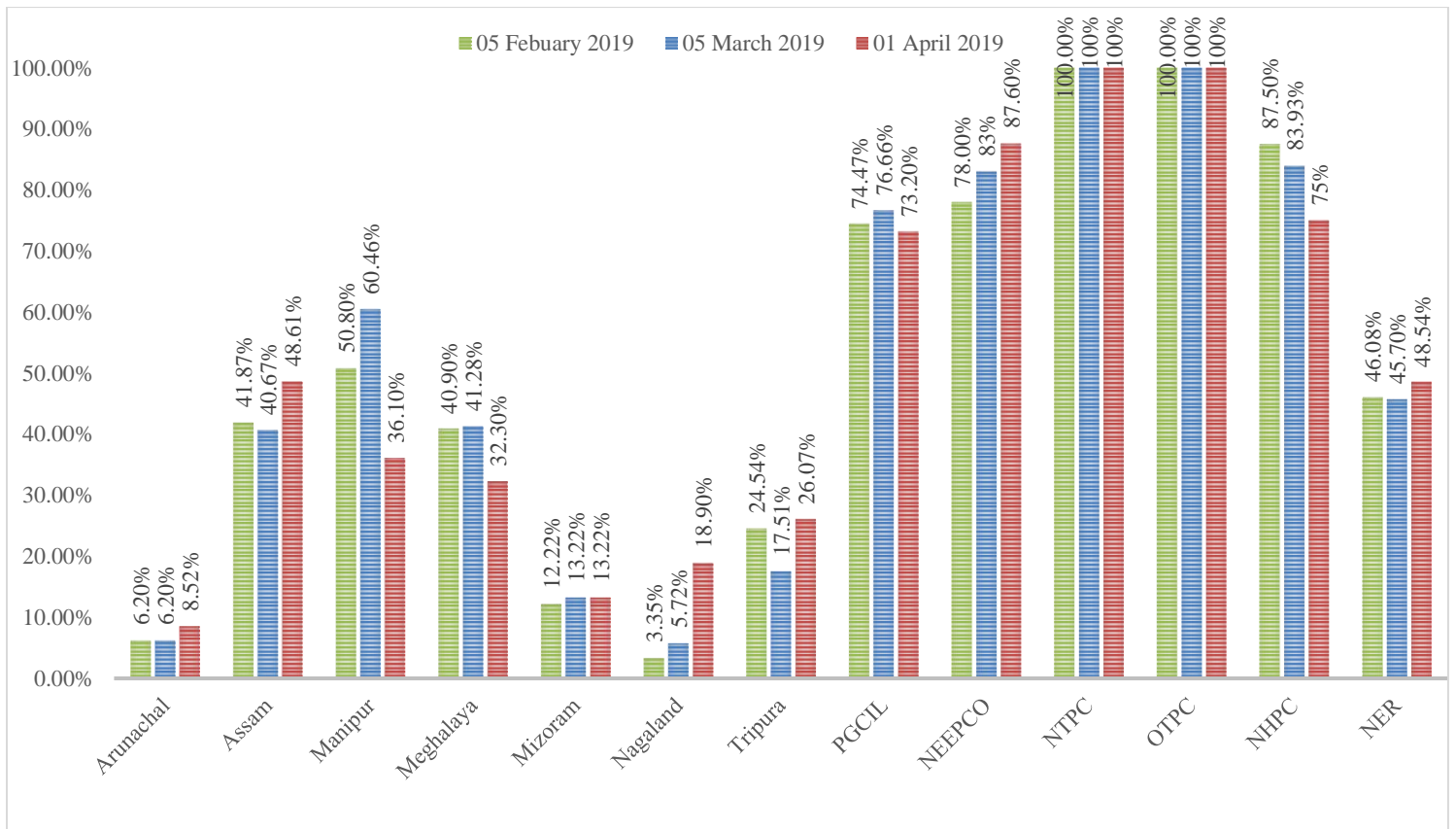
Any other item:

Date and Venue of next NETeST:

It is proposed to hold the 14th NETeST meeting of NERPC on second week of May 2019. The date & exact venue will be intimated in due course.

Telemetry Availability Status at NERLDC from Constituents (as on 01-04-2019):

To Be Presented in 13th NeTEST Meeting



Arunchal Pradesh:

Only 01 no of RTUs are reporting partially out of 09 Nos. of RTUs. Chimpu (Itanagar) was integrated during RLDC visit to SLDC Itanagar in 2018. Arunchal Pradesh is requested to strict time line for completion of the remaining following RTUs:

Sl. No.	RTU STATION	TARGET DATE
1.	ALONG	
2.	BHALUKONG	
3.	DAPORIJO	
4.	DEOMALI	
5.	JAIRAMPUR	
6.	KHUPI	
7.	LEKHI	
8.	PASIGHAT	

Assam:

Out of 66 RTUs of Assam, only 44 are reporting partially. As Assam is the largest constituent of NER, the telemetry availability of the state is utmost important. As current status is 48%, Assam should provide a forthcoming plan for bringing the data up-to the level of 95%. Assam is requested to provide detailed status of SAS along with Gateway implementation project in all across the stations with strict target time. Furthermore, Assam is requested to provide completion date of all communication link projects.

Manipur:

Only 04 Nos. of RTUs are reporting partially out of 12 Nos. of RTUs. It has been observed that RTUs reporting over GPRS are not reporting consistently. Manipur should layout plan for more robust communication system. As per draft technical standards of communication, GPRS will not be entertained for substations of 132 kV and above.

RTU data of 132kV Hundung S/S, 132kV Chandel S/S, 132 kV Tipiamukh S/S and 132kV Kongba S/S through GPRS.

Meghalaya:

Only 13 Nos. of RTUs are reporting partially out of 23 Nos. of RTUs. 400 kV Killing(Brynihat) is not reporting at NERLDC .

