

# North Eastern Regional Power Committee

## Agenda For

### 160<sup>th</sup> OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 4<sup>th</sup> September, 2019 (Wednesday)

Venue : "Hotel Nandan", Guwahati.

#### A. CONFIRMATION OF MINUTES

#### CONFIRMATION OF MINUTES OF 159<sup>th</sup> MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 159<sup>th</sup> meeting of Operation Sub-committee held on 9<sup>th</sup> August, 2019 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 21<sup>st</sup> August, 2019.

OTPC vide mail dated.26.08.2019 requested for the following correction:

**Item D-2 of 159<sup>th</sup> OCC Minutes, Regarding 400 KV Palatana-Silchar Line -1 & 2 S/D.**

OTPC Representative informed to forum that "any S/D in 400 KV Palatana-Silchar Line -1 & 2 is subjected to No backing down of OTPC generation".

*The Sub-committee may confirm the minutes of 159<sup>th</sup> OCCM of NERPC as no other comments/observations were received from the constituents.*

#### ACTION TAKEN -ITEMS

#### B.1. ACTION TAKEN:

#### 1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 159<sup>th</sup> OCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST **	Line Differential Protection
Ar. Pradesh	Station-wise status to be updated *	TPA, A/C opening & Contract agreement by Aug'19.	-	Not approved by TESG.	-
Nagaland	Station-wise status to be updated *	TPA, A/C opening & Contract agreement by Aug'19.	-	Not approved by TESG.	Lines identified. Under DPR preparation stage.
Mizoram	Submitted on 09.08.19	TPA, A/C opening & Contract agreement by Aug'19.	To reply to TESG queries.	Not approved by TESG.	Lines not yet identified. To be taken up in Sub-group.

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Manipur	Station-wise status to be updated *	TPA, A/C opening & Contract agreement by Aug'19.	To reply to TESG queries.	Not approved by TESG.	Lines identified. LDP for 132kV Imphal-Imphal and 132kV Jiribm-Jiribam proposed. Meghalaya DPR to be shared.
Tripura	Station-wise status to be updated *	TPA, A/C opening & Contract agreement by Aug'19.	Study to be carried out in consultation with NERLDC.	Not approved by TESG.	Lines not yet identified. To be taken up in Sub-group.
Assam	Submitted on 09.08.19	TPA, A/C opening & Contract agreement by Aug'19.	-	Appraisal Committee approved.	Lines identified. Under DPR preparation stage.
Meghalaya	MePTCL Station-wise status updated MePGCL - Station-wise status to be updated *	TPA, A/C opening complete. Contract Agreement by Aug'19	-	Appraisal Committee approved.	Tendering in progress

Meghalaya has submitted the station-wise status. The other state utilities are requested to furnish status in similar format, station-wise as per format by first week of every month on regular basis to Member Convener, PSDF Project Monitoring Group (AGM, NLDC, POSOCO) with a copy to NPC & NERPC. The LOAs of R&M Scheme are to be furnished to NERLDC/NERPC regularly. As per deliberation in the previous meetings all the utilities were requested to submit station-wise status of R&U schemes.

***States may please intimate the latest status.***

**2. Long Outage of Important Grid Elements:**

Name of the Element	Name of Utility	Status as informed in 159 <sup>th</sup> OCC	Latest status
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	DPR submitted to NLDC/NPC.	

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132kV Dimapur - Imphal (out since 25.07.18)	NERTS	Foundation : 18/27 Erection : 15/27 Stringing: Yet to start. Work is in progress at 5 Locations for foundation work and 1 Location for erection work.	
220kV Sonabil-Samaguri-I	AEGCL	Administrative approval by Aug'19. Subsequently NIT will be floated.  One year estimated	
132kV Srikona-Panchgram(out since 14.01.2019)	AEGCL	To be updated	

**Utilities may please intimate the latest status.**

**3. Follow up of recommendations of PCC/Sub-group:**

SN	Name of element	Actions to be taken	Concerned Utilities	Status as informed in the 159 <sup>th</sup> OCC Meeting	Latest status
1	132 kV AGTCCPP - Agartala D/C	Installation of Line Differential in 132 kV AGTCCPP - 79 Tilla D/C & Review of impedance setting of both ends as a temporary measure.	NERTS/NEEPCO	For Diff Relay procurement OBD : 10.08.19 Impedance measurement planned by 31.08.19 with s/d of both ckts.	
2	132kV AGTCCPP-Kumarghat	GPS to be procured and time synchronization of relay to be done	NEEPCO	Work awarded.	
3	132kV PKBari-Kumarghat	Installation of Line differential relay	NERTS	OBD 10.08.19	

**Utilities may please intimate the latest status.**

**B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING AUGUST, 2019**

NERLDC will present the grid performance for the month of August'19.

**C. ITEMS- STATUS REVIEW**

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

During 160<sup>th</sup> OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 158 <sup>th</sup> OCC Meeting		Status as given in 159 <sup>th</sup> OCC Meeting	
		Timeline for completion	Furnishing of detail parameters	Timeline for completion	Furnishing of detail parameters
<b>a. New elements</b>					
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	Aug'19	Already submitted		
2	Kameng HEP of NEEPCO two units (2 x 150 MW)  Next two units (2x150 MW)	First two units by Sep'19	CEA clearance available		
3	132kV Monarchak – Surjamaninagar D/C of TSECL	Delayed By Oct'19 To be referred to next TCC/RPC	To be submitted to NERLDC.		
4	220/132 kV, 160MVA ICT-II at Balipara	Internal inspection is in progress at GE Works. Repairing to be completed by 30.09.19	To be submitted to NERLDC.		
5	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	ICT to be test charged by 14.08.19. To be put in to service through GIS by 15.09.19.	To be submitted to NERLDC.		
6	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	A date will be fixed NERPC, MeECL and NERTS will visit	Not applicable.		

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7	Replacement of 315 MVA ICT-II with 500 MVA ICT at Misa (PG)	To be commissioned by 31.08.19	To be submitted to NERLDC.		
8	220kV Balipara-Sonabil-2	Estimate under process	To be submitted to NERLDC.		
9	Bay at Agia S/S for 132kV Agia-Nangalbibra Ckt#II by AEGCL	LOA issued on 27.06.19. By Sep'19	To be submitted to NERLDC.		
10	220kV BTPS-Rangia T/L	Aug'19	-		
11	80MVAR B/R at RHEP by NEEPCO	Final Estimate & DPR to be prepared	-		
<b>b. Elements under breakdown/upgradation</b>					
12	Up-gradation of 132 kV Lumshnong-Panchgram line	Queries to be submitted by AEGCL and MeECL	Not applicable.		
13	PLCC Panels at Loktak end of Loktak - Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	Aug'19.	Not applicable.		
14	Upgradation of 132 kV Bus Bar at Umiam Stg- III to ACSR Zebra	DPR submitted. Other upgradation works to be included in DPR	Not applicable		
15	220/132 kV 30 MVA ICT at Mokochung	Scheduled Completion : March'2021	To be submitted to NERLDC		
16	Upgradation of 132kV Yurembam-Karong by MSPCL	WIP. By Aug'19	-		
17	Upgradation of 132kV Lekhi-Chimpu and Lekhi bus by DoP Ar. Pradesh	Mar'2020	-		
18	Upgradation of CT at Lekhi for 132kV Lekhi-Chimpu by DoP Ar. Pradesh	Mar'2020	-		

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19	Installation of LDP for 132kV AGTCCPP-Agartala D/C & 132kV PKBari-Kumarghat by NERTS	OBD : 10.08.19			
20	Procurement of GPS at AGTCCPP & time synchronization for 132kV AGTCCPP-Kumarghat by NEEPCO	Work awarded	-		
21	Diversion of 132kV Bawktlang-Shihmui	By July'19	-		

**Concerned constituents may kindly intimate the status.**

**C.2. Update on Real Time Energy Assessment for Effective Grid Management:**

Data availability is given below:

