

## North Eastern Regional Power Committee

### **MINUTES OF THE 4<sup>th</sup> NER Telecommunication, SCADA & Telemetry**

#### **(NE-TeST) COORDINATION**

#### **SUB-COMMITTEE MEETING OF NERPC**

**Date** : 09/08/2016 (Friday)  
**Time** : 10:00 hrs  
**Venue** : "Hotel Pala Resort", Cherrapunjee.

The List of Participants in the 4<sup>th</sup> NE-TeST Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 4<sup>th</sup> North Eastern Telecommunication, SCADA & Telemetry meeting. He expressed with great satisfaction that a good number of participants from constituents attended the meeting. Further, he mentioned that unless all the utilities are well equipped with latest communications services, smooth operating of power system is very difficult. He requested all the constituents to actively participate in the discussion and finalized so that if any items are required for approval, the same can be placed in the next NERPC meeting for the benefit of the region.

He then requested Shri B. Lyngkhai, Director/SE(O) to take up the agenda items for discussion.

#### **A. CONFIRMATION OF MINUTES**

#### **CONFIRMATION OF MINUTES OF THE 2<sup>nd</sup> MEETING OF "NORTH EASTERN TELECOMMUNICATION, SCADA & TELEMETRY (NETeST)" SUB COMMITTEE OF NERPC.**

SE(O) informed that minutes of the 3<sup>rd</sup> NETeST Meeting held on 10th June, 2016 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2016/ dated 1st July, 2016.

*The Sub-committee confirmed the minutes of the 3<sup>rd</sup> 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 4<sup>th</sup> TeST meeting is given below:

Name of SLDC/ RLDC	STATUS GIVEN IN 4 <sup>TH</sup> TEST
Assam	New SCADA system commissioned. Tuning of EMS is left. It was decided that PGCIL, Alstom-SCADA group, Assam would join for sorting out RTUs reporting problem wherever SCADA part is in concern.(Which were otherwise reporting in old system) for the defects as reported
Tripura	<b>Status same as earlier. UPS works completed. However detailed Status feedback from State could not be updated as no representative was present.</b> Alstom intimated that for RTUs which are complete in all respect (but link is not provided by state) SAT may be completed by LDMS verification & data shown locally by protocol analyzer.
Meghalaya	New SCADA system commissioned. Work for Shifting of RTUs to start from 16 <sup>th</sup> August and to be completed by 31 <sup>st</sup> August, 2016. Tuning of EMS is left.
NERLDC	Main system commissioned. Some RTUs migrated to active mode. From 11 <sup>th</sup> August, 2016 all SLDC to refer to new system. Dismantling of old system to begin from 1 <sup>st</sup> September, 2016.
NERLDC backup	New system installed and commissioned. SAT completed. 1000hr stability test is in progress and will be completed by 31 <sup>st</sup> August. All backup links to the new system will be connected within one week.
Manipur	Hardware SAT Completed. Software SAT and 1000hr Test is in progress. New System to be commissioned within 31 <sup>st</sup> August subject to continuous deputation of engineers from Manipur State for witnessing SAT wef 15.08.16. I/C SLDC Manipur was requested a dedicated team may be deputed from MSPCL side so as to complete the works at the earliest possible. Manipur agreed for same
Mizoram	From 16 <sup>th</sup> August Alstom will start work and by August end system will be installed. Testing of new system will start from September, 2016.
Nagaland	Building will be handed over by November, 2016 and Testing of new system will start from December, 2016.

Arunachal Pradesh	AP will make arrangement for the availability of complete building setup by vacating designated area of SLDC in totality for Alstom to start work, so that the project is completed in time. AP confirmed for same by taking up with higher authority.
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**AMC:**

The house requested PGCIL to arrange the review meeting with Alstom frequently till the SLDCs is commissioned.

Alstom representative informed that except Arunachal Pradesh, Manipur and Mizoram, remaining States have signed AMC with Alstom. Forum requested remaining states to sign the AMC with Alstom. Alstom representative also informed that AMC will be extended to new card/RTUs purchased outside AMC, but the cost will increase for the AMC for corresponding increase in no. of cards/RTUs (Similarly if no. of cards reduces AMC cost decreases correspondingly.)

Forum requested the state utilities who are yet to sign AMC may take up to sign the same at the earliest. All constituents agreed.

**Connectivity for ICCPs & VC-from POWERTEL:**

In line with discussion held during 3<sup>rd</sup> NETeST, POWERGRID has gone ahead for VLAN/Point to Multipoint connectivity for ICCP & VC from POWERTEL. Further connectivity for Manipur State SLDC was added alike all other states at the same terms & conditions. No further party could be explored by any other utility for the common solution purpose; hence the requisite connectivity was approved to be connected through POWERTEL for common NMS management & connectivity. Necessary space & AC requirements are to be provided at respective SLDCs. The requirement was because of the following:

- a) ICCPs( SLDC-NERLDC-SLDC data) & VC (to optimize use of VC for SLDC-NERPC meetings) links to be established as some SLDC like AP, Manipur, Nagaland and Mizoram are out of optical connectivity of ULDC wideband NE network. And further, SLDC like Assam, Tripura, Meghalaya, though having FO OPGW network but star type network topology with VLAN connectivity at Ethernet level are not available with the existing equipment of any state SLDCs which can connect inter-all SLDC-NERLDC.
- b) The NER FO expansion scheme is expected to be in place by 2 years' time (approx.).

- c) Hence for POWERTEL VLAN/Point to Multipoint Ethernet network is approved where the Cost is Rs.1.66 Crores per year (excluding Manipur which is Rs.20.83lac alike other SLDCs) for initial 2.5 years (to be booked to project cost) as detailed below
- d) This is estimated for reliable back up with protection and VLAN(or point to multipoint) management through POWERTEL as existing ULDC equipment does not suffice VLAN/point to multipoint Ethernet ring requirement.
- e) The cost justification is already well-described by POWERGRID and communication from POWERTEL and would be circulated to all concern by one week.
- f) NERLDC also confirmed that the 3nos. VLANs/point to point connectivity would suffice NERLDC-SLDC connectivity requirement in totality under project
- g) Further as there is no common Central sector head in SLDC project head (as executed by POWERGRID for SLDC project) matter may kindly be looked into by POWERGRID during cost booking. The detailed cost break up is again given below:

SI No	Location	Bandwidth	VLAN-1 for ICCP	VLAN-2 for ICCP	VLAN-3 VC	Total
			Annual Charges	Annual Charges	Annual Charges	
1	Main NERLDC	10Mbps	693621	693621	693621	2080863
2	B/U NERLDC	10Mbps	693621	693621	693621	2080863
3	Assam SLDC	10Mbps	693621	693621	693621	2080863
4	Tripura SLDC	10Mbps	693621	693621	693621	2080863
5	Meghalaya SLDC	10Mbps	693621	693621	693621	2080863
6	Arunachal SLDC	10Mbps	693621	693621	693621	2080863
7	Mizoram SLDC	10Mbps	693621	693621	693621	2080863
8	Nagaland SLDC	10Mbps	693621	693621	693621	2080863
<b>Total Annual Charges</b>						<b>16646904</b>

To above Cost & connectivity for Manipur SLDC will be added at the same terms & condition.

Further AM POWERGRID also explained that this leasing of bandwidth from POWERTEL is a stop gap arrangement for 2.5 year (or less) to bring up the new system. In future Own OPWG network will be used for VLAN when it is completely commissioned.

All constituents agreed in principle and requested POWERGRID to provide cost justification from POWERTEL to the constituent so that they can take up the matter with their higher managements.

M/s Alstom has been requested to complete all the left over works at the earliest wherever fronts are available. As providing VC & console to NERPC is in the contract scope of Alstom under the NERLDC head, hence NERLDC will take needful action for same

***The Sub-committee noted as above.***

***Action: NERTS, State Utility, Alstom, NERLDC***

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

### **A). POWERGRID**

Real time Grid operators have been facing various problems because of poor visibility due to low availability of Telemetered data from RTUs. Status as on 3rd August, 2016 is given below:-

**A) POWERGRID: 2 out of 18:** i). Mokokchung PG. ii). KOPEX NO

#### **Deliberation in the meeting**

Manager (AM), NERTS informed that Mokokchung PG is out due to PLCC breakdown after tower collapsed and the same would be restored within 15 days. KopEX NO will be restored within 22 days.

