

North Eastern Regional Power Committee

MINUTES OF THE 135th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 18/08/2017 (Friday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 135th OCC Meeting is attached at **Annexure – I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 135th OCC meeting. He noted the presence of participants from all the utilities. He expressed satisfaction about the maximum participants from all the utilities and requested to continue the same in future so that matters can be resolved during the meeting. On behalf of the forum he congratulated Shri N.R. Paul upon his promotion to GM,NERLDC and wished him the best for all his future endeavors.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, Director/SE(C&O) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 134th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 134th meeting of Operation Sub-committee held on 28th July, 2017 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 4th August, 2017.

The Sub-committee confirmed the minutes of 134th OCCM of NERPC with no modifications as no comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 135th OCC:

State	Protection System	ADMS	CAPACITOR INSTALLATION	SAMAST**
Arunachal Pradesh	Tendering in process.	DPR preparation stage.	-	SLDC to apprise SERC of the project.
Nagaland	Work under execution. Completion by 30.09.17.	Under scrutiny of Techno-Economic Sub-group.	Under process of approval. To submit undertaking and other required documents.	Documents and relevant papers have been furnished to Nagaland SERC as desired by Chairperson, SERC. SERC has requested for a presentation at Kohima/Nagaland by the SAMAST group
Mizoram	By Sept'17 all LOAs would be issued.	Under scrutiny of Techno-Economic Sub-group.	Proposal on hold. To be considered upon funds being available.	To furnish action plan.
Manipur	By Sept'17 all tenders to be completed. By Sept-Oct'17 all LOAs' to be issued.	Pilot project under scrutiny of Techno-Economic Sub-group.	To submit pilot scheme DPR	To furnish action plan.
Tripura	LOAs to be issued by Sept'17.	DPR under internal scrutiny.	Under Study stage**	NERPC/NERLDC members to meet TSERC /TSECL higher officials to enable take-off of the project.
Assam	By Sept'17 all LOAs would be issued. BCU scheme all LOAs issued.	Under scrutiny of Techno-Economic Sub-group.	-	Identification of intra-State entities and total number of SEMs required would be completed shortly. To nominate their representative for SAMAST implementation committee.
Meghalaya	MePTCL – 75% LOAs by Aug'17. 25% balance LOAs will be completed by	DPR submitted to CEA & NLDC	DPR to be prepared.	To initiate activity for identification of Metering points.

	Sept' 2017. MePGCL – by Sept, 2017 all LOAs			
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Deliberation of the sub-Committee:

S.E. (C&O), NERPC appreciated the continued efforts of DoP Nagaland and informed that DoP Nagaland has to self-certify the completion of works. S.E. (C&O) added that Inspection formats may be circulated if required. He also expressed concern regarding laggard disbursement of funds by PSDF Secretariat, members concurred. In response to concerns of the forum regarding increased taxes in the GST regime, S.E.(C&O) informed that the matter has been discussed with NPC/NLDC and assured that all incremental taxes would be accounted for by the disbursing agency.

SAMAST

DGM(MO),NERLDC outlined the roadmap for SAMAST implementation as follows:

- Identification of interface points/meter locations.
- T.S. preparation
- Tendering and subsequently LOA.
- Utilities of respective states to handle different stages of execution may be finalised.
- Nodal officers may be nominated.

SE,(G), O/O CE(G),MePGCL informed the forum that MeECL has a separate System Protection Division under MePTCL and MePGCL utility which is responsible for interface Energy Meters procurement, installation, maintenance, testing and calibrations. He also informed that MePTCL has recently successfully completed the project for DPR preparation, installation and commissioning of the boundary metering phase-I with CDC at NEHU. He informed that a separate CDC for Generation Utility will be installed where in data from all the Generating Stations will be sent to SLDC, NEHU. He re iterated that the System Protection Division of both the utilities will be responsible for transmission of data through the available media and ensure availability of data at SLDC for further activities by SLDC like load forecasting, Interchange scheduling, Accounting etc etc. He requested the forum that for successful completion of the project the two executing Division under MePTCL & MePGCL must also be involved while implementation of SAMAST. EE, System Protection, MePTCL, Umiam, opined the views placed in the forum that a separate Protection Division under MePTCL utility is performing the responsibility for interface Energy Meters procurement, installation, maintenance, testing and calibrations.

CGM, SLDC, Assam nominated Shri Dipesh Das, AGM, SLDC, Assam as the nodal officer for SAMAST. MSPCL representative informed that name of nodal officer would be communicated after consultation with senior officials. After detailed deliberation the forum drew up a itinerary for visit of SAMAST officials from NERPC/NERLDC to visit respective states:

1. On 23rd August, 2017 meeting of MeECL officials at NERPC.
2. On 24th August, 2017 meeting with AEGCL officials at Guwahati
3. On 5th September SAMAST group to visit Imphal.
4. On 6th September SAMAST group to visit Agartala.
5. After 15th September the group would visit the remaining states of Arunachal Pradesh, Mizoram and Nagaland to discuss with respective utilities/SERC.

The forum requested Assam to accelerate efforts in respect of DPR finalisation so that the same may be submitted to NLDC/NPC by 15.09.17.

The Sub-Committee noted as above.

Action: All state utilities/NERPC.