Name of the state /utility	Data Availability(in%)	Issues	Status updated in the 159th OCCM
DoP Ar.Pradesh	Not updated	-	Last month functioning, exact status to be updated. Ziro not reporting. Others erratic.
Assam	Not updated	-	-
Manipur	80%	(i)Frequent hang of TARA device, resumes reporting upon reboot. (ii) Yurembam end of 132kv of Imphal(PG)-2 fdr, corresponding to SEM NP-8374-A not reporting. (iii) Jiribam 132/133kv ICT(manipur consumption), corresponding to SEM NP-8501-A not reporting	-
Meghalaya	Not updated	-	Meter hang no data availability
Mizoram	50%	Luangmual end of 132kV Aizawl(PG) not reporting; Kolasib end of 132kV Badarpur(PG) not reporting	-
Nagaland	37.5%	Non-reporting: (i)Kohima end of 132kV Dimapur(PG)-2	-

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		(ii) Sanis end of 132kV DHEP (iii) Mokokchung end of Mokokchung(PG)-1 (iv) Mokokchung end of Mokokchung(PG)-2 (v) Mokokchung end of DHEP FDR	
Tripura	Not updated	-	2 out of 8 reporting. Rest not available

Important operational issues:

- In 159<sup>th</sup> OCCM, it was decided that CDAC would be invited to next OCC meeting to respond to the low data availability under the project. Further, it was decided that O&M procedures are to be finalized and NERPC would write to CDAC in this regard.

Members may intimate any other operational issues.

***Members may please intimate the status.***

**C.3. Ensuring proper functioning of Under Frequency Relays(UFR) & df/dt Relays:**

In 7<sup>th</sup> NPC meeting held on 08.09.17 it was agreed that mock test is good enough to test the healthiness of the UFR & df/dt relays. The frequency of site inspection was proposed to be upto six months. RPC may carry out periodic inspection, in line with provisions of IEGC and furnish inspection reports to NPC.

Deliberations in the previous meetings:-

- Inspection for Mawphlang completed.
- Inspection for Sankardevnagar, Rangia and Rowta under Assam was completed in April'2019.
- UFR Inspection and Testing for TSECL Stations as well as UFRs under Islanding Scheme No.2 carried out in June'19.

In 158<sup>th</sup> OCCM, DGM, SLDC, TSECL informed the following status:

For all existing UFR except SMNagar	To be replaced by Sep'19
UFR at SMNagar	By Aug'19
Additional UFR under Islanding Scheme-I	Planning to be complete by Aug'19

- In 159<sup>th</sup> OCCM it was decided that UFR Inspection for Nagaland and Manipur would be completed in Aug-Sep'19.

***NERPC/TSECL may please inform the status.***

**C.4. Extended C Band VSAT for power system communications in NER:**

In 159<sup>th</sup> OCCM, the forum approved the pilot project at Byrnihat.

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

**C.5. DIMAPUR PG telemetry out since Feb'18.**

In 159<sup>th</sup> OCCM NERTS informed that LOA was placed on 06.05.2019. The target for completion is Nov'19.

***NERTS may please update the latest status.***

**C.6 Update on PDMS:**

As per deliberation in the previous meeting(s) the following status/decisions:-

- SAT for Assam system completed. Data collection for Meghalaya, Tripura & Mizoram completed.
- In 158<sup>th</sup> OCCM NERLDC highlighted that details of transmission lines, Bus Reactors and Line Reactors mentioned in the report seem to vary from the data available with NERLDC. NERLDC agreed to submit the detailed report to NERPC by July'19.
- In 159<sup>th</sup> OCCM Director(C&O), NERPC informed the forum that the prospective Go Live for the project is October'2019. He also intimated that data collection for Ar. Pradesh, Manipur and Nagaland is pending.

***NERPC/PRDC may please update the status.***

**C.7 Non-availability/ Non-functioning of synchronization facility at numerous stations**

As per deliberations in the previous meetings the following is the status for synchronization facility at stations of different utilities:

- AEGCL – AEGCL informed that as per report from MRT division CR panels has check-sync facility available and no separate procurement of synchroscope is necessary.
- DoP Ar. Pradesh –Lekhi S/S no Sync check relay is available while for Chimpu relay is available. The procurement for trolley/synchroscope is being initiated and exact date for implementation would be intimated later on. But, they will have Synchronization facility latest by Oct 2019.
- In 159<sup>th</sup> OCCM it was decided that Synchronising trolley (one no. for each station) is to be procured for strategically located substations. Further, it was decided that wiring is to be completed for important feeders for the critical stations.

***AEGCL/DoP Ar. Pradesh may please update the status.***

**C.8 Phase shift errors in PMU:**

Decisions as per previous meetings:

- NERTS to inform action plan for NERTS stations within 31.08.19.
- NERTS would visit and analyze for Samaguri the pre-requisites for changing the connections.

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

**C.9 Compensation for Heat Rate degradation and Auxiliary Energy Consumption in case of gas based power plants:**

In 159<sup>th</sup> OCCM Member Secretary(I/C), NERPC informed that the meeting could not be held due to unavoidable circumstances. He informed a workshop cum meeting would be convened preferably in the first week of September, 2019.

***NERPC may please intimate the status.***

**C. 10 Tentative schedule for Black Start & Restoration Procedure Mock exercise in NER during the year 2019**

Status/decisions as per previous meetings:

- LOKTAK After commissioning of 132kV Bus-A
- RHEP to be done in lean season
- DOYANG could not be completed due to synchronization problem in 132kV DHEP-Dimapur-I
- AGBPP – As per NEEPCO Unitwise blackstart not possible. Testing/ physical black start may be done for the entire plant and during blackout only. NERLDC insisted for mock black start.

***NEEPCO/NHPC/NERLDC may please intimate the status.***

**C. 11 DVAR and PSS at AGTCCPP:**

In 158<sup>th</sup> OCCM Sr. Manager, NEEPCO informed that the work would start from July'19, during s/d of Unit 4. Since Unit #4 is having Coupling problem the DVAR & PSS installation is expected to be complete for Unit #4 by Oct'19. For other units the installation would be done subsequently.

In 159<sup>th</sup> OCCM DGM, NEEPCO informed that OEM Engineering would visit AGTCCPP shortly. It was requested to intimate NERLDC/NERPC during OEM presence to enable visit by a team.

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

**C. 12 Bus Configuration issues for various sub-stations:**

Status as on 156<sup>th</sup> OCC Meeting:

- 132kV Transfer Bus at Loktak HEP - CEA Inspection Applied For.
- 400kV Bus A at RHEP - (i)NEEPCO to procure new 400kV CB for Bus Coupler Bay including mandatory spares.  
(ii) NEEPCO to check /ensure the healthiness of all the elements required to take Bus-A into service. Followings bay equipments to be checked:
  - Two sets of Center Break Isolator(Bus Coupler)
  - Four sets of Pantograph isolators
  - One Set CT(Bus Coupler)
  - One set CVT(Bus-A)
- 132kV Bus Coupler at Pavo - Bus coupler is in operation. The protection system is yet to be confirmed by Assam

***NEEPCO/NHPC/AEGCL may please inform the status.***

**C.13 Distance Relay Settings Revision at Deothang in Bhutan:**

Latest status as per previous meetings:

- NERTS informed that engineer would visit Deothang on 09.08.19 for SEM issues. SOTF at Rangia would be disabled till visit of OEM.
- Relay reach settings at Deothang is expected to be corrected by 15.08.19.