***The Sub-committee noted as above.***

***Action: NERTS.***

**B) NEEPCO: 4 out of 6:** i) Doyang (24.1.150) ii).Kathalguri (16.10.15),  
iii).Ranganadi (unstable) iv). Kopili (9.5.15)

#### **Deliberation in the meeting**

NEEPCO representative informed the problem is due to old RTUs. Order for new RTU for Kathalguri is already placed. For Doyang and Kopili Tendering process is going on. Since Ranganadi is unstable and is on old RTU, it also needs to be replaced. The forum requested NEEPCO to take replacement of RTUs on urgent basis for early restoration.

***The Sub-committee noted as above.***

***Action: NEEPCO.***

**C) AEGCL: 37 out of 55**

i).Agia ii).APM(Jogighopa) iii).Panchgram iv).Boko v).Bokajan  
vi).Bokakhat vii).Behiating viii).B.Chariali ix).Bornagar x).Depota  
xi).Dhaligaon xii).Dhemaji xiii).Doomdooma xiv).Dullavchera xv).Gauripur  
xvi).Gohpur xvii).Golaghat viii) Gossaigaon xix).Haflong xx).Jagiroad  
xxi).Jawahnagar xxi) Kahilipara xxii).North Lakhimpur xxiii).Majuli xxiv).  
Margherita xv).Mariani xxvi).Nagaon xxvii).Nazira xviii).Pailapool xxix).Rangia  
xxx).Panchgram old xxxi).Rowta xxxii).Rupai xxxiii).Sibsagarh xxxiv).Sipajhar xxxv).  
Sonari xxxvi). Silchar xxxvii). Samtezhoh.

**Deliberation in the meeting**

AEGCL stated that the issue lies with the communication network. Manager (AM), NERTS suggested that AEGCL should give Network diagram and on which type of network port it is reporting (i. e. PLCC, 101, or Ethernet), so that a clear picture can be reached for such a huge no. of non-reporting RTUs. Forum requested AEGCL will submit the following along with OPGW & PLCC network:

Total Nos. of RTUs of AEGCL	Nos of RTUs earlier reporting thru' PLCC but not reporting (network to be attached)	Nos of RTUs May report as per original scheme of MW vacation OPGW project (considering use of old mux)	Nos of RTUs that are planned to bring on 104 & target date	Nos of RTUs which will be 101	Nos. of RTUs that are reporting through OPGW network of LS Cable by AEGCL	Target date for PLCC restoration as per 1st & 2nd NETeST decision for RTU reporting

AGECL also requested that some RTU can be shifted to OPGW. AEGCL thanked POWERGRID to arrange technical demonstration through M/s Alstom for Sisugram RTU on 104 reporting. Now AEGCL will target for 101—shift over to 104 wherever possible at RTU side if required by calling Alstom service engineer. However Alstom SLDC project group will render remote help as far as possible as confirmed by Alstom Project representative. AEGCL would also procure needful card/switch in their OPGW terminal equipment system as possible for needful data integration. Alstom SLDC project group will consider one L2/L3 switch additionally under AEGCL state head Original SLDC SCADA was considered with feedback from state considering most of RTUs on 101 and 30-50nos. of 104. Now the requirement of switch is considered as

AEGCL is re-planning for most of RTUs on 104 in future. However, AEGCL has been requested by forum to revive all PLCC network so that RTUs which were reporting may be revived at the earliest irrespective of future plan whatsoever.

***The Sub-committee noted as above.***

***Action: AEGCL.***

**D) MePTCL: 11 out of 21**

- i).Cherapunji ii).EPIP-I iii).EPIP-2 iv).Khliehriat v).Killing/Byrnihat  
vi).Leshka vii).Lumshnong viii).Nongstoin ix). Nangalbibra x).Umiam xi) Rongkhon

**Deliberation in the meeting**

- i. **Cherrapunjee:** MePTCL representatives informed Cherrapunjee is not reporting due to shutdown of the line as re-engineering work is being carried out by MePTCL.
- ii. **Umiam:** MePTCL representatives informed that Umiam is currently reporting.
- iii. **EPIP-I,EPIP-II,KILLING/BYRNIHAT:** MePTCL representatives informed that there is fiber break between EPIP-II & Umtru PS due to which EPIP-I, EPIP-II & Killing/byrnihat is not reporting. Restoration works will be completed before 20<sup>th</sup> of Aug, 2016.
- iv. **Nongstoin, Nangalbibra, Mendipathar & Rongkhon:** Integration of these RTU with the SCADA system is pending owing to connectivity issue from AGIA to Kahilipara. In this regard MePTCL has been requested to submit the connection plan to POWERGRID so that same may be jointly checked.
- v. **Khliehriat, Lumshnong & Leshka:** MePTCL representatives informed that these RTU are not reporting at present due to redundant connectivity between NERLDC-NEHU, there had been suspected fiber cut reported along poles of 33kV Bellfonte T/L of Distribution dept. however POWERGRID will restore the fiber by 15 days. MePTCL has been requested to take up with concern Discom i/c so that similar problem can be avoided in future. MePTCL representative informed that there is no direct connectivity (through OPGW) between 132kV Khliehriat(ME) and 132kV NEHU(ME) stations. The current arrangement for accessing SCADA related data (from Khliehriat) by Meghalaya SLDC is through redundant connectivity between NERLDC-NEHU. This aberration should be done away with as it is endangering visibility of Meghalaya state grid for SLDC. POWERGRID agreed to revert back to the forum with a detailed report. RTU reporting of the above stations can also be established after restoration works of the link.

- vi. With regard to OPGW network POWERGRID intimated that out of central sector fiber & end equipment, only point to point bandwidth (not fiber) can be given for RTU-SCADA purpose, however this issue may be discussed over a joint meeting between MePTCL & POWERGRID.

Killing/Byrnihat will start reporting one installation of new RTUs is completed by Alstom as confirmed by MePTCL. MePTCL was requested to restore all possible RTUs by 31<sup>st</sup> August, 2016.

**Action: MePTCL, NERTS.**

**E) TSECL: 19 out of 26**

i).Amarpur ii).Badarghat iii). Baramura iv).Belonia v).Bokafa  
vi).Boxanagar vii).Budhnagar viii).Dhalabil ix).Dharmanagar  
x).Gamaitila xi).Gokulnagar xii) Gumti xiii).Jirania xiv).Kamalpur xv).Ompi  
xvi).Rabindranagar xvii).Sabroom xviii).Satchand xix) Udaipur.

***The status could not be updated as representative from Tripura was not aware of the status.***

**F). RTUs status under New SCADA project for AP, Manipur, Mizoram & Nagaland are also not reporting**

The non-availability of telemetered data is also on account of Communication bottleneck, single channel reporting, lack of physical/equipment diversity etc also. NERTS [as CTU] may brief the forum the modus operandi to address the issue in a comprehensive manner.