2. Outage of Important Grid Elements:

Name of the Element	Name of Utility	Status as informed in 135th OCC
63MVAR Reactor at Byrnihat to replaced with 80MVAR Reactor	MePTCL	SE, MeECL requested that a report be submitted specifically mentioning that terminal equipments need not be replaced. EE(SP),MePTCL assured that the DPR for 80MVAR Reactor will be prepared and submitted.
400KV 80MVAR Bus Reactor at Palatana	OTPC	04 Nos bushing to be replaced. Work would be completed by OTPC itself. Tentative completion 31.10.2017.
132 kV Jiribam – Rengpang S/C	MSPCL	Line charged from Rengpang end. The 132/33kV 20MVA transformer at Jiribam end is to be commissioned before line can be charged from Jiribam end.
132 kV Mariani (AEGCL) – Mokochung (DoP, Nagaland) S/C	DoP Nagaland & AEGCL	Line cannot be charged due to low insulation. Outlay of Rs 26 lakhs to be sanctioned within Aug'17.
132 kV P K Bari – Silchar I & II	NERTS	Nov'17-One circuit (subject to weather condition)

132 kV Dimapur - Dimapur I	NERTS	132kV Dimapur- Kohima GIS breaker rectified but still some work to be done then can be put in service. 132kV Dimapur-Dimapur I CB to be free by Sept'17.
132 kV Hailakandi - Dullavcherra	AEGCL	Restoration work to be started by Oct'17.
250MW Unit#I BgTPP	NTPC	Synchronized to grid on 14.08.17(19:01 Hrs). To be dropped and Status of Unit#II to be monitored in its place.

The Sub-Committee noted as above.

Action: AEGCL, MePTCL, OTPC, NERTS, NERLDC/NERPC.

3. Furnishing of various data for reliable grid operation:

Data regarding	Status as of 135 th OCC
UFR Operation Report	SLDCs of Assam, Meghalaya, Mizoram, Nagaland & Tripura submitted for July'17. SLDCs of Arunachal Pradesh & Manipur yet to submit for July'17.
Reporting of Commissioned Elements for Tarang App	SLDCs of Assam, Manipur, Meghalaya, Nagaland & Tripura submitted for July'17. SLDCs of Arunachal Pradesh & Mizoram yet to submit for July'17.
DAS output for FRC calculation	OTPC, RHEP has submitted data for the event mentioned**, AGTPP Extension has no DAS installed as per mail received Monarchak is to submit data from next event
Questionnaire of Working Group on Hydro(FOLD)	P&ED Mizoram submitted. Agenda may be dropped.
Report on VDI/FDI	SLDCs of Assam and Meghalaya only submitting. Other SLDCs are requested to send the same.
DG healthiness report	Revised format was once again circulated by NERLDC. Kopili, Nagaland & OTPC has only submitted for July'17.
Auxiliary Supply details	NERTS (for few S/S), NHPC, NEEPCO, OTPC, MePTCL and DoP Nagaland has submitted details. NERTS(Rest), NTPC, DoP Ar. Pradesh, AEGCL, MSPCL, P&ED Mizoram & TSECL yet to submit details.
Technical & Commercial data for PoC (Q3 2017-18)	All utilities submitted the data. TSECL yet to submit YTC data.

Daily Operational Data	All SLDCs are sending. Agenda may be dropped	
Operating Procedures.	Items	Data submitted by
	OP of States	Not submitted by any SLDCs
	OP of HVDC	Not Submitted
	OP of Transmission System	Not submitted by any constituents
	OP of Generating Stations	Not submitted by any generators
	OP of GIS	Not submitted by any constituents
Data related to Power Map.	Items	Data submitted by
	Communication (PLCC/OPGW/GPRS/SAT/Satellite)	Not submitted by any constituents
	SEM Location	Not submitted by any constituents

Date & Time of event	Brief description	Name of ISGS who will submit DAS data	Whether data submitted
27-July-17 at 10:08 Hrs	On 27-July-17 at 10:08 Hrs Teesta III & Dikchu tripped. Generation loss was around 993 MW.	Palatana, BgTPP, AGTCCPP Extn, Ranganadi	Palatana, Ranganadi submitted data, BgTPP no generation during the event
<i>AGTCCPP, AGBPP, Khandong, Kopili, Doyang and Loktak may please intimate their DAS implementation schedule.</i>			

Generating Stations having no DAS system	Schedule of DAS implementation
Loktak	2019
AGTCCPP GTGs	R&M not yet proposed
AGTCCPP STGs	Confirmation to be provided in next OCC meeting
AGBPP	R&M not yet proposed
Khandong	R&M not yet proposed
Kopili	R&M not yet proposed
Kopili Stg -II	R&M not yet proposed
Doyang	R&M not yet proposed

* NEEPCO informed the forum that DAS will be installed at AGTCCPP, AGBPP, Khandong, Kopili, Doyang at the time of R&M activities.

NERLDC has also requested that Water level, inflow details, discharge quantity & Number of Gate opening (in case of spillage) of Hydro Plants be recorded on a 12 hour basis (2 entries in a day) and to be submitted to NERPC & NERLDC on a monthly basis for proper operational planning.

The Sub-committee noted as above.

Action: All utilities as above.

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING JULY, 2017

As per the data made available by NERLDC, the grid performance parameters for July, 2017 are given below:

NER PERFORMANCE DURING JULY, 2017

States	Energy Met (MU)		w.r.t. June,17 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. June,17 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In July,17
	July-17	June-17		July-17	June-17		
Ar. Pradesh	60.32	56.26	7.22	61.42	57.36	7.08	-1.79
Assam	889.84	789.75	12.67	928.77	823.36	12.80	-4.19
Manipur	60.95	59.67	2.15	62.35	60.95	2.30	-2.25
Meghalaya	117.29	154.15	-23.91	117.29	154.15	-23.91	0.00
Mizoram	36.70	37.09	-1.05	37.70	38.13	-1.13	-2.65
Nagaland	65.70	58.30	12.69	66.82	59.39	12.51	-1.68
Tripura	120.59	111.51	8.14	122.21	114.51	6.72	-1.33
Region	1351.39	1266.74	6.68	1396.57	1307.85	6.78	-3.24

States	Demand Met (MW)		w.r.t. June,17 % inc (+) /dec (-)	Demand in (MW)		w.r.t. June,17 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In July,17
	July-17	June-17		July-17	June-17		
Ar. Pradesh	131	123	6.50	132	124	6.45	-0.76
Assam	1645	1623	1.36	1675	1744	-3.96	-1.79
Manipur	158	155	1.94	161	156	3.21	-1.86
Meghalaya	303	272	11.40	305	272	12.13	-0.66
Mizoram	82	77	6.49	84	82	2.44	-2.38
Nagaland	136	146	-6.85	140	147	-4.76	-2.86
Tripura	266	268	-0.75	271	268	1.12	-1.85
Region	2429	2387	1.76	2507	2499	0.32	-3.11