Mizoram:

Only 01 Nos. of RTU is reporting partially out of 05 Nos. of RTUs. As maximum stations are in close range of SLDC Aizawl. Mizoram is requested to provide reasons for the non-availability. In addition, strict dates for resolving the issues of the below mentioned RTUs:

Sl. No.	RTU STATION	TARGET DATE
1.	BAIRABI	
2.	LUANGMUAL	
3.	SIHHMUI	
4.	ZUANGTUI	

Nagaland:

Out of 17 RTUs of Assam, only 02 nos. are reporting partially. It is to bring your notice that data of 132 kV Kohima S/S is reporting wrong data, which is highlighted in every Weekly Telemetry Reports. Nagaland state is requested to provide strict time-line for reporting of the RTUs.

Tripura:

Out of 25 RTUs of Assam, only 08 nos. are reporting partially. Tripura state is requested to provide strict time-line for reporting of the RTUs. 132 kV Dharmanagar S/s is important S/s for calculating the real time drawl Tripura may provide strict time line for integrating real time data.

PGCIL:

The availability of PGCIL is flat around 73-75%. The details will be discussed in agenda no. 2.

NEEPCO:

3 x 25 MW DHEP is not reporting consistently, NEEPCO may discuss forthcoming plan for maintaining the consistency of data of the same.

NTPC & OTPC:

BgTPP and Palatana are maintaining the data availability 100 %, NERLDC appreciates the efforts.

NHPC:

As brought into the knowledge of the forum in 12th NETeST, RTU of Loktak is S900 which is of ULDC project and AMC of S900 is not provided by the vendor. NHPC may give the strict time line for replacement of S900 RTU with new RTU or Gateway.

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 as on 01.04.2019
1	Arunachal Pradesh	108	150	258	10	12	22	8.52%
2	Assam	1313	1904	3217	624	940	1564	48.61%
3	Manipur	180	255	435	58	99	157	36.1%
4	Meghalaya	409	388	797	210	47	257	32.3%
5	Mizoram	71	50	121	9	7	16	13.22%
6	Nagaland	237	270	507	28	68	96	18.9%
7	Tripura	524	715	1239	144	179	312	26.07%
8	PGCIL	664	1199	1863	456	908	1364	73.2%
9	NEEPCO	205	295	500	168	270	438	87.6%
10	NTPC	28	49	77	28	49	77	100%
11	OTPC	41	78	119	41	78	119	100%
12	NHPC	20	36	56	17	25	42	75%
	NER	3780	5351	9131	1776	2357	4433	48.54%

STATUS OF DATA VALIDATION OF NERTS STATIONS AS ON 02/04/2019

Sl. No.	Name of RTU	Status of Data validation	Date of Validation
1	Aizawl	Joint Verification done; Missing Address to be implemented in Site	21-02-2019
2	Badarpur	Joint Verification done; Missing Address to be implemented in Site	25-02-2019
3	Balipara	Joint Verification done; Missing Address to be implemented in Site	08-01-2019
4	BNCHVDC	Not done	NA
5	Bongaigoan	Completed	09-02-2019
6	Dimapur	Joint Verification done; Missing Address to be implemented in Site	28-02-2019
7	Haflong	Joint Verification done; Missing Address to be implemented in Site	26-02-2019
8	Imphal	Completed	28-02-2019
9	Itanagar(Nirjuli)	Joint Verification done; Missing Address to be implemented in Site	25-02-2019
10	Jiribam	Joint Verification done; Missing Address to be implemented in Site	26-02-2019
11	Khleiriat	Joint Verification done; Missing Address to be implemented in Site	27-02-2019
12	Kopili-Ex	Joint Verification done; Missing Address to be implemented in Site	02-04-2019
13	Kumarghat	Joint Verification done; Missing Address to be implemented in Site	27-02-2019
14	Mariani	Joint Verification done; Missing Address to be implemented in Site	28-02-2019
15	Melriat	Completed	26-02-2019
16	Misa	Joint Verification done; Missing Address to be implemented in Site	08-01-2019
17	Mokokchung	Joint Verification done; Missing Address to be implemented in Site	28-02-2019
18	Namsai	Not Reporting	02-04-2019
19	Roing	Not Reporting	02-04-2019
20	Salakati	Completed	30-03-2019
21	Silchar	Not done	NA
22	Tezu	Not Reporting	02-04-2019
23	Ziro	Completed	27-02-2019

From: AGM COMMUNICATION [plccghy@gmail.com]
Sent: 22 March 2019 15:32:18
To: Mk Ramesh; M K Ramesh (एम के रमेश)
Subject: Fwd: Data validation at SLDC Guwahati

Kind attention : Sri M.K Ramesh sir

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

From: AGM COMMUNICATION
<plccghy@gmail.com<mailto:plccghy@gmail.com>>
Date: Wed, 20 Mar 2019, 4:11 p.m.
Subject: Data validation at SLDC Guwahati
To: Mk Ramesh
<rameshgct91@gmail.com<mailto:rameshgct91@gmail.com>>
Cc: Slde Aegcl

<sldcaseb@gmail.com<mailto:sldcaseb@gmail.com>>,
dgmmrtc <dgmmrtc@gmail.com<mailto:dgmmrtc@gmail.com>>

Dear Sir

I request you to arrange a visit at SLDC kahilipara
for data validation.

Regards
AGM Communication
AEGCL Ghy-19


Connected to Microsoft Exchange

पावर सिस्टम ऑपरेशन कर्पोरेशन लिमिटेड

(भारत सरकार का उद्यम)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लुवार नॉग्राह, लापालांग, शिल्लोंग-793006, (मेघालय)
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)
CIN : U40105DL2009GOI188682 फोन : 0364 - 2537785, 2537427, फेक्स : 0364 & 2537486. Website : nerlco-org. Email Id - nerlco@posoco.in

संदर्भ/Ref: NERLDC/SL/SCADA/ 3036

दिनांक/ Date :22.03.2019

To,
The Chief General Manager
State Load Despatch Centre
AEGCL, Kahilipara,
Guwahati.