4). Status for the 2nd link as redundant part for CS RTUs may be apprised:

- 1) 800 KV HVDC\_BNC (Only one channel made)
- 2) 400 KV MISA (2 channels made but only 1 available) –
- 3) 400 KV Bongaigaon (Only one channel made)
- 4) 400 KV Silchar (Only channel made)
- 5) 220 KV Dimapur (One channel working)
- 6) 220 KV Salakati (Only one channel made) - (Only one channel made)
- 7) 132 KV Imphal (2 channels made but only 1 available)
- 8) 220 KV MOKOKCHUNG (Only one channel made)
- 9) Ranganadi ISGS (Only one channel made)
- 10) 132 KV ITANAGAR (Only one channel made)



- 11) KATHALGURI, ISGS (Both channel channels out)
- 12) PALATANA, ISGS (Only one channel made)
- 13) 132 KV Kumarghat (2 channels made but only 1 available)
- 14) LOKTAK ISGS (2 channels made but only 1 available)
- 15) KHANDONG, ISGS (2 channels made but only 1 available)
- 16) JIRIBAM (2 channels made but only 1 available)
- 17) AIZAWL (2 channels made but only 1 available)
- 18) BADARPUR (2 channels made but only 1 available)
- 19) 220 KV MARIANI (Only one channel made)

**Status:**

- 1) 800 KV HVDC\_BNC (Only one channel made) - **2<sup>nd</sup> Link after installation of 4C/A Pkg-** 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 2) 400 KV MISA (2 channels made but only 1 available) - **2way data (NTAMC BCU & Old RTU already in service)-** 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 3) 400 KV Bongaigaon (Only one channel made) - By SDH installation/alternate arrangement will be done in case of link outage by POWERGRID
- 4) 400 KV Silchar (Only channel made) - Dual channel already in place—PLCC (via Badarpur)& Optical ( through converter at Silchar through POWERTEL.
- 5) 220 KV Dimapur (One channel working) - (One channel working) By SDH installation/alternate arrangement will be done in case of link outage by POWERGRID.
- 6) 220 KV Salakati (Only one channel made) - (Only one channel made) By SDH installation/alternate arrangement will be done in case of link outage by POWERGRID.
- 7) 132 KV Imphal (2 channels made but only 1 available) - Would be completed By SDH installation/alternate arrangement will be done in case of link outage by POWERGRID.
- 8) 220 KV MOKOKCHUNG (Only one channel made) - (Only one channel made) By SDH installation/ alternate arrangement will be done in case of link outage by POWERGRID.
- 9) Ranganadi ISGS (Only one channel made) - from Balipara 2channels are available/ up to Balipara Ranganadi NEEPCO end may take up. 2<sup>nd</sup> channel—(via Ranganadi-Nirjuli—optical link POWERTEL—shillong)will be in service once within 1hour
- 10)132 KV ITANAGAR (Only one channel made) - (Itanagar-Ranganadi-BNC-Balipra & Itanagar-Optical link Telecom link—Shillong)

- 11) KATHALGURI, ISGS (Both channel channels out) - RTU issue/ NEEPCO will soon replace the same-//2<sup>nd</sup> will be in service once within 1hour
- 12) PALATANA, ISGS (Only one channel made) - Responsibility of Pallatana for linking up to nearest wide band loc/79Tilla.
- 13) 132 KV Kumarghat (2 channels made but only 1 available)- 2<sup>nd</sup> will be in service once within 1hour
- 14) LOKTAK ISGS (2 channels made but only 1 available)- 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 15) KHANDONG, ISGS (2 channels made but only 1 available)= 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 16) JIRIBAM (2 channels made but only 1 available)- 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 17) AIZAWL (2 channels made but only 1 available)- 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 18) BADARPUR (2 channels made but only 1 available. 2<sup>nd</sup> will be in service once within 1hour of failure of 1<sup>st</sup> Link
- 20) 220kV Mariani—2nos channel-(Via Misa & via Optical link—2nos made available)

POWERGRID intimated that matter was discussed in elaborate in line with 3<sup>rd</sup> NETeST that as existing channels are getting defective due to problem in old Mux ABB Fox515 (where repair of cards are to be done from offshore incurring very high cost) & obsolete SDH of Siemens. Further new PDH & SDH Package-4a & Pkg 4C are already awarded to M/s Fibcom & M/s Tejas. All Mux of existing ULDC CS infrastructure & new locations under NER FO expansion scheme will be replaced under this project and needful channel for RTU data, PMU data, ring formation will be under said project which will apx be completed by 1.5--2years. And the critical issue was also agreed upon by forum and DGM-NERLDC, under the above circumstances, asked that in case redundant channel is not possible till Pkg4a/c, POWERGRID will all take necessary action by taking link from POWERTEL or Other PLCC network in case any link failure is there for the abovementioned nodes for restoration at the earliest possible.

Regarding remaining locations for 2nd channel for POWERGRID stations communication part will be in service wherever possible with existing Equipments/optical linking if required through POWERTEL. Second Channel will be through once SDH-PDH installation is done /or alternate arrangement will be done in case of link outage by POWERGRID. POWERGRID requested that a 4mbps VLAN is

proposed for station data reporting where additional cost in ULDC scheme will be apx 54.65 Lac per year [Salakati ,Bongaigaon, Balipara , Misa, Nirjuli, Mariani, Dimapur, Imphal , Aizwal, Kumarghat , Silchar , Badarpur , Khliehriat Jiribam, BNC Shillong- NERLDC/NTAMC] for 4 Mbps VLAN for 16 location and with drop at NERLDC. Forum agreed in principle but requested to put up the same in RPC. Same is proposed to be agreed upon keeping in view urgency mentioned by NERLDC for data of redundancy of CS stations and weekly report as emphasized by DGM NERLDC.

***The Sub-committee noted as above.***

***Action: NERTS & CONCERN UTILITY***

#### **A.4 Dedicated Voice Communication:**

During 113rd OCC meeting, NERLDC informed that under existing VOIP communication system (executed by ORANGGE Ltd) NERLDC requested to provide two nos. of voice links in all 132kV station and four no of voice communication channel at important station like BNC HVDC, all 400kV stations such as Bongaigaon, Balipara, Misa, Silchar (currently no voice communication), BYRNIHAR, AZARA, Palatana and all CGS (NTPC-BTPS, Ranga, Kopili, Khandong, Kathalguri, Doyang, RC Nagar) stations.

POWER GRID accepted the proposal and assured to do the same at the earliest.

During 1<sup>st</sup> TeST meeting, it was informed that dedicated voice communication system will be taken care by NERTS as per instruction of GM-NERLDC's communication to GM-AM, NERTS.

#### **Deliberation in the meeting**

The same work is under process and links provided as per availability. However, further voip links will be provided once new SDH/PDH equipment are installed under expansion node terminal equipment pkg (award by Feb 2016 and implementation by another 18months).

POWERGRID proposed that dedicated voice connectivity given to all POWERGRID stations by now (land line, mobile, one no. ULDC phone analog connected to VOIP Exchange on analog mode) wherever POWERTEL is available. Further Voice communication link providing is not covered by VOIP exchange project. However with FO Expansion project equipment in place, further linking will be possible and the Cost will be booked to ULDC up gradation.

It was proposed that Forum will discuss through study group & as required the overall feasibility & requirement further once all networks (optical & plcc) from all states and submitted to NERPC. Respective utility may take up for dedicated voice connectivity by themselves.

Regarding additional cost for bandwidth proposed by POWERGRID, the constituents have expressed reservations and since matter involves financial approval; members requested to take up the matter in next TCC/NERPC meeting.

***The Sub-Committee noted as above.***

***Action: NERTS, POWERGRID.***

#### **A.5 Rates of new CARDS, service support, assurance of lifespan by M/s ALSTOM:**

As per the resolution of 20<sup>th</sup> UCC meeting held at Agartala on 28<sup>th</sup> August 2014, the forum has requested M/S ALSTOM to keep rates of new Cards justifiable & service support/defect liability period, assurance over life span of newly supplied equipment/quality in India should be at par with international level.

AEGCL would like to have any reference in this regard mentioned above so that we can initiate afresh the procurement process of C264 RTU spare cards as they have quoted a very high price in their previous proposal.

The 21<sup>st</sup> UCC forum opined that AEGCL may write/take up the matter with highest authority of M/s Alstom with a copy to GM, NERLDC & GM, NERTS.

It was also felt by forum that price justification issue & quality control of services/supply may be faced by other utilities also in future. It was opined that matter may be intimated by this forum to NERPC as the same, indirectly would affect/may delay implementation of diff telemetry regulation & so may affect grid security & proper monitoring.

#### **Deliberation in the meeting**

Alstom representative informed that except Arunachal Pradesh, Manipur and Mizoram, remaining States have signed AMC with Alstom. Forum requested remaining states to sign the AMC with Alstom. Alstom representative also informed that AMC will be extended to new card purchased outside AMC, but the cost will increase for the AMC for corresponding increase in no. of cards.(Similarly if no. of cards reduces AMC cost decreases correspondingly.)