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

AVERAGE FREQUENCY (Hz)

Month---->	July-17	June-17	Month---->	July-17	June-17
Total Generation in NER (Gross)	1529.262	1453.218		% of Time	% of Time
Total Central Sector Generation (Gross)	1119.030	1032.192	Below 49.9 Hz	6.56	5.94
Total State Sector Generation (Gross)	410.232	421.026	Between 49.9 to 50.05 Hz	76.15	73.13
Inter-Regional Energy Exchange			Above 50.05 Hz	17.29	17.59
(a) NER-ER	0.00	6.362	Average	50.00	48.33
(b) ER-NER	555.41	352.192	Maximum	50.23	50.24
(c) NER-NR	592.49	375.306	Minimum	49.69	49.72
(d) NR-NER	0.00	14.197			
© Net Import	-37.08	-15.279			

The Sub-committee noted as above.

Deliberation of the sub-Committee:

Sr. Engineer, NERLDC presented the grid performance report for the month of July 2017 and highlighted the following points:

- Non-compliance by SLDC, Tripura to warning messages given by NERLDC viz. 12th, 13th & 14th of August'17.
- Repeated overdrawal by Tripura inspite of deviation violation messages being given.
- Unwarranted opening of 132kV lines specially 132kV Palatana-Udaipur without any information to NERLDC.

The forum strongly expressed concerned on TSECL for not adhering to grid discipline and not conforming to IEGC. EE, SLDC, DoP Ar. Pradesh opined that in order to avoid Grid Disturbances/blackouts similar to the one on 30th/31st July, 2012 SLDCs must follow RLDC instructions regarding real-time grid operation in spirit and letter.

NERLDC also highlighted that Daily, Weekly and Monthly Voltage Deviation Report, Frequency Deviation Report and System Reliability Report for July'17 are already mailed to all the constituents for necessary actions. Further it was informed that members may access these reports from NERLDC website under the tab CERC KPI Reports.

The Sub-committee noted as above.

ITEMS FOR DISCUSSION

C. OLD ITEMS

1. Status of Generating Units, Transmission Lines in NER:

During 135th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 135 th OCC Meeting	Status as given in 133 rd OCC Meeting
a. New Projects			
1	CoD of Unit -II of Bongaigaon TPS of NTPC	CoD by Oct'17	Light up expected by 26.06.2017.
2	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	ICT-1 - Nov'17***	ICT-1 - by Sept'17
3	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Delay in dam construction. First unit by early 2018.	Delay in dam construction. First unit by early 2018.
4	Pare HEP of NEEPCO (2 x 55 MW)	Delay in dam construction. First unit by early 2018.	Delay in dam construction. First unit by early 2018.
5	400 kV D/C Silchar - Melriat line of PGCIL	December, 2017.	December, 2017.
6	220kV Rangia - Salakati of AEGCL	Remaining Piling work to be completed by 2 months. By Mar'18 to be completed.	December 2017
7	132kV Monarchak – Surjamaninagar D/C of TSECL	Compensation issue. Target March'18	September, 2017
8	132kV Surjamaninagar Bay at OTPC	SCM amendment not required.	Forum decided that work to be done by PGCIL. Sought amendment to 5th SCM minutes.
9	400kV D/C Balipara – Kameng	To be matched with Kameng HEP.	Sept' 2017.

10	RHEP 80 MVAR Bus Reactor	By Aug'17 TS to be finalized after financial clearance and approval of CMD.	Tendering stage.
11	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	Manipur – Completed, Mizoram- Completed, Nagaland-Building ready and handed over, AP- SAT going on.	Manipur – Completed, Mizoram- Completed, Nagaland-Building ready and handed over, AP- SAT going on.
12	400/220 kV 315 MVA ICT-II at Bongaigaon	Manufacturing stage	Manufacturing stage
13	220/132 kV, 2x160 MVA ICTs at Balipara	ICT -I - Aug'17 ICT-II delayed.	ICT -I - June'17 ICT-II By 31 st August 2017(LOA date).
14	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Delayed.	By 31 st August 2017(LOA date).
15	400/132 kV, 1x315 MVA ICT-III at Silchar	Delayed.	December, 2017(LOA date).
16	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	Delayed.	December, 2017(LOA date).
17	400 kV Silchar – Misa D/C	2019	M/s Sterlite Grid 4 Limited
18	1x125 MVAR Bus Reactor at 400 kV at Balipara	December, 2017(LOA date).	December, 2017(LOA date).
19	1x125 MVAR Bus Reactor at 400 kV Bongaigoan	December, 2017(LOA date).	December, 2017(LOA date).
20	Bays at Hailakandi & 132V Silchar-Hailakandi	Oct'17	Sept' 2017.
21	Tuirial HEP of NEEPCO	Unit #I - Sept'2017 Unit #II - Oct'2017	Unit #I - Sept'2017 Unit #II - Oct'2017
22	New Umtru HEP of MePGCL (2x20MW)	Unit I&II CoD completed. To be dropped.	Unit #I- ToC to be completed. U#II - June'17 trial run.
23	400 kV, 2x63 MVAR Bus Reactor at Biswanath Chariali	Reactor #I - 17.07.17 doco Reactor #II - Aug'17	July'2017