Dear Sir

विषय/SUB: Telemetry Data Validation and SCADA Data base checking at Assam SLDC –Reg

As discussed in series of NETest Meetings (B-8 of 10th NETest, B-4 & B-9 of 11th NETest and B-4 & B-8 of 12th NETest Meeting) on data validation in Assam RTU/SAS station's telemetry data.

The following Team is visiting AEGCL SLDC to ascertain the Telemetry availability, data validation and SCADA Data base checking along with Single line Diagrams of the Assam RTUs / SAS Stations.

- 1) Shri.M.K.Ramesh ,General Manager(System Logistics), NERLDC, Shillong.
- 2) Shri.Sakal Deep, Engineer(System Logistics),NERLDC, Shillong.

The Team will be there at SLDC from 27-03-2019(FN) to 29-03-2019(AN). During their visit PLCC / Communication team , SLDC SCADA Team and Generating station Team are requested to be present to discuss about Data availability, data validation etc.,.

AEGCL shall arrange all necessary single line diagrams, PLCC / Communication Links diagrams etc.,

Thanking you,

Yours sincerely,

M K Ramesh

महाप्रबंधक (प्रणाली प्रचालन)/ GM (System Logistics)
उ.पू.क्ष.भा.प्रे.के, पोसोको/ NERLDC, POSOCO
शिलांग/ Shillong

Copy:

- 1) CGM, NERLDC ,Shillong
- 2) Member Secretary, NERPC, Shillong.
- 3) Director, NERPC, Shillong.
- 4) The DGM, MRTC, Guwhati.

Minutes of Database and Telemetry Validation exercise of SCADA database at SLDC Assam from 27/03/2019 to 29/03/2019

Venue: SLDC Assam, Kahilipara, Guwahati

Date: 27th – 29th March 2019

The exercise on database and telemetry validation of SLDC Assam SCADA NER was attended by the following officers/executives:

Communication Department, AEGCL	SLDC, Assam	NERLDC
1. Shri. Pranab Saha, AGM 2. Shri. Arup Sarmah, DM 3. Shri. Manashjyoti Bora, JM	1. Shri K. Gogoi (DGM) 2. Shri. Rupjyoti Das, AM(SCADA) 3. Ms. Indrani Borah, JM(SCADA)	1. Shri. M K Ramesh, GM(System Logistics) Shri. 2. Sakal Deep, Engineer (System Logistics)

Opening meeting was held at 11:30 hrs of 27/03/2019. And following points were discussed:

- Status of phase I rectification of telemetry data of AEGCL substations as per meeting of 24/01/2019. The Annexure-A is attached for the same.
- GM, System Logistics, NERLDC discussed the procedure to carry out the validation of database and telemetry:
 - First, SLD of site along with SLDC Assam and NERLDC SCADA database will be cross checked.
 - Second, after database rectification the telemetry validation will be carrying out for each measurement.

The following has been discussed.

- The members studied and analysed detailed site Single line diagram of substations of AEGCL.
- The SLD of APGCL cannot be discussed due to non-availability of Single line diagram.
- The members also discussed and analysed telemetry issues of all the substations.

The following are the observations:

Date: 27/03/2019

1. GM(SL, NERLDC), DGM(MRTC, AEGCL) and AGM(Communication, AEGCL) met CGM(Transmission), CGM(Generation) and MD(AEGCL) to discuss the objective of visiting team, lack of generation station real-time data and low percentage of data availability.
2. Other major activities carried out were:
 - Members discussed the total number of substations modelled in Assam and NERLDC database.
 - On detailed analysis it is found that total number of substations is 66.
 - Gorahmari substation is under modelling stage:
 - Assam SLDC will complete the database and on-lining procedure within the next week i.e 6th April 2019 by obtaining the necessary details from the site.

P. Saha
27/03/19
P. Saha
A.K.

Arup
27/3/19

Manashjyoti
30/03/19

K. Gogoi

M. K. Ramesh
30/3/19
GM, SL, NERLDC

Sakal Deep
Borah

Minutes of Database and Telemetry Validation exercise of SCADA database at SLDC Assam from 27/03/2019 to 29/03/2019

- Communication along with Gateway is yet to established, target date is July 2019.
- Differences were observed between the SCADA database of NERLDC and SLDC Assam, as information was not shared by SLDC Assam to NERLDC. It has been decided that SLDC Assam will inform any modification in SCADA database to NERLDC within a week of the changes.
- Members analysed and discussed 25 no. of substations for database validation. The analysis was carried out by taking into following information:
 - SLD of site
 - Database of Assam SCADA.
 - Database of NERLDC SCADA.

Date: 28/09/2019

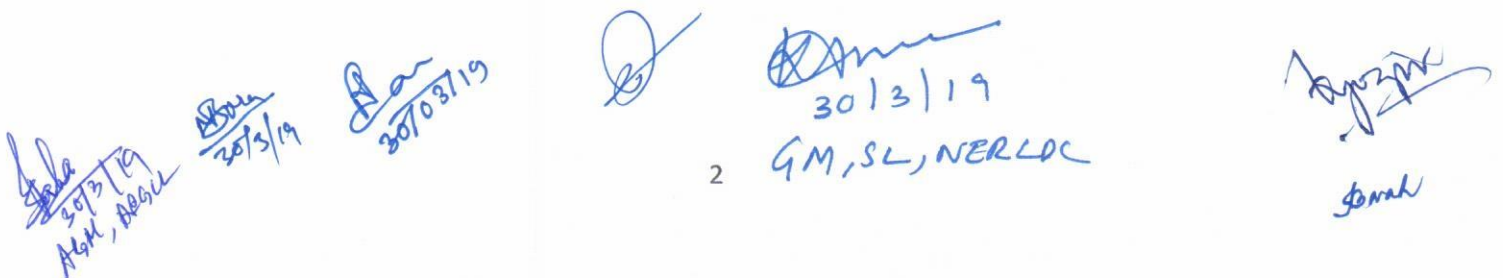
- Members analysed and discussed rest 41 no. of substations for database validation. The analysis was carried out by taking into following information:
 - SLD of site
 - Database of Assam SCADA.
 - Database of NERLDC SCADA.
- Detailed observations are attached in Annexure B for all 66 stations.