***The Sub-Committee noted as above.***

**A.6. Status of SDH installation by POWERGRID:**

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

**Deliberation in the meeting**

Manager (AM), NERTS informed that SDH units have been delivered, the LOA will be issued by 30.09.16 (proposed to be OEM/ECI) along with 3years AMC and Commissioning to be completed by another 3months wrt LOA. Forum requested POWERGRID to take up installation PO immediately with OEM/ installation vendor without further delay as the work is very urgent in nature. All ULDC node sites are requested to co-operate (Extension of 48 V from existing substation system etc.) during installation. The cost would be booked to MW Vacation project as per relevant RPC approval.

***The Sub-Committee noted as above.***

***Action: NERTS.***

**A.7 Status of phase –I of URTDSM project:**

As per deliberation of 21<sup>st</sup> UCC meeting survey completed for NER part. FAT call raised by M/s Alstom. It was informed that NER sites are not under 1st phase as planned by CC-POWERGRID. NER utilities/forum requested POWERGRID to expedite the same and works may be completed by March 2015 as & where connectivity available.

**Deliberation in the meeting**

Manager (AM), NERTS informed that PMU installation completed in Misa, Work started in Balipara and Silchar. Temporary set up installed at SLDC-Assam, Meghalaya, NERLDC. Soon work will be started in Marinai (AEGCL), Tinsukia (Assam), Agia (Sarusanjaj). It was deliberated requisite high level of bandwidth connectivity for PMU-PDC & PDC-PDC is not available with existing system equipment and hence link connectivity may be taken from POWERTEL alike SLDC project for Rs 1.6-2 crore (central sector head) as per Technical connectivity described herewith.

For connectivity, it is proposed that may hire the requisite bandwidth (on VLAN & or as required PMU—PDC, PDC-PDC, PDC-super PDC) from POWERTEL wherever available. Once in principle approval is achieved, necessary action for connectivity will

be taken up. The application & purpose of URTDSM project in future was read out by Manager-POWERGRID on request by utilities. POWERGRID intimated that as URTDSM project is under halt as communication link costs have not been approved, hence this delay would be considered for time over-run as applicable and forum agreed accordingly.

DGM (LD&C), AEGCL informed the forum that the issue of URTDSM Project was not agreed by AEGCL initially and the matter was deliberated in Special TCC of NERPC and then got approved through proper channel. As there is some cost involved for telecom connectivity, and hence, the matter should be referred to next TCC/NERPC for further deliberation and approval.

***The Sub-Committee noted as above.***

***Action: NERTS, NERPC, all state utility***

#### **A.8 Replacement of Multiplexers:**

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

During 1<sup>st</sup> TeST meeting, NERTS informed the forum that separate tendering process has been initiated for replacement of MUX. OBD date would be intimated separately. Forum also requested that node equipment of any SLDC or any other node (OPGW link planned but terminal equipment not considered), may also considered under quantity variation once the order is in place

#### **Deliberation in the meeting**

AEGCL intimated that old multiplexers are not OK. However, AEGCL requested that POWERGRID may include all mux of ULDC locations in the PDH Mux procurement process as discussed to be included in NE-FO project. POWERGRID agreed to go ahead in line with request of AEGCL and intimated that LOA for NE FO Expansion has been awarded to M/s Tejas (M/s Valiant-for PDH) & M/s Fibcom (SDH)

***The Sub-Committee noted as above.***

***Action: NERTS.***

**A.9. Finalization of Consolidated OPGW Network & Installation Project:**

As per GOI direction, MW links are being replaced by OPGW links and as discussed in the last 19<sup>th</sup> & 20<sup>th</sup> UCC meetings, the project is to be completed by July 2014. Latest status may be appraised by POWERGRID and also redundant channels for single channel RTUs planned may be appraised.

- a) POWERGRID has already submitted the OPGW network for region like MW vacation, Expansion, ULDC network etc.
- b) It is requested that all constituents may submit the communication plan which have been taken up by them in region.
- c) Further it is requested that min 2 pair of fibers of any communication system laid in region may be left ready for ULDC purpose of State & NERLDC telemetry/metering scheme.

During 1<sup>st</sup> NETeST meeting POWERGRID already shared the network diagram and all other utilities confirmed to submit the same to NERPC by 15 days.

Regarding Fiber sharing, the Sub-committee decided that out of 24 fibers, 6 FO will be utilized for ULDC Scheme, the remaining FO should be under the custody of the owner. However, additional fibers as required for SCADA/PMU/Expansion scheme are to be provided by the owners in case of any technical exigencies/requirement.

**Deliberation in the meeting**

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

***The Sub-Committee noted as above.***

**D. NEW ITEMS**

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

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

During 1<sup>st</sup> TeST meeting, the forum agreed that training was crucial for employees of new SLDCs. NERLDC viewed that separate training for Data Validation & Day to Day operation needs to be conducted. AEGCL & Tripura agreed to provide on job training for 2 officials of each state LDC. New SLDCs will finalize deputation of their engineer to Assam & Tripura SLDCs

**Deliberation in the meeting**

***After discussion, the Sub-Committee requested Ar. Pradesh, Manipur, Mizoram & Nagaland to start sending their officers in batches so that on job training can be carried at the earliest either at SLDC, Assam/ Meghalaya.***

**B.2 Strengthening of PLCC System by NER States:**

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

Each state may discuss about their present status of connectivity & future plan PLCC connectivity. Present network may be submitted to NERPC.

During 1<sup>st</sup> TeST meeting, it was decided that all state utilities will submit the PLCC network of their own state system by 1month to NERPC and further take up measure like repair, AMC etc for revival of PLCC system. Especially Nagaland, Manipur, Mizoram (where new SLDC is being targeted for completion) had been requested to revive PLCC system.

Present PLCC network of state may be submitted to NERPC within one month.

**Deliberation in the meeting**

SE(O), NERPC informed that only Meghalaya has submitted the present PLCC network and requested Assam to send the same at the earliest. AEGCL has been requested to



revive the PLCC system for RTU reporting to SCADA which was already in place and also take necessary action for needful maintenance.

***After detailed deliberation, the Sub-Committee recommended that whenever OPGW is not available, PLCC should be made available compulsorily.***

### **B.3 New SCADA – Upgradation Project/PMU Related Issues:**

**Point-1:** In order to have a complete SCADA network & to complete the Installation, a minimum of 02 (Two) communication links from each SLDC to NERLDC is required as also noted in Item 1-A (vii). As of date, only 01 link each to Assam & Tripura has been provided & it is understood that there is some last minute hurdle in terminating the NEHU link. POWERGRID may provide 02 (Two) links each from existing SLDC to RLDC. The links to new SLDCs (Mizoram, Manipur, Nagaland and Arunachal) are to be provided subsequently. This is apart from the dedicated VC network.

**Point- 2:** As RLDC & SLDC are dependent on each other for SCADA Data, delay in execution one affects the other. POWERGRID may update the current status of Assam, Meghalaya & Tripura portion of the project & also provide the schedule of completion. Unless SLDC systems are integrated with NERLDC, the Parallel Operation (90 days) & System Availability Test (SAVT) cannot be initiated.

#### ***Matter & Status already discussed in A.1***

**Point- 3:** As envisaged, the Backup RLDC should receive data even in case of complete failure of Main RLDC & hence suitable splitting to be used for redundancy & the location of splitters to be decided during detailed engineering. As regards the location of Terminal Servers, ideally they should be placed at strategic locations other than Main RLDC/ Backup RLDC so that data is not interrupted at Backup Control Centre in case of total outage of Main Control Centre & vice versa. POWERGRID may provide the detail plan for implementation of the scheme.

***Matter would be discussed with Alstom for feasibility. Any additional requirement /supply & erection work to be done at any location would be taken up with Alstom and cost will be booked to SLDC Up gradation project in line with requirement from NERLDC.***

**Point-4:** PMUs of Bongaigaon, Badarpur & MISA are connected to the CVTs of Lines. Any shut-down of the lines to which the PMUs are connected leads to non availability of data from that PMU. Specially the Bongaigaon PMU is a very critical as there are inter-regional links from Bongaigaon and any shutdown of the Bongaigaon - Balipara II leads to outage of data from Bongaigaon PMU which is a major hurdle to system

analysis. POWERGRID is requested to arrange to connect the Bongaigaon PMU to the bus PT very urgently and shift MISA and Badarpur PMU to Bust PT from CVT subsequently.