24	220 kV, 1x31.5 MVAR Bus Reactor at Mokokchung	December'2017	December'2017
b. Elements under breakdown/ upgradation			
25	Up-gradation of 132 kV Lumshnong-Panchgram line	S.E.(C&O) requested that since NPC has agreed for PSDF funding DPR be finalized at the earliest.	DPR submitted for board approval.
26	Switchable line Reactors at 400kV Balipara & Bongaigaon	Bongaigaon-Oct'17	Bongaigaon-May'17
27	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	May'2018	May'2018
28	LILO of 132kV Ranganadi – Nirjuli at Pare of NEEPCO by PGCIL	LILO completed. Line yet to be charged	Work given to KEC. Completion by May'2018
29	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh	Bay 1 at RHEP for Pare: Sept'17 Bay 2 at RHEP for Itanagar: Mar'18	Bay 1 at RHEP for Pare: May'17 Bay 2 at RHEP for Itanagar: Mar'18
30	LILO portion of 132kV Ranganadi – Nirjuli(diversion work) at Lekhi by DoP Ar. Pradesh	December'2017	December'2017

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

NEEPCO/NHPC may kindly intimate the availability for hydro stations:

Generating Station	Units running	MW	MU	Reservoir
Khandong	2		35.24	722.1
Kopili-II	1			
Kopili	4		239.16	609.34
Ranganadi	3		Subject to inflow	
Doyang	3		30.28	322.45
Loktak	3		250.00	769.57

AGBPP	-	-	-	-
AGTPP	-	-	-	-

Hydro planning

The outage of other generating stations may be approved considering the present level water level in reservoirs.

Deliberation of the sub-Committee:

The Committee discussed and approved the proposed shutdown by Generating Stations and the same has already been uploaded in the website of NERPC.

D.2 Outage Planning Transmission elements

It was agreed in the 99th OCC meeting that shutdown will be availed only after approval is given by the OCC forum. It was also agreed that deferment/revision of outages elements other than already approved in OCC will be henceforth put/displayed in the website of NERPC (under Operational Activities/OCC Approved shutdown) as per CERC regulations/ CEA guidelines etc for ensuring smooth & secure grid operation.

Furnishing request of shut down of the element, which was approved by NERPC, by Indenting Agency (ISTS licensees/STUs/Generating Companies) to NERLDC: Planned shutdown approved by NERPC shall be considered for implementation by NERLDC on D-3 basis. If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC on 7th of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

In 124th OCCM, SE(C&O) strongly opined that constituents should inform to NERPC/NERLDC in case shutdown is not avail as approved in the OCC meeting and should mention clearly the reason for not availing the shutdown. The full list of shutdown would be placed in the next OCC by NERLDC so that proper record can be made in future for generating units as well as transmission lines. All constituents endorsed the view of SE(C&O).

In 130th OCCM, Member Secretary opined strongly about non commitments of earlier decision by the constituents and stated that all proposed plan shutdowns and agenda for the next OCC meeting should be sent to NERPC Secretariat latest by 5th day of next month. He directed SE(C&O) that the decision should be strictly adhere to and no shutdowns or agenda will be entertained after that stipulated date.

In 134th OCCM, it was decided that all communication related shutdown be approved in OCC forum only.

As discussed during 134th OCC, the details of shutdowns availed during 1st August'17 to 17th August'17 are mentioned below:

Total no. of Approved Shutdown	Applied on D-3	Not Applied on D-3	Shutdown availed	Shutdown not availed
93	40	53	52	41

NERLDC informed that RTAMC, NERTS is only sending confirmation of shutdowns on regular basis on D-3. NERLDC requested all utilities to follow the same.

The sub-Committee discussed and approved the proposals received from the constituents regarding transmission elements and generating units for August, 2017 - September, 2017 and the same has already been uploaded in website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of March 2017 & April, 2017:

NETC and POWERGRID have submitted the outage data for the month of March & April, 2017. So the attributability of outage of the said elements may please be finalized.

The forum once again advised NETC & POWERGRID to submit data in a time bound manner as decided previously.

The Sub-Committee noted as above.

D.4 Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor

Updated PSS/E Base Cases have been **mailed to all the SLDCs on 01.08.17**. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of Sep'17 using these cases, and submit the study cases and results to NERLDC by **20.08.17**.

NERLDC has assessed the state control area wise, state subsystem wise and group of control-area wise TTCs for NER Grid, on behalf of SLDCs of NER. The study results

conducted by NERLDC **mailed to all SLDCs on 14.08.17**. SLDCs are requested to check the TTC of their control areas as computed by NERLDC and **give comments, if any, by 20.08.17**. The TTC figures for Sep'17 are as follows:

Name of States	Off Peak TTC in MW		Peak TTC in MW	
	N-0	N-1	N-0	N-1
Arunachal Pradesh	198	170	190	160
Assam	1599	1282	1665	1500
Manipur	335	258	335	258
Meghalaya	357	312	335	290
Mizoram	127	119	127	119
Nagaland	173	69	168	64
Tripura	213	193	167	157

If no comments received from any SLDCs of NER, TTC, ATC & TRM figures of State control area and group of control areas as assessed by NERLDC will be considered as final and may be uploaded on website.

As per discussions in 122nd OCC meeting of NERPC, all SLDCs of NER may host the assessed TTC / ATC / TRM figures on their website for information dissemination.

Deliberation in the meeting

NERLDC informed the forum that on behalf of the states, NERLDC has calculated the TTC, ATC & TRM figures of State control area and group of control areas for the month of Sep'17. NERLDC also informed that as requested by AEGCL, it will be imparting two days PSS@E training to AEGCL executives on 24 & 25th August'17 at Shillong. Forum appreciated the efforts made by NERLDC and requested SLDC, Assam to give presentation in next OCC meeting.

The Sub-Committee noted as above.

Action: All SLDCs.

D.5. Low gas pressure in Stage-2 of 400/220kV Byrnihat S/Sn:

In Special Meeting held on 23.06.17 DGM (AM), NERTS informed that upon visit by NERTS officials to 400/220kV Byrnihat S/Sn it has been found that Stage 2 gas

pressure is low and susceptible to direct trip without sounding alarm. The forum requested MeECL to investigate and revert back at the earliest.