Date: 29/09/2019

- Issues of SCADA database is rectified at SLDC Assam end, as highlighted with green in Annexure-C. On rectification, increase in percentage availability was observed by 7% availability of Assam telemetry data was 42% before rectification of database and Assam telemetry data was 49% after rectification of database. The availability percentage was calculated with considering the following:
 - MW, MVar, OLTC, Voltage and Frequency for analog data.
 - CB and Isolators for digital data.
- Data integration of 132 kV Depota is under progress and is expected to report by 30/03/2019. This will increase the availability percentage by 1%.
- After resolving issues of database, detailed analysis of telemetry was carried out by the members. And following is the responsibility matrix was obtained: (Details in Annexure D)

SLDC responsibility	1 Substation
CGM SLDC & CGM T&T responsibility	53 Substations
APGC, SLDC and Communication Department	3 generating stations
Substation with no issues	9 substations

- AGECL will carry out the work within short span of time.



 2 GM, SL, NERLDC

Minutes of Database and Telemetry Validation exercise of SCADA
database at SLDC Assam from 27/03/2019 to 29/03/2019

Other observations:

- AEGCL also expressed non-availability of potential free contact for isolators other than SAS upgraded station. AEGCL has to explore alternate methodology to obtain the isolator status.
- NERLDC suggested the following for obtaining and maintaining 100% data:
 - Availability and consistency of Real-time data and communication links.
 - Data validation of all stations (generating and substations) by considering zero bus summation of MW and Mvar flow.
 - Data verification of the both ends of the all elements.
 - Making sure of the availability of real-time data, SLDC in SCADA system and voice at the control room as per the AERC Grid code clause 5.10.1.

[Handwritten signature]
30/3/19
AGM, AEGCL

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30/03/19

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30/3/19
GM, NERLDC

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ESTABLISHMENT OF OPGW COMMUNICATION LINK IN NER UNDER NER FO EXPANSION PROJECT:

SN	Link Name	Status as per 12 th NETeST	Comm. Target as per 12 th NETeST	Current Status with completion date
1	132kV Khandong~Halflong (PG)	WIP	April'19	
2	132kV Dimapur (PG)~ Doyang (NEEPCO)	WIP	April'19	
3	132kV Doyang (NEEPCO)~ Mokokchung (State)	WIP	April'19	
4	220kV Mokokchung (PG)~ Mariani (PG)	WIP	March'19	
5	400kV Mariani (PG)~ Kathalguri (NEEPCO)	WIP	March'19	
6	132kV Badarpur(PG) ~ Jiribam(PG)	Supply Pending	July'19	
7	Bongaigaon (PG-400 kV) ~ 220kV Salakati-220 kV BTPS	Supply Pending	June'19	
8	400kV Mirza (Azara) ~ Byrnihat	WIP	July'19	
9	400kV Silchar ~ Pallatana	WIP	August'19	
10	400kV Surajmaninagar(TSECL) ~ Pallatana(OTPC)	WIP	April'19	
11	132kV Agartala(TSECL) ~ RC Nagar (NEEPCO)	WIP	March'19	
12	132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC)	WIP	July'19	
13	132kV Loktak (NHPC) ~ Imphal (PG)	WIP	July'19	
14	132kV Melriat (PG) ~ Silchar (PG)	WIP	April'19	
15	PK Bari (TSECL)--LILO of (NETCL) Belonia	Supply Pending	July'19	
16	132kV Parey ~ Chimpu	Supply Pending	July'19	

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

SN	Link Name	Status as per 12 th NETeST	Comm. Target as per 12 th NETeST	Current Status with completion date
1	132KV Mariani-Mariani	WIP	Feb'19	
2	132KV Nirjuli-Ranganadi with Parey	WIP	Feb'19	
3	132 kV Imphal(PG)-Imphal (State)	WIP	March'19	
4	132KV LILO of Aizawl-Zemabawk-II at Melriat SS	WIP	Feb'19	
5	132KV Melriat-Shimmui	WIP	March'19	
6	132KV Mokokchung-Mokokchung	WIP	March'19	
7	Ranganadi-Gohpur (Part-I)	WIP	March'19	
8	Ranganadi-Gohpur (Part-II)	WIP	March'19	
9	Aizawl-Zemabawk-II	WIP	March'19	
10	Dimapur-Dimapur	WIP	March'19	
11	132kV Ranganadi-Ziro	WIP	March'19	
12	132KV Lekhi-Itanagar / Chimpu SLDC	WIP	March'19	
13	132KV LILO of Nirjuli-Ranganadi at Lekhi	WIP	March'19	

Ref: ENTL/NOM/1901.01

7th Jan 2019

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

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

Dear Sir,

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

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

envision



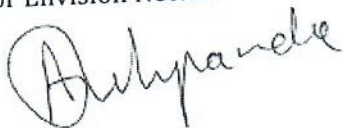
We are assuming that there is an ethernet / fibre connectivity between KPTCL Hub at Anand Rao circle & PSOCL office at Anand Rao circle and therefore considered only routers. If the fibre / ethernet to be laid the same shall be done at a separate cost.

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

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

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

For Envision Network Technologies Pvt. Ltd.,



Ashok Deshpande
CEO & Managing Director
9845099875

TERMS AND CONDITIONS

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

envision



Envision Network Technologies Pvt. Ltd.