**Deliberation in the meeting**

**Point 1:** Target date of providing 2<sup>nd</sup> link for SCADA/ EMS up-grade project: **August, 2016**

**Point 2:** By August, 2016.

**Point 3:** Detailed Plan to be provided by POWERGRID at the earliest:

***POWERGRID informed that at present no specific remote location is available for terminal server placement keeping in view constraints of existing old mux & drops thereof. Once these old multiplexers are replaced under Package-4C & 4a, the same would be provided. Till then, the system may run alike its running since last 10-12 years since inception***

**Point 4:** Already completed. /Pont may be deleted

***The Sub-Committee noted as above.***

**Action: NERTS.**

**B.4 Status of VOIP Exchange Project Status & Implementation:**

As per deliberation of 21<sup>st</sup> UCC meeting POWERGRID informed the forum that materials of NERLDC has already under transit and will be delivered by a week's time For SLDCs, FAT completed and party has asked for road permit.

All SLDCs/Communication division representatives are requested by NERTS to process for road permit once request received by the party so as to expedite the supply. Target Completion date is May 2015.

During 1<sup>st</sup> TeST meeting, representatives of ORANGE Ltd. informed the forum that the entire project would be complete by 31/03/2016. It was deliberated that VOIP exchange is the replacement of earlier exchange of NERLDC & SLDC. The same may not linked with other project. Further all state utilities agreed to receive the remote sub, remote telephones etc at SLDC end from M/s Orange and further State, CTU would transport their allotted materials to own stations & connect thereof. Orange representative confirmed to demonstrate one link for each SLDC.

M/s Orange representative was instructed to depute sufficient manpower for left over works at SLDCs like Assam, Tripura and Meghalaya. Further any additional switch (24 ports) required for full-fledged commissioning works (especially in Assam/Tripura/ Meghalaya/NERLDC) may be provided by M/s Orange as required for full-fledged commissioning. POWERGRID may look in to amendment if any required.

**Deliberation in the meeting**

Manager (AM), NERTS informed that VOIP exchange project is mostly completed where SLDCs are in place i.e. mainly exchange installation at SLDCs and NERLDC which have been completed except Nagaland, Mizoram, AP due to constraints by state (Space, power supply –AP, Mizoram, Nagaland). Further from SLDC to Substation connectivity to be provided by respective state utility if the link is non-CTU jurisdiction. Integration (demo only by the party) of RSU (4w to 2 w-converter) has already been demonstrated in Assam—(Kahilipara to Sarusajai) successfully in front of Assam representative. It is requested that Tripura representative may kindly do SAT once approached by Orange by 1<sup>st</sup> week of Sept16. The RSUs will be handed over to SLDC representatives in SLDC locations only.

***The Sub-Committee noted as above.***

***Action: NERTS & State utility***

**B.5 State Estimator/RTCA Operation:**

**RTCA and SE in NER** is not giving graceful solution due to poor availability of analog/digital data and non-reporting of so many RTUs mainly of NEEPCO/ POWERGRID/ AEGCL/ Meghalaya/ Tripura. RTCA is not converging for on-line study of real time power system. Constituents are requested to restore the system RTUs on top priorities.

**Deliberation in the meeting**

The house suggested that the real state estimator can be finalized once all the RTUs in the region are in place. The forum decided to drop for the time being.

***The Sub-Committee noted as above.***

**B.6 Data of SM Nagar end ( against SM Nagar to Comilla (B'Desh) D/C T/L):**

During 1st NETeST meeting, Alstom agreed to install RTU at S.M. Nagar end by 1st week of Dec15. As S.M. Nagar being a State SS, TSECL will provide a PLCC for two data paths and two speech paths up to Grid, SLDC. TSECL confirmed of the same.

Regarding communication (both voice as well as telemetry) with Comilla substation of Bangladesh it was intimated by NERLDC the same should be through NLDCs of both the countries and only in case the same is not possible then communication directly from Comilla –SM Nagar-SLDC/RLDC-NLDC(I)-NLDC(B)-Comilla may be implemented after consulting Bangladesh authority. NERLDC further reiterated that either of the communication schemes should be in position through redundant channels before start of power supply to Comilla S/s]

During 2<sup>nd</sup> NETeST Meeting, Manager (AM), NERTS informed that

- a) Data of S.M. Nagar has been made available to SLDC & NERLDC along with speech (to SM Nagar) has been made available up to SLDC, NERLDC, NLDC.
- b) The 132kV D/C S. M. Nagar to Comilla has been kept charged up to Indian border.
- c) PGCB, Bangladesh is yet to configure at their end for exchange to exchange connectivity for 4W E&M (SLDC Tripura end already connected).

Forum requested NLDC NERLDC integration to be taken up by NERLDC through Alstom (as data already available at NERLDC) and requested NERTS, LD&C to help in this regard so that M/s Alstom sort out the issue at the earliest.

#### **Deliberation in the meeting**

Tripura representative could not update the status. Further as matter is that necessary SCADA telemetry & voice issue as required by TSECL may be taken up by TSECL as there is no comment by NERLDC on the subject issue during meeting.

***The Sub-Committee noted as above & issue may be dropped.***

#### **B.7 MW Vacation Project:**

During 1st NETeST meeting, AEGCL raised the issue for early completion of left over works. NERTS stated that Terminal equipment teams will be deployed by two weeks and left of SDH/PDH work would be completed by 2months where already fiber & panel installed. Further there are some re-works involved (like 24F approach cable in place where already 12 F cable laid) and the same will be completed after March16.

Further additional works or re-work (like shifting to new PLCC room/Telecom room in a FO node station where already once equipment installed as per originally surveyed location) would be taken up on payment basis through KEC. However other works of original scope LOA awarded to KEC will be March 2016. All SDH & PDH equipment which has been installed (with DC supply taken from station) will be re-installed with new DCPS.

During 3rd NETeST meeting, it was intimated by POWERGRID & AEGCL that links as mentioned have been provided i.e. E1s Tinsukia- Samaguri (jointly verified with AEGCL).

It was requested that one number fiber may be immediately be provided for connecting Sarusajai-Kahilipara to which AEGCL agreed in principle.

Further 3nos. E1s on Ethernet from Samaguri-Kahilipra through AEGCL optical link to be provided for interfacing with MW vacation nodes to Kahilipara . The technical requirement has been agreed upon in principle. However, AEGCL intimated that they would confirm soon to POWERGRID.

Data reporting on IEC 60870-5-104 from Sisugram to Kahilipara have already been started. Once link is provided by AEGCL, Alstom would complete the job by June, 2016.

Regarding the MW vacation project, after deliberation discussion, it was emphasized that POWERGRID would take up the matter with M/s KEC for completion of left over works of terminal Equipment and channel connectivity as & where OPGW already installed by Sept2016. If required the same to be strictly taken up with the highest authority of M/s KEC India through NERPC, CEA for multiple gang mobilization in both OPGW & Terminal equipment sector works for the jobs undertaken. POWERGRID confirmed that they will take up the issue immediately.

The Forum also decided that M/s KEC may be communicated to attend in next NETeST meeting to assure full-fledged completion of assigned job. POWERGRID confirmed accordingly.

Tejas equipment (used for PMU-pilot project/SEL linking at Sarusajai & Kahilipara) are not under ownership of ULDC dept of NERTS, POWERGRID. However, ULDC dept. would take up the matter with POWERTEL on request basis.

#### **Deliberation in the meeting**

It was intimated by POWERGRID & KEC scope for AEGCL would be completed soon. DGM KEC, Guwahati intimated as follows:

- a) BTPS-Agia-Mirza-Boko-Sarusajai---link commissioning by August'16
- b) Recommissioning of Badarpur-Badarpur-Srikona-Pailapul-to be completed by August 2016 along with re-integration of Gohpur data.

It was requested AEGCL would also co-operate and sign SAT once KEC raises SAT for OPGW & Equipment. All other works like re-laying of approach cable(12-24f)

as asked by AEGCL and shifting of FODP , replacement of FMS wherever applicable will be completed by Nov16.