In 134th OCCM, EE, MePTCL requested NERTS to provide the relay settings and once shutdown is accorded the matter may be investigated. DGM(AM),NERTS reiterated that low SF6 directly gives DT to Silchar. Sr. Consultant, NETC raised doubts regarding handing over of 400/220kV Byrnihat S/Sn to MeECL. NERTS agreed to look into the matter. S.E.(C&O),NERPC concluded that a team consisting of officials from NERTS/MeECL would jointly visit Byrnihat on 03.08.17 and investigate the issue. Shutdown if any required would be granted impromptu.

Deliberation in the meeting

S.E.(C&O),NERPC thanked NERTS and MeECL for concluding the joint visit as per schedule. DGM(AM),NERTS informed that Main-I relay for 400kV Silchar-Byrnihat at Byrnihat is faulty and is to be replaced. EE, System Protection, MePTCL informed the forum that as the process of handing over of the 400 KV Byrnihat S/S is not completed, so the onus for procurement and replacement of the Numerical Relay lies with PGCIL. PGCIL informed the forum that except for some small activities, majority of works is completed for taking over by MePTCL. He also informed the forum that mandatory spares of Numerical Relays were also not supplied as per agreement. PGCIL informed that there are financial issues involved which prevent the complete compliance of the agreement. EE, System Protection, informed that the concerned EE of 400 KV Byrnihat Sub Station has taken up with the higher authority a copy of the letter is also forwarded to NERPC for information and acknowledgement by NERPC. After detailed deliberation the Sub-Committee decided to monitor the replacement of relay under item C.1. The forum decided to drop the agenda item.

The Sub-Committee noted as above.

Action: MeECL/NERTS.

D.11. Construction of dedicated 33KV line along with bay at 220KV Mariani (AEGCL) Substation for providing auxiliary power supply to POWERGRID, Mariani (New) Substation:

220KV Mariani(New) Substation owned by POWERGRID was commissioned in March'2013 & is a critical substation for evacuation of Kathalguri generation as well as feeding power to Nagaland. Further, the substation is shall be upgraded to 400KV voltage level under NERSS Project shortly. Availability of reliable auxiliary power supply for the station is of utmost importance not only for catering to requirement of the substation (including switchyard & colony) but also for maintaining a healthy protection system.

Accordingly, for facilitating provision of reliable auxiliary power, the work for construction of a 33KV dedicated feeder from Mariani(AEGCL) Substation to POWERGRID Mariani (New) Substation including one 33 KV Bay at Mariani (AEGCL) end was entrusted to AEGCL on deposit work basis. The requisite amount of Rs. 1 Crore for the said work too was deposited to AEGCL in January'2014.

As on date, construction of the 33KV feeder has been completed by AEGCL. However, the 33KV Bay at Mariani (AEGCL) end is yet to be completed despite passage of more than 3 years from the date of deposition of fund, owing to which it has not been possible to draw auxiliary power through the dedicated feeder till date. As a result of this inordinate delay in completion of works related to the dedicated 33KV feeder, POWERGRID Mariani Substation is facing serious crisis on account of unavailability of reliable auxiliary power in the station. The existing 11KV feeder connected to the station (non-dedicated) too is unreliable since frequent interruption (15 to 20 times a day) is experienced. The matter has been taken up with AEGCL through various correspondences (copies enclosed).

AEGCL is therefore requested to expedite completion of the balance works related to the aforesaid 33KV dedicated feeder on priority so that reliable auxiliary power is made available to the Mariani (new) substation without any further delay.

AEGCL may kindly provide the completion schedule for the above 33KV dedicated feeder.

In 134th OCCM, AGM, SLDC, Assam informed that as per informal discussion with AEGCL counterparts the work has been held up due to contractor problem. Further, he informed that he will revert back shortly to resolve the issue.

Deliberation in the meeting

AGM, SLDC, AEGCL informed that bay equipment erection would be complete by Aug'17. DGM(AM),NERTS suggested that the status of work may be monitored under item **C.1** in subsequent OCC. Members agreed.

The Sub-Committee noted as above.

Action: AEGCL.

D.7. Ratification of projected demand and generation for Q3 of 2017-18 (July to Sep'17):

In the 3rd Validation Committee meeting for PoC application period Oct'17-Dec'17, held on 30th September 2015, at NLDC conference Hall, CERC had proposed a methodology for ratification of projected data at RPC forum.

In line with the decision in the Validation Committee meeting, Demand and Generation projections w.r.t North Eastern Region constituents as given by Implementing Agency is attached in **Annexure D.7** for ratification in 135th OCC Meeting of NERPC.

Deliberation in the meeting

The Sub-Committee ratified the generation and drawal figures for Q3 (2017-18) with demand of Assam modified to 1550 MW from 1500 MW. Tripura was requested to submitted revised data with a clarification on Bangladesh Load.

The Sub-Committee noted as above.

D.8. Furnishing Geographic Co-ordinates of Nodes of NER Grid:

Power Maps of NER states are being developed by CBIP. To represent nodes of NER Grid in power maps, Geographic Co-ordinates of upcoming Nodes (66 kV & above) of NER Grid are required.

Power Utilities of NER are requested to furnish latitude & longitudes of Nodes of NER Grid as per **Annexure D.8.**

Deliberation in the meeting

NERLDC informed the forum that many new lines & substations are going to come in near futures. In order to include them in Power Map, geographic coordinates for the substations are required. NERLDC circulated the list of substations as per Annexure D.8. NERLDC suggested that the status of submission of data may be monitored under item B.1.3 in subsequent OCC. Members agreed.

The Sub-Committee noted as above.

D.9. CT Ratio of Transmission Lines & Enhancement of Loadability of lines in NER:

As deliberated in 125th OCC meeting held on 14th September, 2016 at Guwahati double-jumpering of bay and line before the CT upgradation work was to be completed, so that full capacity of CTs can be utilized for loading the lines.