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

LIST OF STATION WITH WRONG LOAD ANGLE IN URTDSM

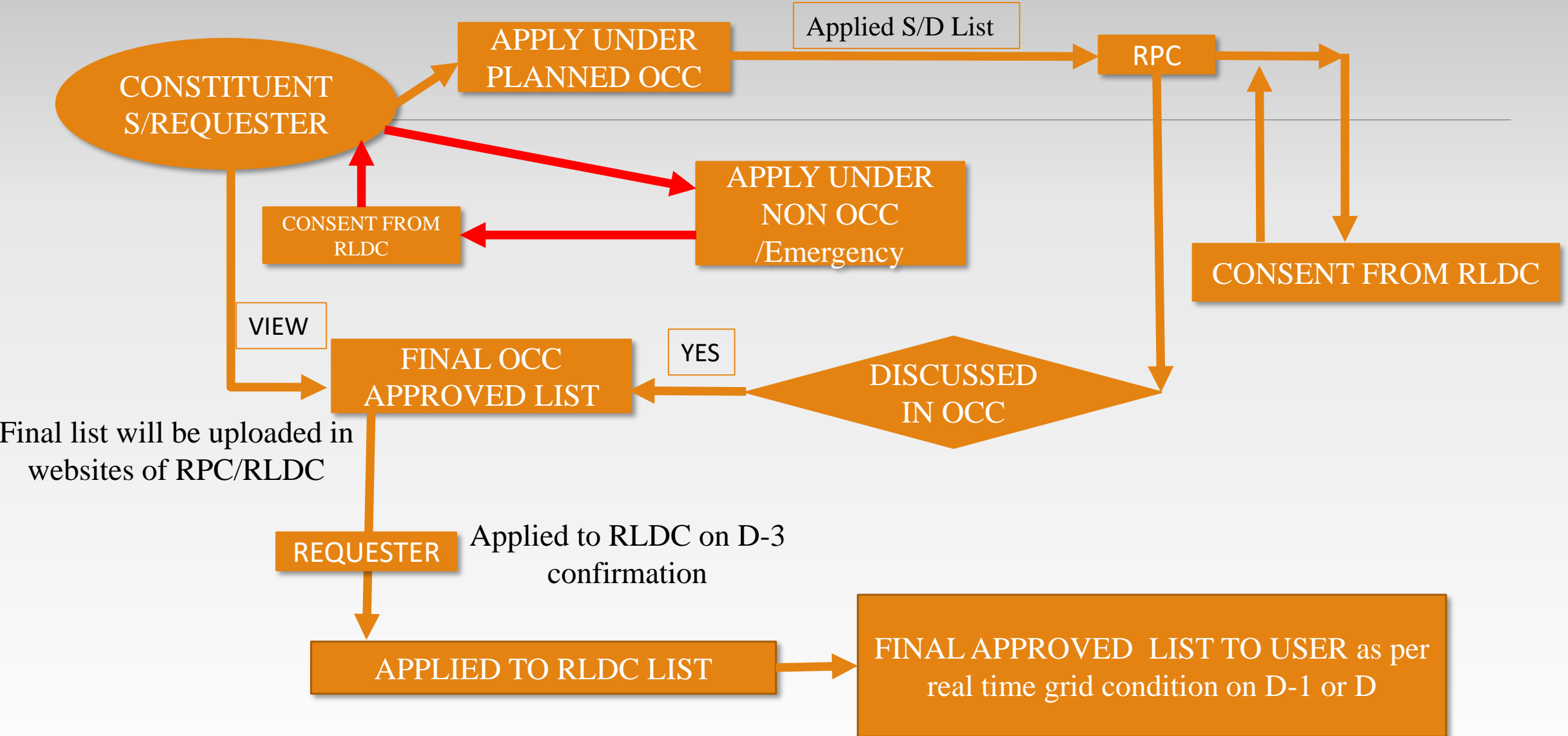
Sl. No.	Name of RTU	Completion Date
1	Dimapur	
2	Kopili	
3	Mariani(PG)	
4	Misa	
5	Silchar	
6	Tinsukia	
7	Samaguri	
8	Mariani(AS)	

Pre OCC and NON OCC/Emergency:

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

As per 7.3(iv) of CERC (Communication System for inter-State transmission of electricity) Regulations, 2017, 'The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

Draft Communication Outage Procedure



Thank you

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

MANIPUR			
SEM POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
1	132KV IMPHAL(S) - IMPHAL (PG) - 1	YES	YES
2	132KV IMPHAL(S) - IMPHAL (PG) - 2	YES	YES
3	132KV KARONG - KOHIMA	NO	YES
4	132/33KV TR AT JIRIBAM (MANIPUR CONSUMPTION)	YES	NA
5	132KV IMPHAL(PG) - NINGTHOUKONG	YES	YES
6	132KV JIRIBAM(PG) - JIRIBAM(MN)	YES	NO
7	IMPHAL(PG) END ICT - 1	YES	NA
8	IMPHAL(PG) END ICT - 2	YES	NA
9	132 KV LOKTAK - BENGPAANG	YES	NO
10	132 KV LOKTAK - NINGTHOUKHONG	YES	YES

MEGHALAYA			
SEM POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
1	132KV LUMSHONG - BDR(ASEB)	YES	NO
2	132KV KHLRT (MeSEB) - KHLRT(PG) - 1	YES	YES
3	132KV UMTRU - KAHELIPARA - 1	YES	YES
4	132KV UMTRU - KAHELIPARA - 2	YES	YES
5	132KV UMTRU - SARUSAJAI - 2	YES	YES
6	132KV UMTRU - SARUSAJAI - 1	YES	YES
7	132KV KHLRT (PG) - KHLRT(MeSEB) - 2	YES	YES
8	220KV MISA - BYRNHATI(KILLING) - 1	YES	NO
9	220KV MISA - BYRNHATI(KILLING) - 2	YES	NO
10	400KV BYRNHATI(KILLING) - B'GAON	YES	NO
11	400KV BYRNHATI(KILLING) - SILCHAR - 2	YES	NO
12	132KV AGIA - N BIBRA	YES	YES