***The Sub-Committee noted as above.***

**B.8 Data Concentrator RTU for MePTCL:**

During 1st NETeST meeting, MePTCL informed further data concentrator configuration issue will be addressed by Alstom directly with MePTCL once scope of original Alstom-SLDC project is over( after SAT on AMC).

**Deliberation in the meeting**

Manager (AM), NERTS informed that for old RTUs, MePTCL has to carry out the job on cost basis but for new RTUs supplied under SLDC project, the matter would be done under AMC through Alstom. It was informed that Alstom has already confirmed to do the same in direct coordination with MEPTCL. Alstom again confirmed that data concentrator facility to be done in new RTU supply under project as the project team of Alstom is not authorized to work on old RTUs of Alstom without permission of Sales team.

***The Sub-Committee noted as above.***

**B.9 SCADA problem at Tripura SLDC:**

SCADA is not function properly. Due to unreliable system, TSECL is unable to see drawal, injection, central sector generation as well as state generation, overdrawal/underdrawal etc for which day to day activities of SLDC is hampering.

Manager (AM), NERTS informed there were some issues of ICCP which has been attended from time to time. The work will be completed by 31.03.2016.

**Deliberation in the meeting**

Tripura representative could not update the status. POWERGRID intimated that ICCP new link for new system NERLDC-SLDC has been provided and hence old system may be discarded. Matter agreed by forum and already discussed under SLDC project S.N1 Issue may be dropped after discussion with TSECL through NETeST forum

***The Sub-Committee noted as above.***

**B.10 CERC telemetry order dated 29.01.2016:**

1. Persistent non-availability of data from the generating stations/sub-stations be taken up in RPC meetings for appropriate direction and action.
2. NLDC is directed to submit user- wise latest status of telemetry, by 31.8.2016.

3. POWERGRID to undertake effective monitoring of telemeter data and to minimize the intermittency in telemetry in all regions within six months from the issue of the order. NLDC is directed to submit status of PGCIL's telemetry within one month thereafter.
4. All the utilities/generating companies which have to still establish telemeter power system parameters as per details given in para11 of the Order to provide data to RLDCs/SLDCs as per the provisions of the Grid Code and CEA Grid Standards Regulations by 31.7.2016.

**Deliberation in the meeting**

DGM NERLDC stressed on different issue and requested all to take needful action. POWERGRID intimated the critical reasons as mentioned in diff para which are beyond control constraints may be considered for CS issues.

***The Sub-Committee noted as above.***

**B.11 PMU placement in NER under URTDSM scheme:**

NERTS, POWERGRID has given details of PMU placement in NER under URTDSM in Phase-1 and Phase-2 to NERLDC.

From the proposed schemes, the following were observed:

- 1) At some locations, PMUs are already available under Pilot Project taken up by POSOCO. Hence, PMU placement under URTDSM would result in duplicate.
- 2) Commissioning of some of identified lines are delayed.
- 3) At some locations, the feeders originally proposed are not of critical importance in respect of NER Grid operation.

Considering above, it is proposed to change the PMU locations in Phase-1 of URTSDM project in NER to cover the maximum no. of critical feeders & substations.

The existing PMU locations and proposed changes are given in detail in Annexure – B.11.

**Deliberation in the meeting**

NERLDC had communicated a list of additional PMU requirements (11 PMUs at 6 locations) to NERTS, POWERGRID, in order to cover the important nodes and lines of NER grid under URTDSM phase-1.

POWERGRID intimated that quantity & locations have been earlier discussed with concerned utility/authority & NLDC as well. Further, that additional quantity (for 132KV, 220kV stations beyond original approval of 400Kv stations only, are required

keeping in view NER specific power system scenario) as proposed by NERLDC. It may be agreed upon and cost to be borne proportionately as per original FR/DPR.

Members opined that for additional PMU/locations, it may be covered under existing URTDSM project. LD&C had written to NERLDC to take up with PSDF. Forum requested that NERPC may take up with CEA or PSDF monitor for URTDSM project for needful.

***The Sub-Committee noted as above.***

**B.12 Alternate Telemetry Channel for OTPC Palatana Plant:**

At present, there is one communication channel via PLCC from Palatana to Silchar. To have reliable telemetry channel another telemetry channel may be incorporated so that data communication is via two channels.

NERLDC is of the view that the crucial importance of Palatana plant in NER Grid operation it is requested to take up suitable action so that data communication with PALATANA plant and NERLDC is via two channels. Take up suitable action with POWERGRID.

**Deliberation in the meeting**

The forum requested OTPC to do the needful as per IEGC guidelines. It was informed that nearest wideband location is 79Tilla/SLDC. OTPC may take up the same for connecting up to 79 Tilla-SLDC (via SM Nagar) in consultation with TSECL. OTPC confirmed to make joint visit with TSECL during protection audit and confirmed to do by 2 months.

***The Sub-Committee noted as above.***

***Action: OTPC***

**B.13 Absence of battery backup at Meghalaya SLDC:**

In the event of grid disturbances the current UPS system at NEHU cannot provide backup to the system due to lower capacity of battery banks. It was understood that replacement was not possible due to administrative issues of vendor. So it is requested that replacement may be considered under current Upgradation project.

During the 3rd NETeST meeting Manager (AM), NERTS informed that the battery backup problem is with existing system. New backup system in up-gradation project will not have such problem.

**Deliberation in the meeting**

Already Completed.

***The Sub-Committee noted as above.***



**B.14 Shifting of the Old SCADA system, to New SCADA System:**

Due to frequent breakdown and non-availability of spares the old SCADA system will be decommissioned soon. In this connection a letter has already been issued to the concerned parties, viz, Assam, Meghalaya and Tripura vide NERLDC/SCADA-UPGRADE (Post Award Vol-i)/4523-29 dated 2nd August16.

***For information of Members.***

**B.15 Inclusion of any new project in the Telemetry/ SCADA Database:**

Any Projects (Generation/ Substation/ Lines) of Constituents under construction, likely to be commissioned within six (6) months need to be intimated to NERLDC in advance along with details parameters/SLDs etc for records & inclusion in the Telemetry/SCADA database.

***For kind information and necessary action of members.***

**B.16 OUTSTANDING AGAINST AMC of SCADA/EMS under ULDC-Scheme-I.:**

	<b>AEGCL</b>	<b>MePTCL</b>	<b>TSECL</b>
<b>A. Main SCADA AMC</b>	NIL	NIL	Rs.1247/-
<b>B. Overhead Charges</b>	Rs.1309886/-	NIL	NIL
<b>C. FERV</b>	Rs.117007/-	Rs.91783/-	Rs 106926/-
<b>Total</b>	Rs.1426893/-	Rs.91783/-	Rs.108173/-

As discussed in the 3rd NETeST minutes, Constituents above constituents are requested to pay the outstanding dues at the earliest.

**Deliberation in the meeting**

Assam and Meghalaya has already initiated file movement for early payment of Dues.

***The Sub-Committee noted as above.***

***Action: AEGCL, MePTCL, TSECL.***

**B.17. Agenda Items for 4th NETeST Meeting from POWERGRID:**

- 1. New VOIP Exchange for Backup NERLDC/Guwahati.** Requisition received from NERLDC. The same is proposed to be procured under quantity variation of ongoing VOIP exchange (M/s Orange) project. Forum may agree.

**Deliberation in the meeting**

All constituent agreed.

***The Sub-Committee noted as above.***

2. **Approval of SDH-STM 16 & STM-4 ring formation.** Equipment Level protections at critical nodes/ links are also proposed as detailed in NER-FO diagram as attached. Requirement of requisite fiber for STM-16 equipment/ring and fiber for ULDC purpose as & where applicable may kindly be approved by Forum. Network is proposed keeping in view data congestion & redundancy considering PMU, SCADA, VOICE network/projects.

**Deliberation in the meeting**

All constituents & forum agreed.

***The Sub-Committee noted as above***

3. **Additional PMUs/132Kv under URTDSM:** Under URTDSM project, some additional PMUs are to be connected at 132Kv/400kV Level as per 3<sup>rd</sup> NETeST MOM – As already consented in last NETeST, it is now requested that NERPC may kindly take up with CEA for inclusion of 132kV Stations under PSDF. Further the schedule completion time/period is proposed to be extended and revised for the new stations (late addition) as proposed by NERLDC.