SI No	Name of the line	CT Ratio at either end (current)		CT Ratio at either end (required)		No. Of CTs required		Status as per 129 th OCCM	Status as per 135 th OCCM
		Stn A	Stn B	Stn A	Stn B	Stn A	Stn B		

1	132 kV AGTTP- Agartala- I	600/ 1	400/ 1	800/ 1	800/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'1 7
2	132 kV AGTTP- Agartala- II	600/1	400/1	800/1	800/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
3	132 kV Jiribam- Aizwal	400/1	400/1	600/1	600/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
4	132 kV Jiribam- Haflong	400/1	400/1	600/1	600/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
5	132 kV Khandong - Umrangso - Haflong	300/1	400/1	600/1	600/1	3 at Khandong by NEEPCO , 3 at Umrang so by AEGCL	3 at Umrang so by AEGCL, 3 at Haflong by PGCIL	NEEPCO - 31.3.17 AEGCLMar, 17 PG - Aug,17	Dec'17
6	132 kV Loktak - Imphal-II	400/1	600/1	600/1	600/1	3 by NHPC		Mar'17	Dec'17
7	132 kV D/C Doyang - Dimapur	300/1	600/1	600/1	600/1	3 by PGCIL & 6 by NEEPCO		Aug'17	Dec'17
8	132 kV Khandong - Khliehriat- I	300/1	300/1	600/1	600/1	3 by NEEPCO	3 by PGCIL		Dec'17
9	132 kV Khandong - Kopili I & II	300/1	300/1	600/1	600/1				Aug'17

In 129th OCC meeting, forum recommended inclusion of CT up-gradation of 132 kV Khandong - Khliehriat- I (from 300/1 to 600/1) in the list. NERLDC requested PGCIL, AEGCL, NHPC & NEEPCO to submit a report to the forum after completion of the works.

PGCIL, AEGCL, NHPC & NEEPCO to inform the current status of double jumpering of bay and line & also status of up-gradation of CT Ratios.

Deliberation in the meeting

DGM(AM),NERTS informed that 132kV Khandong-Kopili-II has both sides CT ratio at 600/1 and no further procurement is required. For 132kV Khandong-Kopili-I CT ratio at both ends have to be switched from 300/1 to 600/1.

The Sub-Committee noted as above.

Action: NERTS, NEEPCO, AEGCL.

D.10. CERC Order against Petition regarding RGMO/FGMO:

Hon'ble CERC has issued order against Petition no: 84/MP/2015 and I.A. No.8/2016 on dated 08.08.2017. In this regulation, the following were directed:

- a. The Commission shall be closely watching the primary response of ISGSs as reported by POSOCO/NLDCs from the month of **September, 2017**.
- b. To monitor the RGMO/FGMO response, NLDC and SLDCs through the assistance of POSOSO shall select third parties capable of undertaking periodic checkups.

Quote

- c. "All ISGSs are directed to provide primary response compulsorily in terms of Regulation 5.2 (f), (g), (h) and (i) of the Grid Code failing which we would not hesitate in initiating action under **Section 142 of Electricity Act, 2003** for not providing desired RGMO/FGMO response without any valid reasons".

Unquote.

Deliberation in the meeting

NERLDC informed the forum about the recent CERC order against Petition no: 84/MP/2015 and I.A. No.8/2016 on dated 08.08.2017. NERLDC informed that Palatana & Monarchak will be included in FGMO/RGMO w.e.f. 01.10.17. NERLDC requested all the generating utilities to submit data as and when required for primary response calculation.

The Sub-Committee noted as above.

Action: All generating utilities.

D.11. Disturbance / Tripping Report:

It is seen that whenever any tripping/disturbance occurs in Tripura system, prompt response in preparing /sending report is absent. Also in most of the time NERLDC gets incomplete report where disturbance clarity is missing. Unless NERLDC get correct details from Tripura as well as other constituents, it is not possible to prepare complete report.

It is requested to all constituents to collect correct details and compile report at the earliest and forward it to RLDC for further reporting to concerned authorities.

Deliberation in the meeting

Forum requested to all constituents to collect correct details and compile report at the earliest and forward it to RLDC for further reporting to concerned authorities.

The Sub-Committee noted as above.

Action: All utilities.

D.12. 400 kV Link outage:

Any tripping in 400 kV Silchar- Byrnihat, 400 kV Silchar- Azara or 400 kV Palatana-Silchar creates power evacuation problem from Palatana, Monarchak, Tripura & Loktak. It has been observed that whenever this type of situation occurs Tripura, Palatana and Monarchak take lots of time to follow NERLDCs real-time advice resulting threat to grid security.

Deliberation in the meeting

After detailed deliberation the forum requested all utilities/SLDCs to conform to NERLDC instructions at all time.

The Sub-Committee noted as above.

Action: All generating utilities/SLDCs.

D.13. No of 132 kV lines Tripura system remains open

It is observed that no of 132 kV lines in Tripura remains open without intimation to NERLDC. Real-time data of most of the 132 kV stations of Tripura are also not available. It is very difficult for NERLDC to visualize the Tripura grid. In case of any disturbance it is very difficult to visualize the real-time situation.

TSECL is requested to intimate the line status (open/close) to NERLDC regularly. Telemetry of 132 kV stations to be restored at the earliest.

Deliberation in the meeting

Pls refer to discussion in item **B.2.**

The Sub-Committee noted as above.

Action: TSECL.

D.14. Opening of 132 KV line-1 (Palatana Udaipur) by SLDC Agartala without information to NERLDC and OTPC

The matter was raised in 134th OCC by NERLDC and OTPC but again same action observed on date 05/08/2017, Point raised by OTPC to NERLDC, (Please Find the attached mail from NERLDC). This is clear violation of IEGC.

Deliberation in the meeting

Pls refer to discussion in item **B.2.**

The Sub-Committee noted as above.

Action: TSECL.

D.15. Reduction of OTPC load up to 320 MW (Ex Bus) by NERLDC:

During S/D of 400 KV Silchar- Byrnihat line on 03/08/2017 OTPC load was reduced up to 320 MW. The S/D was approved in OCC and it was discussed that S/D will be approved in real time situation, with no reduction of OTPC generation, but on real time NERLDC was directed to OTPC for load reduction.