***NERPC/NERTS may please intimate the latest status.***

**C. 14 Status of recommendations reg GD-Vs on 03<sup>rd</sup> & 20<sup>th</sup> April,2019:**

Recommendations	Status as informed in the 159 <sup>th</sup> OCCM	Latest status
Identification of weak joints for 400kV Palatana-Silchar D/C ( Scope NERTS)	Testing of sample taken up by NETC. NERTS completed checking of the entire line and no such weak joints could be detected.	
Study for reactive compensation in Tripura System(scope of TSECL)	SLDC to submit nodewise MVAR data of 33 kV system as per calculation procedure it deems fit.	
Identification of feeders for additional UFR based load shedding under Islanding Scheme-II( Scope of TSECL)	Identification completed upon visit of team to Tripura.	
Standalone EL for integration of relay at AGTCPP by Oct'19(Scope of NEEPCO)	AGTCCPP - Oct'19. Standalone EL at RHEP completed in June'19	
All stations to confirm DR downloading facility and it's healthiness at respective stations. A consolidated undertaking by the respective utility in this regard is to be submitted prior to each OCCM.	No declaration submitted as intimated by NERLDC except OTPC. The forum decided that shutdown would not be accorded to utilities not submitting the declaration.	
NHPC to procure standalone EL for Loktak HEP	To be updated.	
Revised SPS-3 scheme offer sought from GE by NERTS	Budgetary offer will be collected by 31.08.19	
Line defects in 400kV Silchar - Azara & 400kV Silchar-Byrnihat T/L to be attended(Scope of NETC)	Shut down proposed from 16th to 23rd Aug'19	

Impedance measurement for 400kV Paltana-Silchar D/C, 400kV Silchar-Azara, 400kV Silchar – Byrnihat	On opportunity	
Line parameters to be matched at Silchar, Azara and Byrnihat.	Shall be done by 31.08.19	
NERTS and AEGCL to jointly visit Azara and check exact cause for delay in appearance of voltage input to relay when charged via Tie Breaker	Shall be done by 31.08.19	

***Concerned utilities may please update the status.***

**C.15 Tripping of all units of BgTPP:**

On 23/05/2019 Units I, II, III of BgTPP tripped at 03:06 hrs, 03:37 hrs, 03:56 hrs respectively. In 158<sup>th</sup> OCCM NTPC gave a detailed presentation on tripping of the three units on 23.05.2019. The suggested recommendations by NTPC are as follows:

Sl. No.	Recommendation	Status as informed in the 159 <sup>th</sup> OCCM	Latest status
1	Unit -1 unit bus incomer breaker to restored at the earliest	Aug'19	
2	Providing alternate cooling water source to compressors		

***NTPC may please intimate the status.***

**C.16 Transformer Tap Optimization Study:**

NERLDC has conducted Transformer Tap Optimization studies considering High Hydro Scenario in North Eastern Region. Suggested taps position of important transformers in NER for maintaining bus voltages within permissible limit as well as to minimize system losses was circulated in the 158<sup>th</sup> OCCM.

In 159<sup>th</sup> OCCM NERLDC informed that comments have been received from OTPC and SLDC Meghalaya. AGM, SLDC, AEGCL informed that comments of SLDC Assam would be sent shortly. Meghalaya presented the study done by them on Tap Optimization Study to NERPC and NERLDC. Their effort of study was appreciated by the forum. Members requested NERLDC to send reminder mail.

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

**C.17 Better weather forecasting for power sector by IMD:**

Decisions/deliberations in the previous meetings:

- IMD to conduct survey for each of the individual utilities.
- Nodal officers for all the utilities nominated in the 159<sup>th</sup> OCCM.
- Utilities to furnish the list of substations where AWS can be installed.

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

**C.18 Erroneous SCADA data i.r.o. AEGCL**

NERLDC requested Assam to give a time frame for correction of the card Issue. AGM, SLDC, AEGCL informed that at present the voltage data is being sent by SLDC in the form of Excel file. The CARDS of RTU are in the process of replacement.

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

**C.19 Availability of Hot Spare Units**

CERC vide their communication on 6<sup>th</sup> July'19 directed POSOCO to collect the availability of Hot Spare Units installed in various stations on quarterly basis from all ISTS Licensees. NERLDC vide its letter to NERTS dated 01.08.19 requested to submit the data from first quarter of 2019-20.

In 159<sup>th</sup> OCCM NERLDC requested all the utilities to submit the data before next OCCM.

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

**C. 20 Metering Status Review:**

<b>Ref</b>	<b>Agenda Description</b>	<b>Completed</b>	<b>Remarks</b>
158 <sup>th</sup> OCC	Distribution of 70 Laptops	In 159 <sup>th</sup> OCC Meeting, NERTS informed that distribution of Laptops have been completed. Free software will be mailed by NERTS to all the concerned for self-installation.	Status and progress may be discussed
157 <sup>th</sup> OCC	Correction of Meter error at Lekhi, Ningthoukhong, Kohima, Dimapur(s), Deothang end and Silicon Factory end, Mokokchung end, Kopili end check meter, Imphal(PG) end.	Not yet corrected. <b>Annexure C.20.c</b>	Target date of action to be decided.
156 <sup>th</sup> OCC	SEMs to be Procured	Procurement of 100 L&T SEMs, 20 DCDs along with 100 cables for Laptop / DCDs on Single Tender Basis.	Status and progress may be discussed

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

**C.21 Procurement of 100SEMs:**

In 158<sup>th</sup> OCC the issue of SEM repair / procurement was discussed and approved by the forum. Subsequently it was intimated by NERTS-Powergrid that L&T - the meter manufacturer has expressed difficulty in repairing the identified meters. Considering the

precarious Status of Spare SEM Stock position following additional Agenda may please be taken up in the 159<sup>th</sup> OCCM -

"Procurement of 100 L&T SEMs and 20 DCDs on Single Tender Basis" - In 158<sup>th</sup> OCC the issue of SEM repair / procurement was discussed and approved by the forum. Subsequently it was intimated by NERTS-Powergrid that L&T - the meter manufacturer has expressed difficulty in repairing the identified meters.

Considering the precarious Status of Spare SEM / DCD Stock position the Forum may discuss / approve - " Procurement of 100 L&T SEMs and 20 DCDs on Single Tender Basis"

The 159<sup>th</sup> OCC forum noted the difficulty in repairing the 78 SEMS, so new SEMs are to be procured. It was unanimously decided that immediate procurement is to be done without any delay. The forum requested NERTS to procure 100 SEMs and 20 DCDs from a single source – L&T considering urgent requirement and good performance of L&T make.

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

<b>D. ITEMS FOR DISCUSSION</b>
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**D.1 Generation Planning (ongoing and planned outages)**

- a. Present per day MU and projected number of days of operation.

Plants	Reservoirs level in meter	MU content	Present DC (in MU)	No of days as per current generation
Khandong + Kopili stg II			<b>1.584</b>	
Kopili			<b>4.68</b>	
Doyang			<b>1.44</b>	
Loktak			<b>1.385</b>	

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

***The Committee may discuss and approve the proposed shutdown by Generating Stations as given in Annexure – D.2 which is available in NERPC website.***

**D.2 Outage Planning Transmission elements**

It was agreed in the 99<sup>th</sup> 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 10<sup>th</sup> of the month, the shutdown availing agency would reconfirm to NERLDC on 7<sup>th</sup> 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.

It was decided in the previous OCCM that no shutdown would be granted to utilities not submitting DR/EL regularly.

***The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for September,2019 - October,2019 which is available in the website of NERPC.***

**D.3 Estimated Transmission Availability Certificate (TAC) for the month of July,2019 - August,2019:**

NETC and POWERGRID have submitted the outage data for the month of July, 2019 - August,2019. So the attributability of outage of the said elements may please be finalized.

***Members may please discuss.***

**D.4 Assessment of TTC, TRM & ATC by SLDC on respective Inter-State Transmission Corridor**

NERLDC has assessed the state control area wise, state subsystem wise and group of control-area wise TTCs for NER Grid. The study results will be presented during the meeting. SLDCs are requested to check and validate the TTC of their control areas as computed by NERLDC.

Decisions as per previous meetings:

- SLDC Mizoram would present Study on ATC/TTC calculation in the next OCCM.
- Number of licenses required to be communicated by all the utilities.

***Members may please discuss.***

**D.5 RGMO performance analysis of events**

Decisions in the previous meetings:

- NERLDC to scan PMU records for any event prior to 11:55hrs on 05.02.2019 resulting in droop of frequency by more than 0.03 Hz.
- BgTPP Unit #II mechanical problem in Turbine to be rectified.
- BgTPP DAS data to be submitted for event dated 05.06.19.
- The frequency response characteristic for tripping of 400 KV Dikchu -Rangpo & 400 KV Teesta III- Dikchu resulting in total black out at 400 KV Dikchu and 400 KV Teesta III, generation loss of 1364 MW of Teesta III-1260MW and Dikchu-104 MW has been prepared and analysis will be presented in the meeting.