NAGALAND			
SEM POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
1	132 KV DIMAPUR (PG) - DIMAPUR (S) - 1	YES	NO
2	132 KV KOHIMA - SARONG	YES	NO
3	132 KV DHEP - SARONS	YES	NO
4	132 KV DHEP - MOKOKCHUNG	YES	NO
5	132KV DIMAPUR(PG) - KOHIMA(S)	YES	NO
6	132KV DIMAPUR (PG) - DIMAPUR(S) - 2	YES	NO
7	132KV MOKOKCHANG(S) - MOKOK(PG) - 1	YES	NO
8	132KV MOKOKCHANG(S) - MOKOK(PG) - 2	YES	NO

ASSAM			
DRAWAL POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
132 KV KAHELIPARA - UMTRU - 1	YES	YES	YES
132 KV KAHELIPARA - UMTRU - 2	YES	YES	YES
220 KV MARIANI - KATHALGURI	YES	NO	NO
220 KV MARIANI - MISA	YES	NO	NO
132KV PANCHGRAM - LUMSHONG	NO	YES	YES
132KV PANCHGRAM - BOP(PG)	YES	NO	NO
132 KV D'CHERRA - D'NGAR	YES	NO	NO
132 KV S' SUJAI - UMTRU - 1	YES	YES	YES
132 KV HAFLONG-HAFLONG	YES	YES	YES
132 KV GOHPUR - NIRJULI	YES	NO	NO
132 KV UMRANGSOO-KHANDONG	YES	NO	NO
132 KV UMRANGSOO-HAFLONG	YES	NO	NO
220 KV SAMAGURI - MISA - 1	YES	YES	YES
220 KV SAMAGURI - MISA - 2	YES	YES	YES
220 KV SONABIL - BALIPARA	NO	YES	YES
220 KV SALAKATI - BTSP - 1	YES	YES	YES
220 KV SALAKATI - BTSP - 2	YES	YES	YES
132 KV S' SUJAI - UMTRU - 2	YES	YES	YES
132 KV BALIPARA - DEROTA	NA	NO	NO
132 KV BALIPARA - SONABIL	YES	NO	NO
132 KV RANGIA - MOTONGA	NA	YES	YES
132KV SRIKONA - SILCHAR - 1	YES	NO	NO
132 KV SRIKONA - SILCHAR - 2	YES	NO	NO
132 KV HAILAKANDI - SILCHAR - 1	YES	NO	NO
132 KV HAILAKANDI - SILCHAR - 2	YES	NO	NO
132 KV AGIA - MENDAR	YES	YES	YES
400 KV AZARA - SILCHAR	YES	YES	YES
220 KV KATHALGURI - TINSUKIA - 1	YES	NO	NO
220 KV KATHALGURI - TINSUKIA - 2	YES	NO	NO
132 KV JIRIBAM - PAILOPOOL	YES	NO	NO
132 KV DIMAPUR - BOKAJAN	YES	YES	YES
400 KV AZARA - BONGAGAON	YES	YES	YES
132 KV BNC - PAVOI - 1	YES	NO	NO
132 KV BNC - PAVOI - 2	YES	NO	NO
220 KV NTPC-BTSP - 2	YES	YES	YES

MIZORAM			
SEM POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
132KV AIZAWL(PG) - LUANGMUJAL	YES	NO	NO
132KV AIZAWL(PG) - ZUANGTUI	YES	NO	NO
132KV KOLASIB - BADARPUR(PG)	YES	NO	NO
132KV KOLASIB - AIZAWL(PG)	YES	NO	NO

TRIPURA			
SEM POINTS	DATA AVAILABILITY		
	CS/PG END/OTHER State END	CONSTITUENT END	
132 KV AGARTALA - AGTPP - 2	YES	YES	YES
132 KV KUMARGHATI(PG) - P.K.BARI	YES	NO	NO
132 KV DHARMANAGAR - DULLAV	YES	NO	NO
132 KV PALATANA - LIDAIPUR	YES	NO	NO
132 KV PALATANA - SM NAGAR	YES	YES	YES
132 KV PK BARI - SILCHAR - 1	YES	NO	NO
132 KV PK BARI - SILCHAR - 2	YES	NO	NO
132 KV AGARTALA - AGTPP - 1	YES	YES	YES