Deliberation in the meeting

OTPC representative stated that mode changeover for Palatana modules is difficult and advance intimation of 2 time blocks is at least required. GM, NERLDC informed that OTPC was informed the previous day evening. OTPC representative also stated that generation reduction of OTPC is required due to SPS -3 modification not being completed and OTPC is being deprived commercially due to generation reduction. He requested NERTS to do the needful at 400kV Silchar S/S at the earliest. NERTS agreed.

The Sub-Committee noted as above.

Action: NERTS.

ADDITIONAL AGENDA FROM NTPC:

D.16. PG Test of BgTPP Unit #1:

BgTPP Unit # 1 TG package performance guarantee test is planned tentatively from 22-08-2017. For this, the unit is required to be run at full load for 10-12 hrs at a stretch daily for about 5 (five) days. For this, full SG (100%) is required for 12 hrs daily during day time for 5 days from 22-08-2017. It is requested that kindly allow us 100% SG for 5 days for 10-12 hrs daily during day time from 22-08-2017. Actual date of the PG test shall be intimated to you in advance.

Deliberation in the meeting

AGM(OS),NTPC informed that PG test is essential for resuming commercial operation of the unit. NERLDC opined that there is no restriction on PG test except for the following:

- Since NTPC is regulating to Meghalaya the excess quantum above schedule will be treated as deviation.
- If prevailing grid conditions does not support generation.

All the beneficiaries except Meghalaya agreed to give full requisition during period of PG test.

The Sub-Committee noted as above.

ADDITIONAL AGENDA FROM NERTS:

D.17. Spare tower diversion for 220kV Misa-Kathalguri to AEGCL:

During earlier OCC Meeting AEGCL requested the forum to allow utilization of 5 nos. of 400kV towers of PGCIL which will become redundant upon shifting of existing 220KV LILO of Misa – Kathalguri line from 220/132kV Mariani (AEGCL) SS to 220kV Mariani (PGCIL) SS which will be upgraded to 400KV Station under NERSS-VI Scheme as approved in 5th SCM and 15th NERPC Meeting. The utilization of redundant towers by AEGCL will be done for new 220kV D/C connectivity between Mariani (AEGCL) and Mariani (PGCIL) SS.

Deliberation in the meeting

The forum agreed to the proposal of AEGCL and recommended for approval of 18th TCC and 18th NERPC Meeting.

The Sub-Committee noted as above.

Action: NERPC/NERTS.

Date & Venue of next OCC meeting

It is proposed to hold the 136th OCC meeting of NERPC on second week of September, 2017. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I**List of Participants in the 135th OCC Meetings held on 18 .08.2017**

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, EE(E), SLDC	Ar. Pradesh	09436288643
2.	Sh. Manoranjan kalita, DGM (SLDC)	Assam	07002949272
3.	Sh. Dipesh Ch. Das, AGM (LDC)	Assam	09954110254
4.	Sh. A.N. Dev Choudhury, AGM, APDCL	Assam	09854120791
5.	Sh. G.K. Bhuyan, AGM,AEGCL	Assam	-
6.	Sh. B. C. Borah, AGM (SLDC)	Assam	09435119248
7.	Sh. Bonita Das, AM (Com), APDCL	Assam	09435301799
8.	Sh. Z.A. Choudhury, CGM (SLDC), AEGCL	Assam	09435371734
9.	Sh. A. Sujata Devi, AM, SLDC	Manipur	09615028232
10.	Smti. Khoisnam Steela, Manager, SLDC	Manipur	08730831103
11.	Shri. F.E. Kharshiing, SE, SLDC	Meghalaya	-
12.	Sh. H.F. Shangpliang, SE(Gen)	Meghalaya	09863315562
13.	Sh. B. Wankhar, EE (MO), SLDC	Meghalaya	09436105914
14.	Sh. Kakoli, AE (SCADA)	Meghalaya	-
15.	Sh. B. Nikhla, EE, SD MePTCL	Meghalaya	09436314163
16.	Sh. W. Khyriem, EE, GSPD, MePGCL	Meghalaya	09856007107
17.	Sh. Lalbiaksanga, SE (SLDC)	Mizoram	09436140932
18.	Sh. Wabangmeren Jamir, EE (Trans.)	Nagaland	09856052256
19.	Sh. Debabrata Pal, Sr. Manager (Comml.)	Tripura	09436500244
20.	Sh. Joypal Roy, Sr. Manager (E/M)	NEEPCO	09435577726
21.	Sh. N.R. Paul, GM	NERLDC	09436302723
22.	Sh. R. Sutradhar , DGM (MO)	NERLDC	09436302714
23.	Sh. Koshab Borah, AET	NERLDC	07399276312
24.	Sh. Ankit Jain, Sr. Engineer (SO-I)	NERLDC	09436335381
25.	Smt. Momai Dey, Sr. Engineer	NERLDC	09436302716
26.	Smt. Tanaya Rakshit, AET	NERLDC	08822852878
27.	Sh. P. Kanungo, DGM (AM)	PGCIL	09436302823
28.	Sh. C.L. Khayuingan, DM (E)	NHPC	09402880207
29.	Sh. Alokesh Hazarika, Sr. Executive (O&M)	OTPC	07085060480

30.	Sh. B. Choudhury, AGM (EEMG)/BgTPP	NTPC	09435503167
31.	Sh. R.V. Patnaik, AGM (OS)	NTPC	09438233243
32.	Sh. P.K. Mishra, MS	NERPC	09968380242
33.	Sh. B. Lyngkhoi, Director/S.E (C&O)	NERPC	09436163419
34.	Sh. S. Mukherjee, AEE	NERPC	08794277306

DEMAND FORECAST USING PAST 3 YEARS DATA (Oct 2017 - Dec 2017)