***Members may please discuss.***

**D. 6 Reactive power capability/injection of generating stations:**

Decisions/deliberations in the previous meetings:

- Reactive Power Capability testing for Palatana on 14.08.19.
- NTPC to give a schedule of reactive testing for BgTPP.

*Members may please discuss.*

**D.7 Accurate Load forecasting by SLDCs as per IEGC c1.5.3 for better system operation**

RMSE for load forecast of actual data in comparison to that forecasted by the states for the month of July'19 is as follows:

<b>% Error with Actual Data (Forecasted by States)</b>							
<b>Day</b>	<b>Arunachal Pradesh</b>	<b>Assam</b>	<b>Manipur</b>	<b>Meghalaya</b>	<b>Mizoram</b>	<b>Nagaland</b>	<b>Tripura</b>
<b>Median</b>	23	15	9	11	34	11	15

Forum decided that load forecast error will be monitored in OCC Meeting till the RMSE comes below 5%

*Members may please discuss.*

**D.8 Continuous shutdown of 220 kV Bus Coupler & 4 x 33 MAV 22/132kV ICT-1 along with associated bays w.e.f 06/09/2019 and shifting of 01 set of 220 kV Bus PT w.e.f 02/09/2019.**

Under the NERSS VIII, SS01 package , the 220/132 kV Dimapur substation is being upgraded from AIS to GIS including replacement of existing 4x33.33 MVA, 220/132 kV single phase unit transformer by 1 x 160 MVA, 220/132 kV 3-phase unit and addition of 1 No 1x160 MVA, 220/132 kV 3-phase transformer.

The existing 220/132 kV Dimapur substation is a conventional AIS substation having 220 kV bays with double main cum transfer scheme and 132 kV bays with single main and transfer bus schemes. Under the NERSS VIII project, all the existing 220 kV and 132 kV AIS bays shall be changed to GIS bays (Double main bus scheme) in the same existing switchyard by creating space for 220 kV GIS building , 132 kV GIS building and outer Gas Insulated Bushings **after dismantling the existing tower/ beams/ equipment's along with structures. During this upgradation period, both the 220 kV & 132 kV bays shall be operated on single bus system and only 220 / 132kV 100 MVA ICT 2 shall remain in service. "**

As per the proposed up-gradation and dismantling, only 220 KV Bus-A (towards the Transmission line side) will be in service. For construction of 200kV GIS Building and 132kV GIS building following assets at Dimapur substations shall be required to be dismantled.

- (1) 220/132 kV 4 X 33MVA ICT-1
- (2) 200kV ICT – 1 BAY
- (3) 132kV ICT – 1 BAY
- (4) 200kV BUS B
- (5) 200kV BUS COUPLER BAY

The substation layout diagram is attached for further reference.

The existing 220 kV PTs of Bus 1 & 2 are installed where the 220 kV GIS building is proposed to be constructed. As such 1 set of the bus PT is to be shifted to a convenient location towards ICT-2 area.

Agenda for 160<sup>th</sup> OCC Meeting to be held on 4<sup>th</sup> September, 2019

After shifting of the PT to the new location, dismantling works of the bus coupler bay and ICT-1 bays including the 4x33.33 MVA 1-Phase transformer will commence.

Once the above shutdown is approved, the shutdown shall continue till erection, testing and commissioning of the new GIS system which is February 2021 as per the approved L2 schedule.

Considering the above, It is proposed for Shutdown below mentioned assets under new construction activity related outage:

- b. Continuous Shutdown of BUS A w.e.f 02.09.2019 to 05.09.2019 for shifting of 1 set of 220 kV Bus PT as above.
- c. Continuous Shutdown of the 220kV/132kV 4x 33 MVA ICT – 1, 220 kV Bus coupler and ICT-1 bays (Bay No.203 & 204)w.e.f 06/09/19 till erection, testing and commissioning of the new GIS system.

In 159<sup>th</sup> OCCM, NERTS informed that under the Dimapur upgradation project continuous shutdown of old ICT 33x3MVA is required with installation of two new ICTs 2x150 MVA. In the meantime Dimapur load will be fed from 100MVA ICT till Feb'21.

Director, NERPC stated that N-1 criterion would not be fulfilled if Dimapur is supplied with one ICT.

The forum felt that till 132kV Dimpur-Imphal line and 132kV Yurembam –Karong is restored the shutdown may not be granted. After detailed deliberation, members were requested to study the proposal so that the matter may be discussed in the next OCCM.

***Members may please discuss.***

#### **D.9 Outage of lines and ICT at RHEP for replacement of breakers:**

Director, NERPC informed the forum that during the Committee visit to RHEP on 05<sup>th</sup> August, 2019 it was brought to notice that all hydraulic CBs at RHEP are to be replaced due to non-availability of spares. Considering the urgency of the work, NEEPCO has already given the order and materials are deemed to be delivered shortly. He requested for the views of the forum keeping in view the power supply condition to Arunachal Pradesh. SE(SO&PSC), DoP Ar. Pradesh stated that 132kV RHEP-Ziro line is the life line for the state and it is not possible to grant shutdown of the line. After detailed deliberation it was decided that NEEPCO would be requested to explore the option of keeping at least one 400/132kV ICT in service and 132kV RHEP-Ziro in service (by means of Transfer Bus and Bus Coupler) at all times.

***Members may please discuss.***

#### **D.10 Opening of all lines at Samaguri:**

NERLDC informed that all lines at Samaguri except 220kV Samaguri-Sonabil-II opened during Emergency Shutdown of 220kV Samaguri-Bus-II on 02.09.19.

AGM, SLDC, AEGCL informed that all the lines are not connected to both the buses at Samaguri. However, a detailed report in this regard would be submitted before next OCCM.

***Members may please discuss.***

**AGENDA ITEMS FROM NERLDC:**

**D.11 Overdrawal of Tripura**

On 20.08.2019, several violation messages were issued to SLDC Tripura but consistent over-drawal was seen even when the frequency dropped to 49.549Hz at 19:19hrs. Such incident is a Non-compliance of NERLDC instruction and violation of clause 5.2(m) of IEGC.

***NERLDC may please deliberate.***

**D.12 Blackout of Lekhi-Nirjuli on 15.08.2019**

A grid disturbance on 15.08.2019 at 19:27hrs led to blackout of Nirjuli and Lekhi S/S as the power is fed from Pare HEP. The unwanted tripping of Pare Bus-coupler led to such grid disturbance. NERLDC requested NEEPCO to analyse the event and furnish the reasons of such tripping vide letter no NERLDC/SO-I/Pare/2019 dated 16.08.2019

***NERLDC may please deliberate.***

**D.13 Impact of Doyang HEP generation due to tripping of Mokokchung ICT-1 & 2**

On 12.08.2019, 13:35hrs Tripping of Mokokchung ICT-1 & 2 at Mokokchung led to initiation of Oscillation in the system which resulted in Tripping of two units of Doyang. NERLDC requested NERTS, POWERGRID to analyse and furnish the reason of tripping of ICTs at Mokokchung vide letter no NERLDC/SO-I/NERTS/2019 dated 14.08.2019.

***NERLDC may please deliberate.***

**D.14 Manual opening of all 132kV lines at AGTCCPP during contingency situation in NER grid**

On 13.08.2019 at 03:13hrs all 132kV lines from AGTCCPP were handtripped without any prior intimation to NERLDC. NERLDC requested NEEPCO to furnish the reason of hand tripping vide letter no NERLDC/SO-I/AGTCCPP/2019 dated 13.08.2019.

***NERLDC may please deliberate.***

**D.15 Training for FTC software**

First Time Charging Software developed by C-DAC is being procured by NERLDC and is planned to be deployed by next month. Hence, C-DAC will be conducting SAT for the FTC software and training for the NER Power Utilities in the next month. Exact schedule will be shared later. Once this process is completed, all the power utilities are requested to apply for first time charging of elements through this FTC web portal.