**Deliberation in the meeting**

All constituents & forum agreed.

***The Sub-Committee noted as above***

4. **For SLDC-NERLDC communication network,** VLAN was approved vide 3<sup>rd</sup> NETeST for all SLDCs-NERLDC except Manipur. **Inclusion of Manipur SLDC** at same terms & condition is proposed to be included.

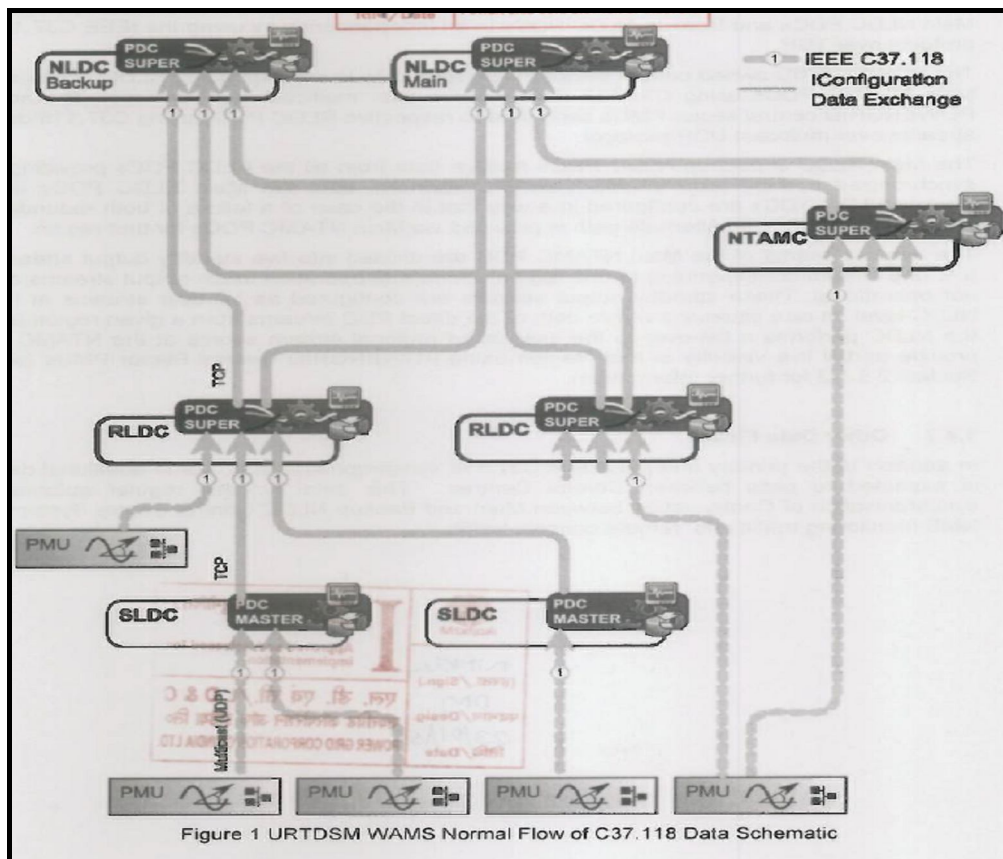
**Deliberation in the meeting**

All constituents & forum agreed in line with discussion at SNA.1

***The Sub-Committee noted as above***

5. **Regarding Connectivity PLAN for URTDSM project:**

VLAN or Point to Multipoint telecommunication set up required for connectivity of URTDSM project. The technical concurrence has already been consented in 3<sup>rd</sup> NETeST. In line with discussion during 3<sup>rd</sup> NETeST meeting, cost for PMU-PDC (Site to SLDC/NERLDC--2MB); PDC (SLDC)-Sup PDC (SLDC/NERLDC), Super PDC-Super PDC( NERLDC—NLDC Main & B/u) --- (10MB ring/ proposed on lower side) is apx. Rs.1.5 cr year initially for 2-3years till new SDH are installed in NER (in required locations under NER FO expansion). The same will be put up in RPC also.



Without connectivity, project getting delayed and hence Go Ahead is requested through Forum.

#### **Deliberation in the meeting**

Members agreed technically for this but suggested that the same i.e. commercial part etc. to be taken up in next RPC meeting.

***The Sub-Committee noted as above.***

6. **Proposal for Connectivity over OPGW to Back up NERLDC.** AEGCL may kindly identify a dedicated where OPGW/ADSS will be laid and minimum 12 fibers will be used only for SCADA-Telemetry purpose.

#### **Deliberation in the meeting**

For new permanent location of Back Up NERLDC, underground fiber will be preferred and hence above OPGW/ADSS is not required. AEGCL will arrange needful permission for same in time in future.

***The Sub-Committee noted as above.***

7. **Approval of laying OPGW under NER FO Expansion:**

- 1.0 Following OPGW link is required for optical ring completion in NER as per attached FO network

- a) **400kV Silchar-Bongaigaon D/C and 400kV Byrnihat-Silchar D/C under Central Sector---417km (=200km+217km).**

**Deliberation in the meeting**

All constituents & forum agreed the technical requirement of the above central sector link OPGW and requested POWERGRID to explore scope of quantity variation in the existing NER FO expansion scheme packages like Ia & IIIC and do needful for early execution. It was also discussed that as this is an additional requirement which is to be added much later wrt investment approval, hence requisite additional time frame would be considered for supply & installation on pro rata basis for above.

***The Sub-Committee noted as above & recommends for RPC approval***

- 2.0 Further it is also proposed that for Strengthening of ULDC FO grid, OPGW may be laid over the following T/L in any **ensuing project. Technical clearance by forum is requested, same will be put up in RPC once project is finalized**

- a) 400kv Quad Balipara-Bongaigaon D/C T/L.

**Deliberation in the meeting**

All constituents & forum agreed and requested that POWERGRID LD&C may take up the matter.

***The Sub-Committee noted as above & recommends for RPC approval***

- 8. Nominations of Coordinators/NE FO expansion project:** Nomination is requested from all states for OPGW installation & installation of terminal equipment- NER FO Expansion project. Details of project along with list of link and equipment already communicated to all state utility for needful.

**Note:**

Further Revised List of links and sector/owner in line with 14/15th NERPC approval is attached again. Regarding equipment

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

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

**Deliberation in the meeting**

All constituents & forum agreed the technical requirement and booking under NE-FO expansion scheme. It was agreed that all utilities should inform the name of the coordinators within by15 days to NERPC & POWERGRID with a copy to NERPC. All

state will provide their specific channel plan requirement by same date, otherwise, POWERGRID will go by the standard DRS which has already been communicate to all State. Necessary site survey report will be verified by respective State site I/C or coordinator for state locations and by POWERGRID for CS locations. Prior to that, any clarification required may be sought from POWERGRID over email

***The Sub-Committee noted as above.***

**9. SDH equipment for ULDC CS nodes procured & installed under MW vacation:**

Regarding additional nodes/SDH or Optical Links as taken up/being installed (added from time to time vide UCC/NETeST forum) under MW Vacation project which were not originally in scope, it is proposed that time period of completion for items which were added late may be considered revised /extended proportionate/pro-rata wrt original time frame.

**Deliberation in the meeting**

Forum agreed for additional time frame /time overrun if applicable because of additional links/node which is later added to project keeping in view different constraints as explained during meeting. POWERGRID has been requested to complete the installation & commissioning of STM-4 through M/s ECI/OEM under MW vacation project by Nov-Dec'16.

***The Sub-Committee noted as above***

**10. Maintenances of Equipment installed at State SLDCs(except Assam SLDC)-**

Forum may discuss future plan and ownership & maintenance philosophy for new SLDCs

**Deliberation in the meeting**

AEGCL has agreed to maintain equipment installed at SLDC be maintained by AEGCL. All other states including Meghalaya will intimate by a week.