	2014-15			2015-16			2016-17			1	2	3	4	Data given by DICs	Comments
	Oct-14	Nov-14	Dec-14	Oct-15	Nov-15	Dec-15	Oct-16	Nov-16	Dec-16	2014-15 Average	2015-16 Average	2016-17 Average	Projected Demand for (Oct 2017 - Dec 2017) before normalization		
Arunachal Pradesh	126	116	117	125	118	132	126	127	129	120	125	127	132	135	As per data given by Arunachal Pradesh
Assam	1,257	1,250	1,204	1,329	1,378	1,312	1,615	1,524	1,388	1,237	1,340	1,509	1,634	1500	As per data given by Assam
Manipur	134	138	139	146	163	167	145	151	157	137	159	151	163	168	As per data given by Manipur
Meghalaya	273	338	367	322	335	348	300	312	309	326	335	307	304	290	As per data given by Meghalaya
Mizoram	80	80	86	81	89	96	95	96	96	82	89	96	102	93	As per data given by Mizoram
Nagaland	118	115	123	119	120	138	130	126	127	119	126	128	133	130	As per data given by Nagaland
Tripura	266	222	210	269	242	221	284	266	230	233	244	260	273	358	As per data given by Tripura
N. Eastern Region	2,141	2,125	2,170	2,301	2,352	2,320	2,439	2,314	2,223						

Notes

1. Projections are based on the past 3 years' monthly Peak Demand Met data available on the website of CEA
2. The above projections are being done for financial year 2017-2018 (Q3) i.e. October 2017 to December 2017
3. Projections are being done based on the forecast function available in MS Office Excel
4. CEA Reports can be accessed from the following links:
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-10.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-11.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-12.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-12.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-11.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-10.pdf
http://www.cea.nic.in/reports/monthly/gm_div_rep/power_supply_position_rep/peak/Peak_2014_12.pdf
http://www.cea.nic.in/reports/monthly/gm_div_rep/power_supply_position_rep/peak/Peak_2014_11.pdf
http://www.cea.nic.in/reports/monthly/gm_div_rep/power_supply_position_rep/peak/Peak_2014_10.pdf

Generation Projection (October 2017 - December 2017)

				Generation declared Commercial from 1st Jan '17 to 30th June'17					Generation declared/expected to be declared Commercial from 1st July'17 to 30th Sep'17								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)											(MW)			
			(MW)											(MW)			
1	AGTPP, NEEPCO	NER	132											132	As per NEEPCO	132	132
2	Doyang, NEEPCO	NER	69											69		71	71
3	Kopili, NEEPCO	NER	195											195		192	192
4	Kopili 2, NEEPCO	NER	24											24		22	22
5	Khandong, NEEPCO	NER	49											49		44	44
6	Ranganadi, NEEPCO	NER	415											415		402	402
7	AGBPP_Kathalguri	NER	229											229		220	220
8	Loktak, NHPC	NER	104											104		104	
9	Palatana GBPP	NER	538											538	As per data given by OTPC	465	465
10	Bongaigaon_NTPC	NER	250											250		230	230
11	Arunachal Pradesh	NER	0											0			0
12	Assam	NER	290											290	As per Assam	241	241
13	Manipur	NER	0											0			0
14	Meghalaya	NER	183											183	As per Meghalaya	321	321
15	Nagaland	NER	16											16	As per Nagaland	24	24
16	Tripura	NER	85											85	As per Tripura	86	86
17	Mizoram	NER	4											4	As per Mizoram	8	8
	TOTAL		2584					0					0	2584			2562

Note:

1. Projections are based on monthly maximum injection in the last 3 years from actual metered data.
2. Generation forecast has been done based on the following criteria
 - (i) If there is an increasing trend then last year average generation has been considered
 - (ii) Otherwise average of past three year average generation has been considered
3. In case of new generators where past data was not available following has been assumed
 - (i) 1.0 plf for hydro generators
 - (ii) 0.7 plf for thermal generators.
 - (iii) 0.3 plf for gas stations

SI No.	Substations	Latitude	Longitude
1	Anini		
2	Bameng		
3	Bandardewa		
4	Basar		
5	Changlang		
6	Dambuk		
7	Dinchang		
8	Gerukamukh		
9	Halaipani		
10	Holongi		
11	Jairampur		
12	Kambang		
13	Khonsa		
14	Khupi		
15	Kimi		
16	Koloriang		
17	Likabali		
18	Longding		
19	Mariyang		
20	Mechuka		
21	Miao		
22	Nacho		
23	Naharlagun		
24	Niglok		
25	Palin		
26	Pare		
27	Pasighat New (Napit)		
28	Riloh		
29	Sagali		
30	Seijosa		
31	Seppa		
32	Tawang		
33	Tuting		
34	Yingkiong		
35	Ziro (New)		

Sl No.	Substation	Latitude	Longitude
1	Chapakhowa		
2	Gohpur		
3	Khandong		
4	Khumtai		
5	Lanka		
6	Mariani		
7	Nalbari		
8	Panchgram - New		
9	Panchgram - Old		
10	Rangia		
11	Samaguri		
12	Sonari		
13	Tangla		
14	Tezpur		

Sl. No.	Substations	Latitude	Longitude
1	Elangkanpokpi		
2	Gamphajol		

Sl. No.	Substations	Latitude	Longitude
1	Mynkre		
2	New Shillong		
3	Phulbari		
4	Praharinagar		
5	Umtru		

Sl. No.	Substations	Latitude	Longitude
1	Buarpui		
2	Champai		
3	Chawngte		
4	Lungsen		
5	Marpara		
6	S.Bungtlang		
7	Sihhmui		
8	W.Phaileng		

Sl. No.	Substations	Latitude	Longitude
4	Longleng		
5	Longnak		
8	New Kohima		
9	Sanis		
10	Tuensang		
11	Wokha		
12	Zunheboto		

Sl. No.	Substations	Latitude	Longitude
1	Gamai tilla		
2	Kanchanpur		
3	Manu		
4	Melaghar		
5	Mohanpur		
6	Teliamura (New)		
7	Teliamura (Old)		