***NERLDC may please deliberate.***

**D.16 Monitoring of Critical Elements affecting the reliability of and security of the Grid**

<b>Critical Elements which affect NER/ER TTC/ATC Values and Cause major Grid Disturbance</b>		
<b>Sl No</b>	<b>Name of Element</b>	<b>No of tripping during Aug' 19</b>
1	400 kV Bongaigaon - Byrnihat S/C	Count will be presented during the meeting
2	400 kV Bongaigaon - Azara S/C	
3	400 kV Silchar - Azara S/C	
4	400 kV Silchar - Byrnihat S/C	
5	400 kV Palatana - Silchar D/C	
6	400/132 kV, 125 MVA ICT I and II at Palatana	
7	132 kV Palatana - Surajmaninagar S/C	
8	400 kV Balipara - Misa D/C	
9	400/220 kV 1x315 MVA and 1 x 500 MVA ICTs at Misa	
10	132 kV Imphal - Dimapur S/C	
11	132 Khandong - Kopili D/C	

***NERLDC may please deliberate.***

**D.17 Requirement of model data for simulation of power system stability and dynamics**

NLDC vide letter dated 27th Aug 2019 to NPC and RPCs highlighted the requirement of inclusion of new formats in addition to the existing formats by CTU and STU/SLDCs for collection of data pertaining to dynamic parameters of new generators and other equipment. In case of already connected plants, SLDC/STU may issue the necessary instruction to the concerned generator with modified template and request them to furnish the information latest by Dec 2019.

***NERLDC may please deliberate.***

**D.18 Furnishing of Transmission Line parameters and Relay Settings for development of PMU Analytic Tools by IIT Bombay under URTDSM Project**

IIT Bombay is in the process of developing PMU Analytics Tools under URTDSM Project. The team from IIT Bombay visited NERLDC, Shillong on 8th July 2019. The required Transmission Line parameter and Relay Settings of all the feeders where PMUs are installed under URTDSM project has not been received yet from SLDC, Assam.

It is requested to furnish the same at the earliest to develop the Analytics Tool.

***NERLDC may please deliberate.***

## **Metering Agenda**

### **D.19 METER ERRORS:**

Pair check error observed in following location, CT / PT error suspected.

- I) Panchgram end of Lumshnong feeder, Panchgram end reading erratic.
- II) Panchgram end of Badarpur feeder, Panchgram end reading zero value

***NERLDC may please deliberate.***

### **D.20 High SEM Time Drift:**

Time drift in SEMs may result in computational errors in Regional Energy Accounts & Weekly Loss. All constituents in whose premises the meters are installed are required to take corrective action for time correction whenever meter time drift > 1minute and submit weekly compliance report of the same to NERLDC.

The compliance report of many locations as detailed in **Annexure D.20.a**, are not received by NERLDC and **Annexure D.20.b** provides location details of Drift correction action not being done / weekly SEM data not sent.

***NERLDC may please deliberate.***

### **D.21 Urgent Meter Replacement:**

Three SEMs need to be replaced on urgent basis at the following ends:

- 1. Mariani (AS) end of Misa
- 2. Mariani (AS) end of Kathalguri (AGBPP)
- 3. Chanki end of 33kV Mariani PG

***NERLDC may please deliberate.***

### **Any other item:**

### **Date and Venue of next OCC**

It is proposed to hold the 161<sup>st</sup> OCC meeting of NERPC on second week of October, 2019. The date & exact venue will be intimated in due course.

\*\*\*\*\*

पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
POWER SYSTEM OPERATION CORPORATION LIMITED  
(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लोअर नंगरा, लापालांग, शिलांग-793006, (मेघालय)  
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)  
Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerldc.org, Email - nerldc@posoco.in, CIN : U40105DL2009GOI188682

संदर्भ / Ref: NERLDC/SO-1/Assam/2019/

दिनांक / Date: 23.08.2019

To  
CGM(SLDC), AEGCL  
SLDC Complex, Kahilipara  
Guwahati-781019, Assam

विषय /Sub: Regarding Availability of synchronising trolley at Important sub-stations of AEGCL.

Sir,

As per the deliberation in 159<sup>th</sup> OCCM (C.7 of 159<sup>th</sup> OCCM), to maintain at least one no. of synchronising trolley for strategically located substation in Assam system, a detailed list of important substations have been prepared taking into account fast restoration after disturbance and to ensure reliable operation of NER grid.

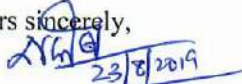
The list of important substations is as follows:

1. 220 kV Sarusajai.
2. 220 kV Mariani.
3. 220 kV Boko.
4. 220 kV Agia.
5. 220 kV Bongaigaon
6. 220 kV Sonapur.
7. 132 kV Pavoil.
8. 132 kV Gohpur.
9. 132 kV Rangia.
10. 132 kV Panchgram.
11. 132 kV Pailapool.
12. 132 kV Hailakandi.
13. 132 kV Kahelipara.

Therefore, necessary action for compliance of deliberation in 159<sup>th</sup> OCCM from AEGCL may please be ensured.

Thanking You,

Yours sincerely,

  
(आर. सूत्रधर / R. Sutradhar)

व. महाप्रबंधक (एस.ओ.-I) / Sr. GM (SO-I)

उ.पू.क्षे.भा.प्रे.के/NERLDC

Copy To:

- 1) प्रबंध-निदेशक, ए.ई.जी.सी.एल /MD, AEGCL
- 2) सदस्य सचिव, उ.पू.क्षे.वि.स /MS, NERPC

**Data Sheets**

Date	Time	Temperatures		Gross Generator output			Capabilit y as per D-Curve	Net output to system			Voltage		System Voltage (HV)	Station Service Load		Remarks	
		Stator Temp	Rotor Temp	Gross	Gross	Reactive Power		Net	Net	Real Power	MW	Hydrogen Pressure		Gen Terminal Voltage	Aux Bus Voltage		MW
													°C				
<b>STG-1 Initial Conditions</b>																	
13.08	15:30	98	67	119	15.5							15.9	6.9 (Fed from ST)	413	-	-	Full load was not achieved due to ambient temperature & relative humidity limitation (28.5 degree Celsius & 96%)
14.08	10:45	99.4	66.9	117.7	17.1							15.38	6.9	412	-	-	90% load of Module-1
14.08	12:50	96.5	64.74	96	14.4							15.43	6.98	413.5	-	-	60% load of Module-1
<b>STG-1 Lagging</b>																	
13.08	16:00	103	69	120	82	87.5	-	-	-	-	-	16.32	6.9	416	-	-	Field Current Limiter Acted
<b>STG-1 Leading</b>																	
14.08	11:35	99.27	68.97	115.8	-44	-62.5	-	-	-	-	-	14.48	6.9	409	-	-	Load Angle Limiter Alarm (set at 80 degrees)
14.08	13:05	95.42	65.16	96	-47	-62.5	-	-	-	-	-	14.47	6.95	410	-	-	Load Angle Limiter Alarm (set at 80 degrees)

*6/20/18/141*  
*meeta*

*Am*

Date	Time	Lead/Lag PF	Temperatures		Generator output			Capability as per D-Curve		Net output to system			Voltage		System		Station Service Load		Remarks
			Stator Temp	Rotor Temp	Gross Real Power	Gross Reactive Power	MW	MVAR	Net Real Power	Net Reactive Power	Hydrogen Pressure (PSIA)	Gen Terminal Voltage (kV)	Aux Bus Voltage (kV)	System Voltage (HV)	MW	MVAR			
																	°C	°C	
<b>GTG-1 Initial Conditions</b>																			
13.08	16:55	.19	73	44	229	50				222.3	-	3.41	15.76	6.56	413	6.7	-		Full load was not achieved due to ambient temperature & relative humidity limitation (28.5 degree Celsius & 96%)
14.08	13:20	.19	48	53	138.4	35				132.4	-	3.3	15.43	6.43	413	6	-		60% Load
<b>GTG-1 Lagging</b>																			
13.08	17:00	.19	75	67	229	125	150			222.3	-	3.42	16.72	6.9	414	6.7	-		No Limiter Alarm observed.
14.08	14:05	.19	45	54	140	100	165			132.9	-	3.3	16.2	6.9	417.5	6.1	-		No Limiter Alarm observed.
<b>GTG-1 Leading</b>																			
13.08	17:25	.19	75	67	229	-22	-100			222.3	-	3.42	15.3	6.29	412	6.7	-		Load Angle Limiter Alarm (set at 75 degrees). Load angle increased to 80 degree.
14.08	13:50	.19	49	57	140	-63	-112			229	-	3.3	14.47	6.1	407	6.0	-		No limiter alarms. Further MVAR absorption could not be done as Auxiliary Bus Voltage touched 6.1 kV.