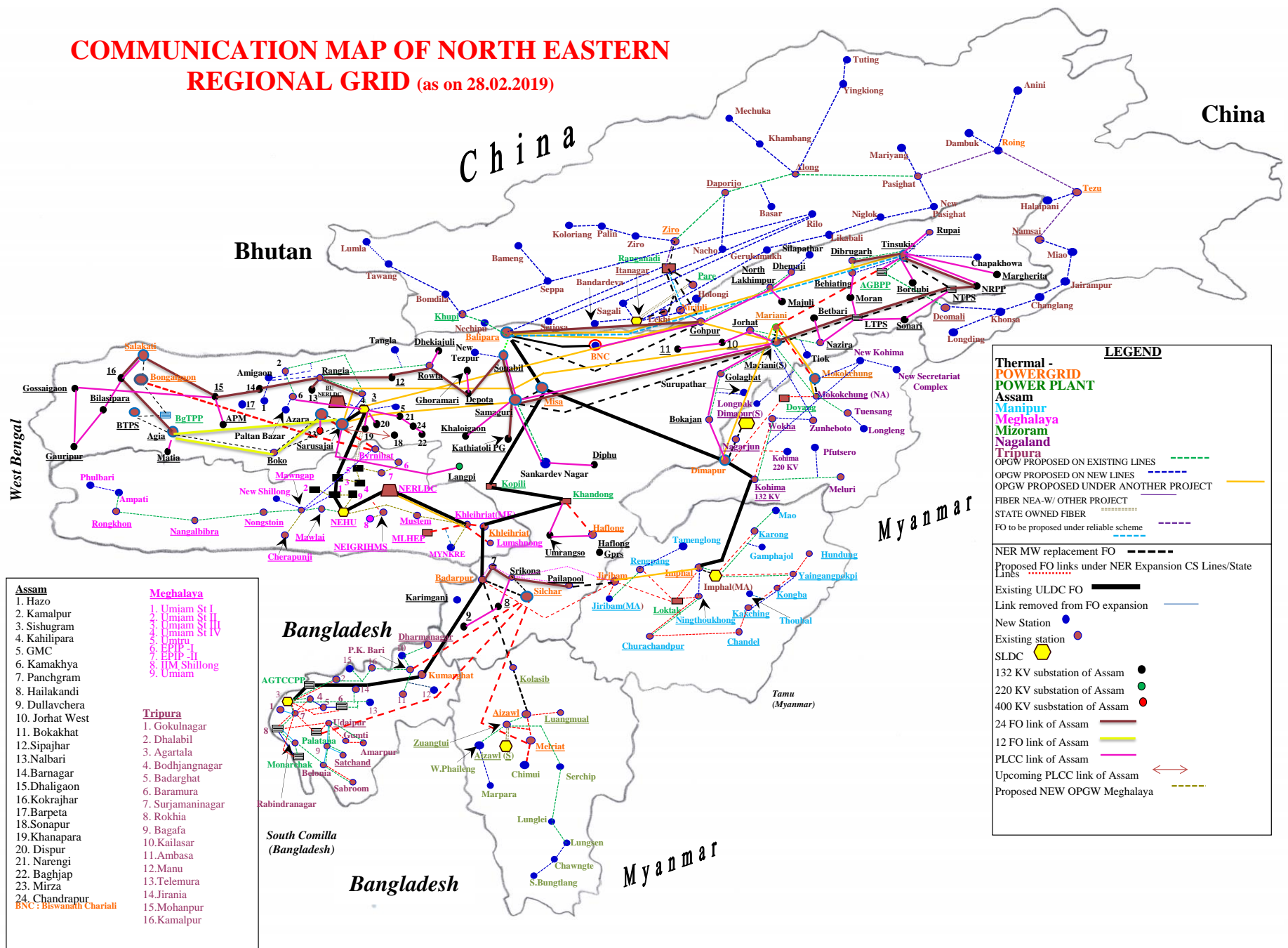
STATUS OF CHANNEL AT CENTRAL SECTOR STATIONS

Sl. No.	Name of Station	OWNER	Channel Type	PATH OR OEM	
1	Agartala	NEEPCO	DUAL	VIA KUMARGHAT	VIA SLDC AGARTALA
2	Aizawl	PGCIL	DUAL	ECI	ABB
3	Badarpur	PGCIL	DUAL	ECI	ABB
4	Balipara	PGCIL	DUAL	ECI	ABB
5	BNCHVDC	PGCIL	SINGLE		
6	Bongaigoan	PGCIL	DUAL	ECI	ABB
7	BgTPP	NTPC	DUAL	ECI	ABB
8	Dimapur	PGCIL	SINGLE		
9	Doyang	NEEPCO	SINGLE		
10	Haflong	PGCIL	SINGLE		
11	Imphal	PGCIL	DUAL	ECI	ABB
12	Itanagar(Nirjuli)	PGCIL	SINGLE		
13	Jiribam	PGCIL	DUAL	VIA BADARPUR	SHILLONG
14	Kathalguri	NEEPCO	SINGLE		
15	Khandong	NEEPCO	SINGLE		
16	Khleiriat	PGCIL	SINGLE		
17	Kopili	NEEPCO	SINGLE		
18	Kopili-Ex	PGCIL	SINGLE		
19	Kumarghat	PGCIL	DUAL	SHILLONG	VIA SLDC AGARTALA
20	Loktak	NHPC	DUAL	VIA JIRIBAM	VIA IMPHAL
21	Mariani	PGCIL	SINGLE		
22	Misa	PGCIL	DUAL	ECI	ABB
23	Mokokchung	PGCIL	SINGLE		
24	Palatana	OTPC	SINGLE		
25	Pare	NEEPCO	SINGLE		
26	Ranaganadi	NEEPCO	DUAL PORT OVER SINGLE CHANNEL	101	104
27	Roing	PGCIL	SINGLE		
28	Salakati	PGCIL	DUAL	ECI	ABB
29	Silchar	PGCIL	DUAL	ECI	POWERTEL
30	Tezu	PGCIL	SINGLE		
31	MELRIAT	PGCIL	DUAL PORT OVER SINGLE CHANNEL	101	104
32	NAMSAI	PGCIL	SINGLE		
33	Ziro	PGCIL	SINGLE		

LIST OF RTUs UNDER LONG OUTAGE

Sl. No.	Name of RTU	From	To	Outage Time
1	Aizawl	22/03/2019, 1830 hrs	24/03/2019, 1230 hrs	42:00 hrs
2	Badarpur	03/02/2019, 0142 hrs	05/02/2019, 1430 hrs	60:50 hrs
3	Haflong	04/01/2019, 0907 hrs	07-01-2019, 0921 hrs	72:14:00
		02/02/2019, 0028 hrs	04/02/2019, 09:45 hrs	57:17 hrs
		30/12/2018, 2204 hrs	02/01/2019 1608 hrs	66:04:00
4	Itanagar(Nirjuli)	30/12/2018, 2204 hrs	02/01/2019 1608 hrs	66:04:00
		11/02/2019, 1052 hrs	13/02/2019, 1027 hrs	48:00 hrs
		27/02/2019, 0105 hrs	27/02/2019, 1100 hrs	10:00 hrs
5	Jiribam	09/02/2019, 0632 hrs	11/02/2019, 1014 hrs	52:00 hrs
6	Kathalguri	03/01/2019, 1800 hrs	11/01/2019,1030 hrs	184:30 hrs
7	Kumarghat	31/12/2018 0729 hrs	01/01/2019, 2248 hrs	39:19:00
		28/03/2019, 1707 hrs	30/03/2019, 1430 hrs	41:30 hrs
8	Mariani	30/12/2018, 2204 hrs	03/01/2019, 1830 hrs	92:26:00
9	Melriat	18/01/2019, 0917 hrs	24/01/2019, 2219 hrs	157:02:00
10	Mokokchung	30/12/2018, 2204 hrs	03/01/2019, 1830 hrs	92:26:00
11	Pare	30/12/2018, 2204 hrs	02/01/2019 1608 hrs	66:04:00