***The Sub-Committee noted as above.***

**Date & Venue of next NETeST meeting**

It is proposed to hold the 5<sup>th</sup> NETeST meeting of NERPC on second week of October, 2016. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

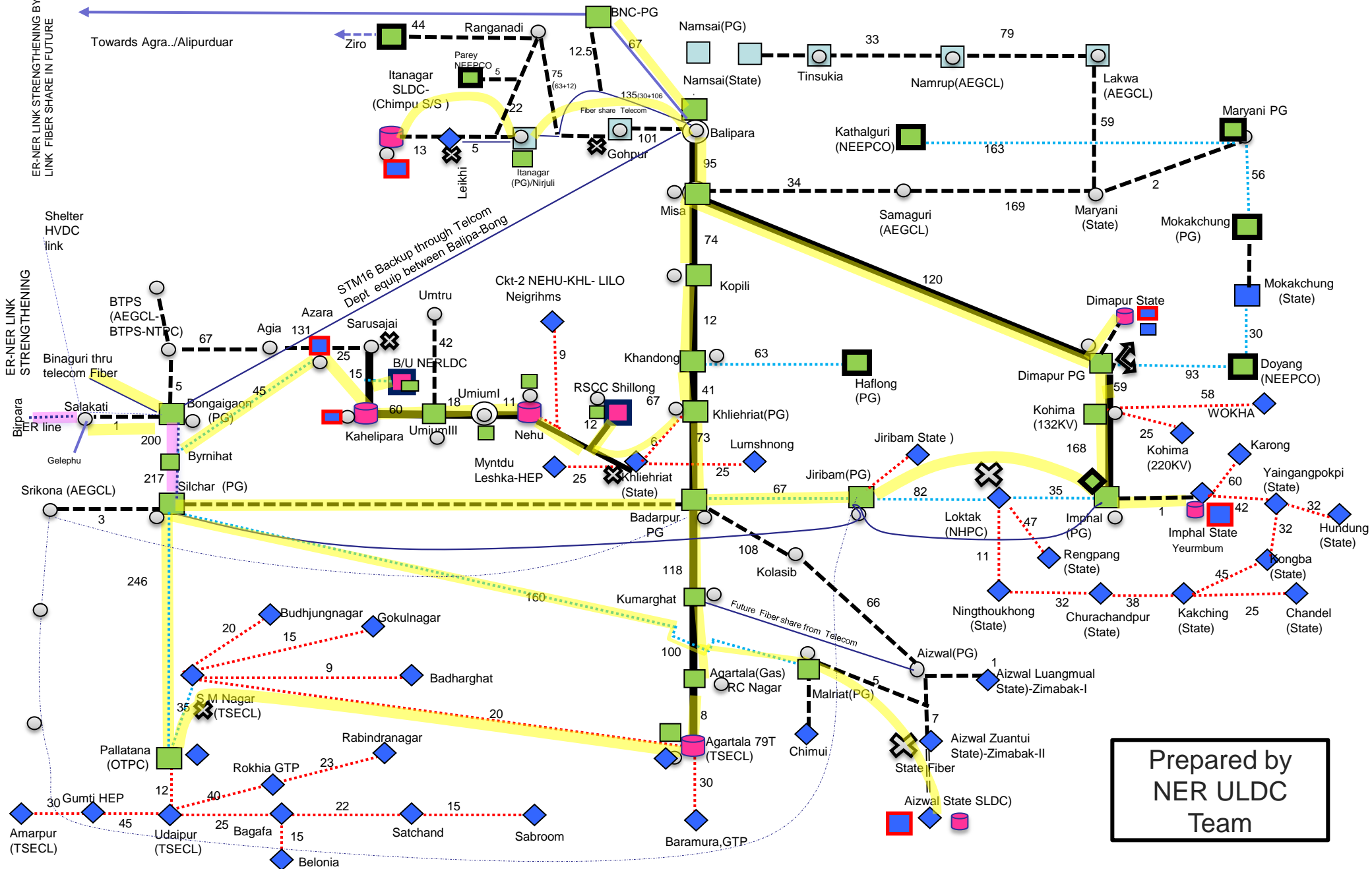
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**Annexure-I****List of Participants in the 4<sup>th</sup> NETeST Meetings held on 09/08/2016**

<b>SN</b>	<b>Name &amp; Designation</b>	<b>Organization</b>	<b>Contact No.</b>
1.	Sh. Nangkong Perme, EE, SLDC	Ar. Pradesh	9436288643
2.	Sh. T.N. Sarma, DGM, MRTC	Assam	09435007367
3.	Sh. J.K. Baishya, DGM, LDC	Assam	09435041494
4.	Sh. A.K. Das, AGM, H/Q, AEGCL	Assam	09435045804
5.	Sh. A.K. Kalita, AGM, Comm.	Assam	09435158118
6.	Sh. Arup Sarmah, Dy. Manager , Comm.	Assam	09707854367
7.	Sh. B. C. Borah, AGM, SLDC	Assam	09435119248
8.	Sh. H. Shanti Kumar Singh, GM, SLDC	Manipur	09436022381
9.	Sh. Alakesh Koch, AE, SLDC	Meghalaya	09862630607
10.	Sh. D. J. Lyngdoh, E.E (S.M), SLDC	Meghalaya	09774285758
11.	Sh. Cheanee R. Sangma, AE, SLDC	Meghalaya	07829963735
12.	Sh. F. E. Kharshiing, SE, SLDC	Meghalaya	-
13.	Sh. B. Wankhar, EE(MO)	Meghalaya	-
14.	Sh. B. Narry, AEE, SLDC	Meghalaya	-
15.	Sh. B. Nikhla, EE, SLDC	Meghalaya	-
16.	Sh. Lalbiaksanga, SE, SLDC	Mizoram	-
17.	Sh. Lalduhawma, EE, SLDC	Mizoram	09436144113
18.	Sh. B. Joy Singh, JE, SLDC	Mizoram	-
	<b>No Representative</b>	<b>Nagaland</b>	
19.	Sh. A. Gan. Chaudhuri, DGM(C & T)	Tripura	09436139311
20.	Sh. D. Pal, SM(Comm.)	Tripura	09436500244
21.	Sh. V. Kaikhochin, DGM	NERLDC	09436302712
22.	Sh. P. Borkapaki, Sr. Engineer	NERLDC	-
23.	Sh. Joypal Roy, Sr. Manager	NEEPCO	09435577726
24.	Sh. A. Patir, GM	PGCIL	-
25.	Sh. Supriya Paul, Manager, AM	PGCIL	09436302995
26.	Sh. Thakor Prasad Pandey, DGM(O&M)	OTPC	08794718423
	<b>No Representative</b>	<b>NHPC</b>	
27.	Sh. R. V. Patnaik, AGM(OS)	NTPC	09438233243
28.	Sh. J. Bhattacharrya, AGM(EM)	NTPC	09435720036
29.	Sh. Imtiyaz Hussain, Project Manager	Alstom	08800795693
30.	Sh. Rajesh Kodun, Project manager	KEC	08876524026
31.	Sh. Nabajit Barnal, Regional DGM	KEC	08811019019

32.	Sh. P.K. Mishra, MS	NERPC	-
33.	Sh. B. Lyngkhai, Director/S.E (O)	NERPC	09436163419
34.	Sh. S. Mukherjee, AD-I/AEE	NERPC	08794277306
35.	Sh. Sadiq Imam, AD-I/AEE	NERPC	07421806242
36.	Sh. Shaishav Ranjan, AD-II/A.E	NERPC	08794276168



















# Ring formation & Qtty finalization for STM-16 & STM-4 Fibre Optic Expansion Project of NER – FO Network



Prepared by  
NER ULDC  
Team



## LEGEND

-  NER MW replacement FO
-  Proposed FO links under NER Expansion CS Lines/State Lines
-  Existing ULDC FO
-  Telecom Fiber
-  Fiber in NEA-W/ Other project
-  State owned Fiber
-  NERLDC
-  SLDCs
-   Microwave Replacement Nodes under Expansion / STM-4-ECI
-  CS Nodes under Expansion-STM-4
-  CS Nodes under Expansion STM-16
-  State Nodes under Expansion stm4
-  State Nodes under Expansion STM-16
-  Back to back fiber patch for STM 16 ring continuation wrt nodes of both ends
-  Back to back fiber patch for STM 4 ring continuation wrt nodes of both ends
-  • Yellow Highlighted links are STM-16 under NER Expansion
-  •Pink links are required for STM16 ring (to be proposed additionally under NER FO Expansion)