*Handwritten signature and date: 11/10/19*

*Handwritten initials: AM*

Lead/Lag PF	Temperatures		Gross Generator output			Capability as per D-Curve	Net output to system			Voltage		System Voltage (HV)	Station Service Load		Remarks
	Stator Temp	Rotor Temp	Gross Real Power	Gross Reactive Power	MVAR		Net Real Power	Net Reactive Power	Hydrogen Pressure (PSIA)	Gen Terminal Voltage	Aux Bus Voltage		kW	MVA	
												°C			
<b>STG-2 Initial Conditions</b>															
14.08 .19	98.7	64	108.8	23		-	-	Air Cooled	15.4	6.56 (Fed from ST)	413	-	-	80% Load.	
14.08 .19	101.5	66.2	121.6	17.6		-	-		15.39	6.52	412.3	-	-	100% load of Module-2	
<b>STG-2 Lagging</b>															
14.08 .19	99.09	64.35	107	81	95	-	-		16.24	6.53	414.8	-	-	No limiter alarm observed.	
14.08 .19	103.1	67	122.7	80.4	87.5	-	-		16.17	6.51	413.9	-	-	No limiter alarm observed.	
<b>STG-2 Leading</b>															
14.08 .19	98.6	68.7	108.7	-42	-62.5	-	-		14.51	6.57	409	-	-	Load Angle Limiter Alarm (set at 80 degrees)	
14.08 .19	102	68.6	121.5	-42	-62.5	-	-		14.5	6.52	409.2	-	-	Load Angle Limiter Alarm (set at 80 degrees)	

*6/18/19*  
*mm*

*AV*

Date	Time	Temperatures		Gross Generator output		Capability as per D-Curve	Net output to system			Voltage		System Voltage (HV)	Station Service Load		Remarks
		Stator Temp °C	Rotor Temp °C	Gross Real Power MW	Gross Reactive Power MVAR		Net Real Power MW	Net Reactive Power	Hydrogen Pressure (PSIA)	Gen Terminal Voltage kV	Aux Bus Voltage kV		MW	MVA R	
												Lead/Lag PF			
<b>GTG-2 Initial Conditions</b>															
14.08	16:00	49	58	183.2	28		176.8	-	3.4	15.44	6.56	414.5	6.4	-	80% Load
	.19														
14.08	18:15	51	62	224.9	39		217.9	-	3.38	15.35	6.5	410.7	7.0	-	100% Load
	.19														
<b>GTG-2 Lagging</b>															
14.08	16:43	47	58	183.2	87.6	160	176.4	-	3.4	16.0	6.8	416.9	6.8	-	No Limiter Alarm observed.
	.19														
14.08	19:35	52	66	226.4	103	150	219.7	-	3.37	16.02	6.8	415.45	6.7	-	No Limiter Alarm observed. Silchar Bus Reactor 1 closed to reduce the system voltage prior to the testing
	.19														
<b>GTG-2 Leading</b>															
14.08	16:25	50	57	180.5	-52	-110	174.3	-	3.4	14.49	6.16	408	6.2	-	No limit alarm observed. Further MVAR absorption could not be done as Auxiliary Bus Voltage touched 6.1 kV.
	.19														

  
 6/18/19  
 AS

14.08 .19	19:08	53	63	226.1	-41	-105	219.1	-	3.37	14.55	6.18	409.1	7	-	No limiter alarms. Bus-reactor 1 & 2 opened at Silchar to improve the voltage. Further MVAR absorption could not be done as Auxiliary Bus Voltage touched 6.1 kV.
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By signing below, I as an authorized representative of the Generator listed in this form, certify that the data submitted for the Lagging & Leading Reactive Power Capability Tests accurately demonstrate the Reactive Lagging and Leading Power of the generator at the time of test.

Signature:.....14/8/19

Name:.....Samarjit Rayan Dng

Date: 14/8/19



# पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड

(भारत सरकार का उद्यम)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लोअर नंगरा, लापालांग, शिलांग-793006, (मेघालय)

North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)

Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerldc.org, Email - nerldc@posoco.in, CIN : U40105DL2009GOI188682

संदर्भ/Ref: NERLDC/SO-1/Tripura/2019/91/

दिनांक/Date: 22.08.2019

To,  
Dy. General Manager,  
System Operation Division  
SLDC Tripura,  
79 Tilla, Agartala, Tripura 799006

**विषय/Sub: लो फ्रिक्वेंसी के दौरान त्रिपुरा का अतिरिध द्रवल/ Overdrawal by Tripura during Low Frequency**

Sir,

Kindly refer the Deviation and Frequency violation messages (No. 6994, 6995, 6996, 6997) issued by NERLDC on 20.08.2019.

It has been observed that in spite of repeated over-drawal messages issued by NERLDC, no action was taken by SLDC, Tripura to maintain the drawal as per schedule by SLDC Tripura.

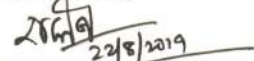
Also during this period of over-drawal by Tripura, the All India grid frequency dropped to 49.549 Hz at 19:19 hrs of 20.08.2019 which was lowest frequency recorded for the day. A pattern of continuous over drawal of Tripura during the said period is attached as **Annexure**.

Consistent overdrwal by Tripura even after several violation messages issued by NERLDC is a non-compliance of NERLDC instructions and is a violation of clause 5.2(m) of IEGC stipulation. You are advised to take appropriate measures to maintain your drawal strictly as per schedule.

Thanking You.

Encl. As above.

Yours faithfully

  
22/8/2019

राजीव सूत्रधार/Rajib Sutradhar  
वरिष्ठ महाप्रबंधक(एस ओ-1)/Sr. GM(SO-1)  
उ.पू.क्षे.भा.प्रे.के./NERLDC