COMMUNICATION MAP OF NORTH EASTERN REGIONAL GRID (as on 28.02.2019)



- | | |
|--|--|
| <p>Assam</p> <ol style="list-style-type: none"> 1. Hazo 2. Kamalpur 3. Sishugram 4. Kahilipara 5. GMC 6. Kamakhya 7. Panchgram 8. Hailakandi 9. Dullavchera 10. Jorhat West 11. Bokakhat 12. Sijpajhar 13. Nalbari 14. Barnagar 15. Dhaligaon 16. Kokrajhar 17. Barpeta 18. Sonapur 19. Khanapara 20. Dispur 21. Narengi 22. Baghjap 23. Mirza 24. Chandrapur <p>BNC : Biswanath Chariali</p> | <p>Meghalaya</p> <ol style="list-style-type: none"> 1. Uiam St I 2. Uiam St II 3. Uiam St III 4. Uiam St IV 5. Uiam St V 6. Uiam St VI 7. EBP-I 8. EBP-II 9. Uiam <p>Tripura</p> <ol style="list-style-type: none"> 1. Gokulnagar 2. Dhalabil 3. Agartala 4. Bodhjangnagar 5. Badarghat 6. Baramura 7. Surjamaninagar 8. Rokhia 9. Bagafa 10. Kailasar 11. Ambasa 12. Manu 13. Telemura 14. Jirania 15. Mohanpur 16. Kamalpur |
|--|--|

LEGEND

Thermal - POWERGRID POWER PLANT

Assam
Manipur
Meghalaya
Mizoram
Nagaland
Tripura

OPGW PROPOSED ON EXISTING LINES - - - - -
 OPGW PROPOSED ON NEW LINES - - - - -
 OPGW PROPOSED UNDER ANOTHER PROJECT - - - - -
 FIBER NEA-W/ OTHER PROJECT - - - - -
 STATE OWNED FIBER - - - - -
 FO to be proposed under reliable scheme - - - - -

NER MW replacement FO - - - - -
 Proposed FO links under NER Expansion CS Lines/State Lines - - - - -
 Existing ULDC FO - - - - -
 Link removed from FO expansion - - - - -

New Station ●
 Existing station ●
 SLDC ●
 132 KV substation of Assam ●
 220 KV substation of Assam ●
 400 KV substation of Assam ●
 24 FO link of Assam - - - - -
 12 FO link of Assam - - - - -
 PLCC link of Assam - - - - -
 Upcoming PLCC link of Assam <- - - - ->
 Proposed NEW OPGW Meghalaya - - - - -

TAIL END STATION OF ASSAM		
Sl No.	STATION	
1	RUPAI	
2	CHAPAKHOWA	NERPSIP
3	SILAPATHAR	NERPSIP
4	MARGHERITA	
5	BORDUBI	
6	NEW TEZPUR	NERPSIP
7	HAZO	NERPSIP
8	PALTAN BAZAR	NERPSIP
9	DULLAVCHERA	
10	BOKAKHAT	
11	BAGHJAP	
12	LANGPI	
13	KHALOIGAON	
14	KATHIATOLI PG	
15	DIPHU	
16	GHORAMARI	
17	APM	
18	MATIA	
19	SONAPUR	
20	KHANAPARA	
21	NALBARI	
22	DHEKIAJULI	
23	MAJULI	
24	BETBARI	
25	MIRZA	
26	DISPUR	
27	GUWAHATI MEDICAL COLLEGE	NERPSIP

STATION NOT CONNECTED OVER COMMUNICATION LINK		
1. Karimganj (ASSAM)		NERPSIP
2. Barpeta (ASSAM)		NERPSIP

TAIL END STATION OF MIZORAM		
Sl No.	STATION	
1	MARPARA	NERPSIP
2	CHIMUI	NERPSIP
3	LUANGMUAL	
4	S.BUNGLANG	NERPSIP

TAIL END STATION OF NAGALAND		
Sl No.	STATION	
1	NEW SECRETARIATCOMPLEX	NERPSIP
2	LONGLENG	NERPSIP
3	MELURI	

TAIL END STATION OF ARUNACHAL PRADESH		
Sl No.	STATION	
1	LONGDING	NERPSIP
2	ANINI	NERPSIP
3	DAMBUK	NERPSIP
4	MARIYANG	NERPSIP
5	TUTING	NERPSIP
6	MECHUKA	NERPSIP
7	BAMENG	NERPSIP
8	KOLORIANG	NERPSIP
9	HALAIPANI	NERPSIP
10	HOLONGI	NERPSIP
11	SEIJOA	NERPSIP
12	LUMLA	NERPSIP
13	BANDERDEVA	NERPSIP

TAIL END STATION OF MEGHALAYA		
Sl No.	STATION	
1	PHULBARI	NERPSIP
2	NEW SHILLONG	NERPSIP
3	UMIAM STG-II	
4	MLHEP	
5	IIM SHILLONG	
6	CHERAPUNJEE	
7	LUMSHONG	

TAIL END STATION OF TRIPURA		
Sl No.	STATION	
1	GOKULNAGAR	
2	TELEMURA	NERPSIP
3	SATCHAND	
4	SABROOM	
5	AMBASA	
6	JIRANIA	
7	DHARMANAGAR	

TAIL END STATION OF MANIPUR		
Sl No.	STATION	
1	MAO	NERPSIP
2	TAMENGLONG	NERPSIP
3	HUNDUNG	