## Schedule vs Actual Drawl of Tripura for 20-Aug-19

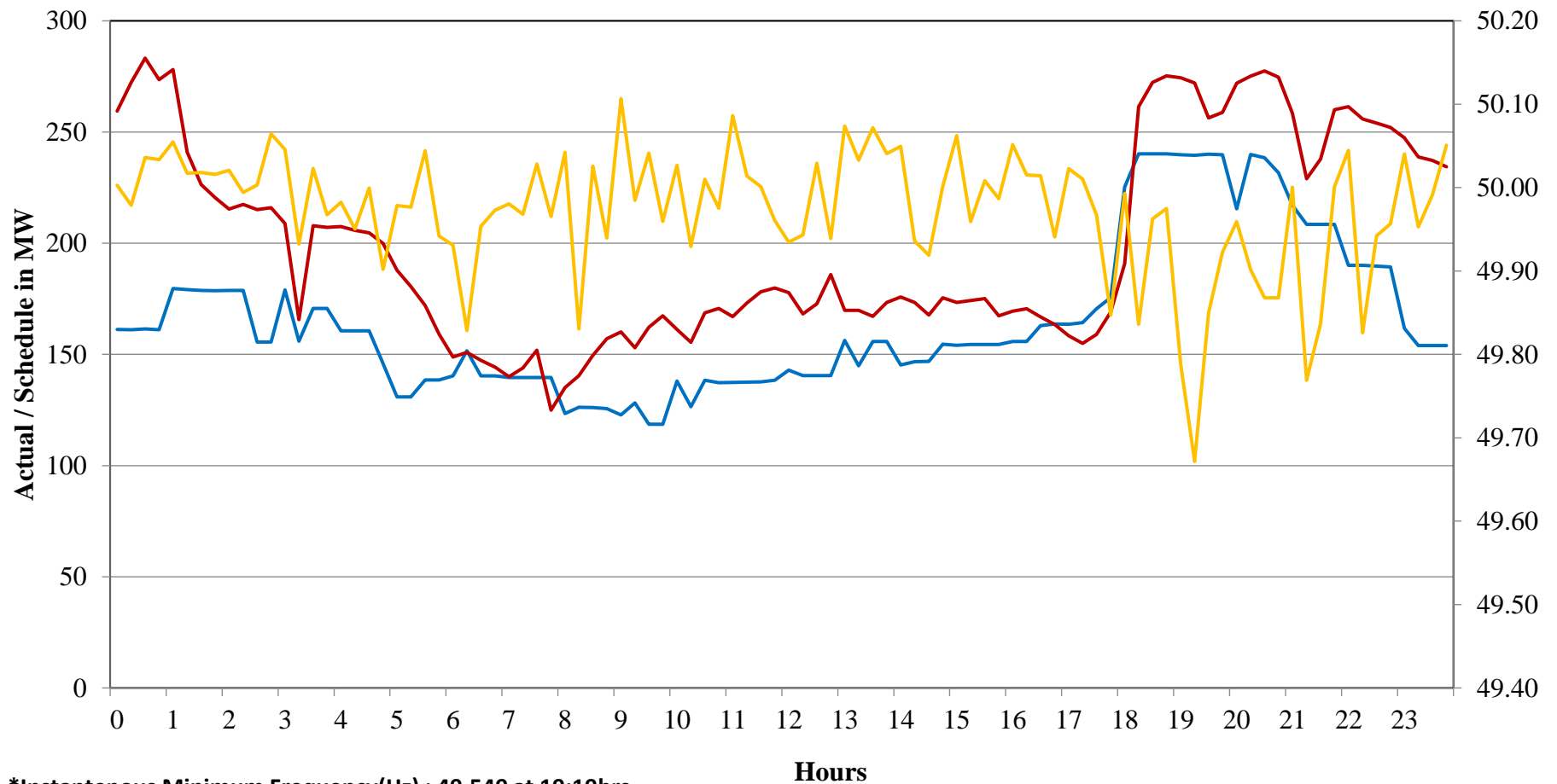
**Schedule : Max, Min & Avg. (in MW) : 240 , 119 & 165**

**Actual : Max, Min & Avg. (in MW) : 283 , 125 & 200**

**TrendSEM : Max, Min & Avg. (in MW) : 283 , 107 & 187**

**Balipara Frequency : Max, Min & Avg. (in Hz) : 50.11 , 49.67 & 49.97 (Blockwise average)\***

— Schedule  
— Actual  
— Balipara Frequency



\*Instantaneous Minimum Frequency(Hz) : 49.549 at 19:19hrs

पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
POWER SYSTEM OPERATION CORPORATION LIMITED  
(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लोअर नॅगरा, लापालांग, शिलांग-793006, (मेघालय)  
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)  
Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerlhc.org, Email - nerlhc@posoco.in, CIN : U40105DL2009GO1188682

संदर्भ / Ref: NERLDC/SO-1/Pare/2019/ 956

दिनांक / Date: 16.08.2019

To  
The Head of Project,  
Pare HEP, NEEPCO  
Doimukh, Papum Pare District  
Arunachal Pradesh-791112

**Sub: Regarding blackout of Lekhi & Nirjuli S/S on 15.08.2019**

Sir,

There was a Grid Disturbance at 19:27 Hrs on 15/08/2019 involving blackout at Nirjuli & Lekhi S/S of Arunachal Pradesh.

Before the incident following feeders were kept in Bus-2 of Pare S/S with the bus-coupler closed.

1. 132 kV Pare – Ranganadi II
2. 132 kV Lekhi – Pare
3. Pare Unit#1

At 19:27 Hrs, the bus coupler tripped first and was followed by the tripping of 132 kV Pare – Ranganadi II feeder which was declared faulty later. This resulted in isolation of Bus-2 and tripping of Pare Unit#1 on Over-frequency thereby causing total failure of power in Bus-2 and blackout of Lekhi & Nirjuli.

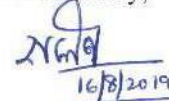
The unwanted tripping of the Bus Coupler at Pare as mentioned above resulted in the event, which could have been avoided.

It is requested to analyse and furnish the reasons of the such tripping. Also, it is advised to ensure proper coordination of Protection system at Pare S/S to minimize such trippings to prevent further unwanted blackouts.

Thanking You,

Encl. SCADA Snapshots

Yours sincerely,

  
16/8/2019

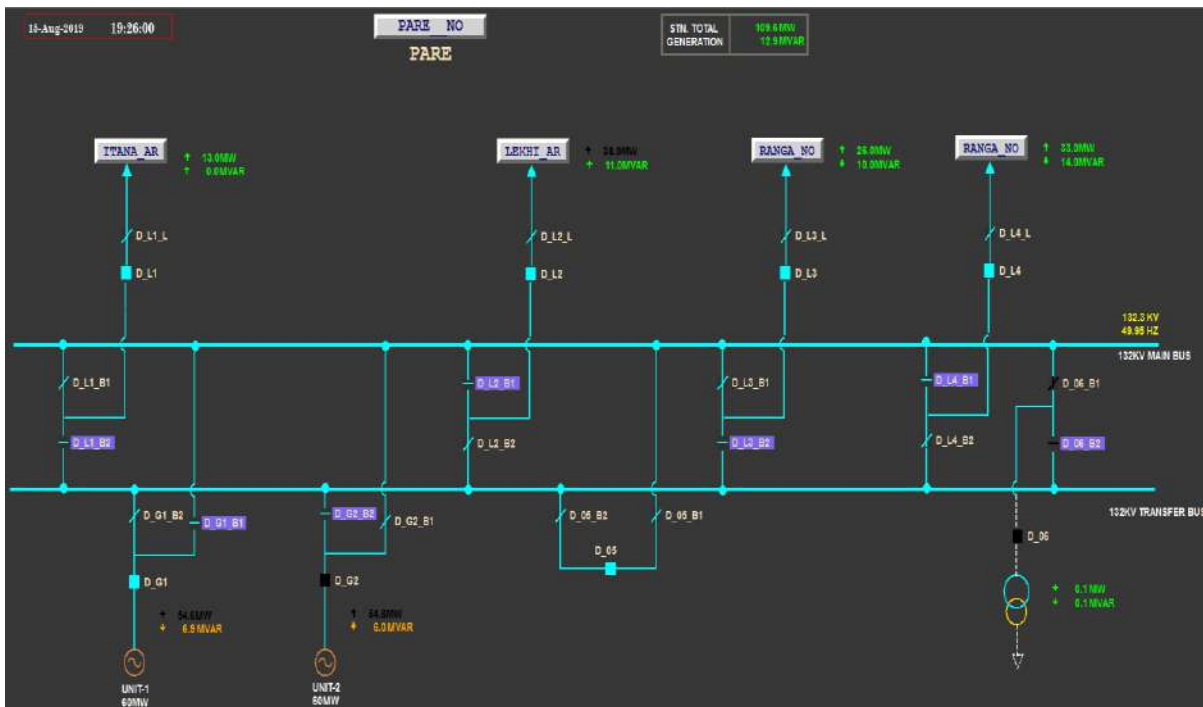
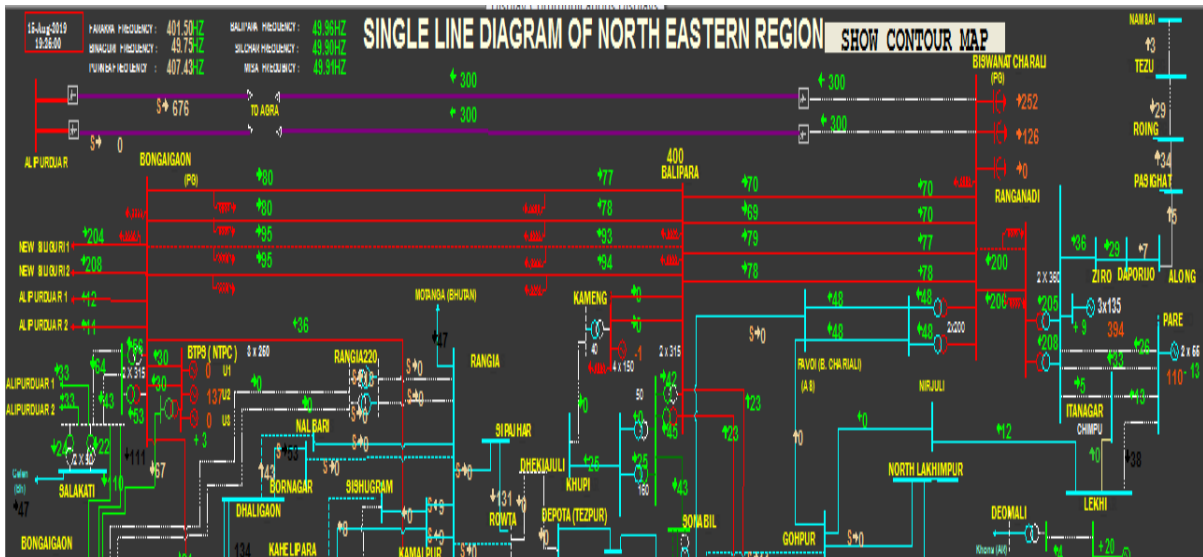
(आर. सूत्रधर / R. Sutradhar)

व. महाप्रबंधक ( एस.ओ.-I) / Sr. GM ( SO-I)  
उ. पू. क्षे. भा. प्रे. के/NERLDC

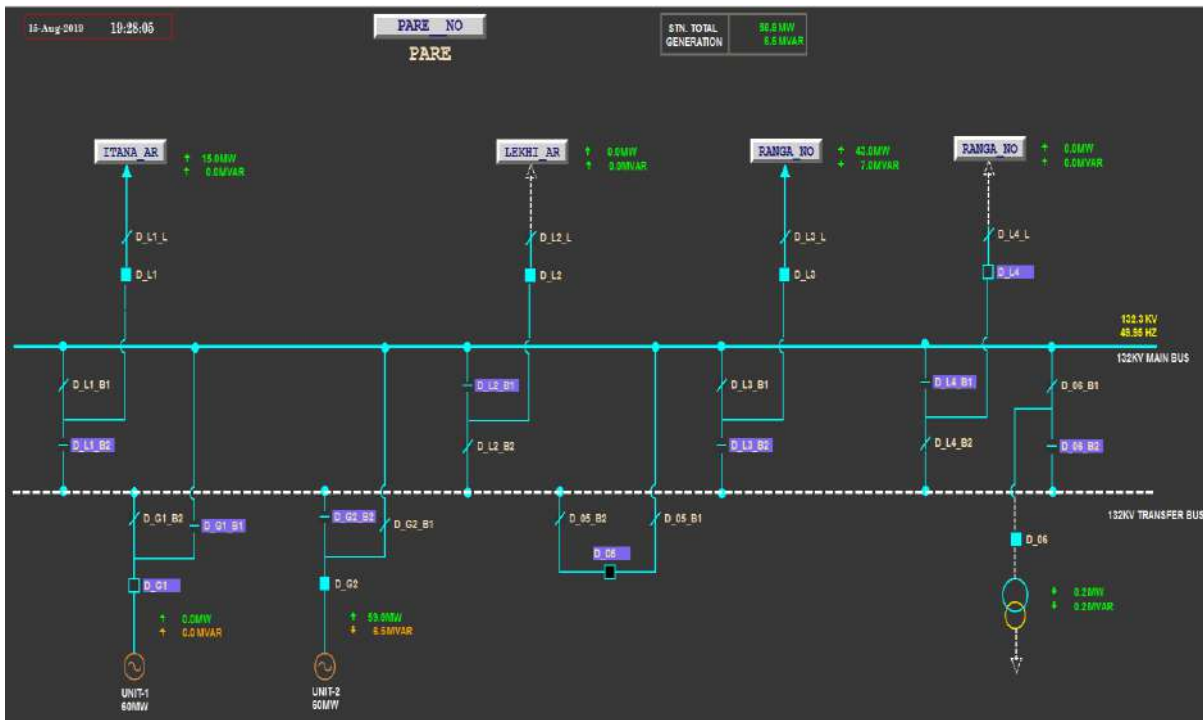
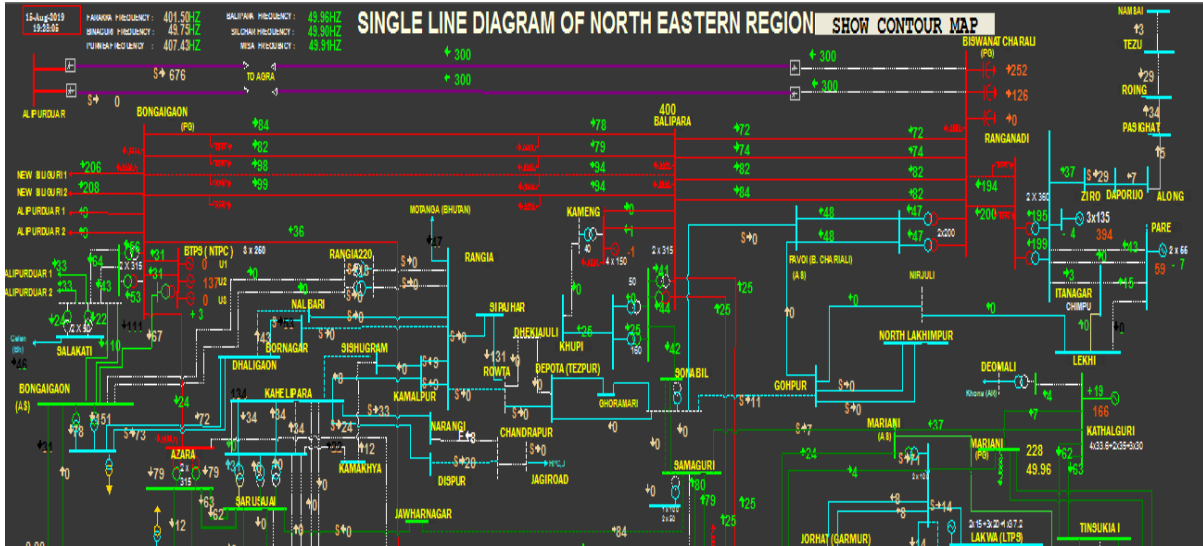
Copy To:

- 1) सदस्य सचिव, उ.पू.क्षे.वि.स/MS, NERPC
- 2) E.D.(O&M), NEEPCO, Shillong

# Pre Grid Condition-SCADA Snapshot:



# Post Grid Condition-SCADA Snapshot:



पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
POWER SYSTEM OPERATION CORPORATION LIMITED  
(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लोअर नंगरा, लापालांग, शिलांग-793006, (मेघालय)  
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)  
Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerlhc.org, Email - nerlhc@posoco.in, CIN : U40105DL2009GO1188682

संदर्भ / Ref: NERLDC/SO-1/NERTS/2019/

दिनांक / Date: 14.08.2019

To  
Senior General Manager(AM),  
NERTS, POWERGRID,  
Shillong.

विषय/Sub: Impact on Doyang HEP generation due to tripping of Mokokchung ICT-1&2.

Sir,


At 13:33 Hrs of 12.08.2019, 132 kV Doyang – Dimapur(PG) I tripped. 132 kV Doyang – Dimapur(PG) II was already under outage from 13:13 Hrs. This caused flow of around 20 MW through 220/132 kV, 30 MVA ICT 1 & 2 at Mokokchung(PG). At 13:35 Hrs, both the ICTs at Mokokchung(PG) got tripped. This event led to loading of 132 kV Doyang-Sanis-Wokha-Kohima to around 60 MW coupled with oscillation. At 13:36 Hrs, Two Units of Doyang (Unit #2 &3) tripped due to oscillation. Generation loss of 44 MW at Doyang HEP occurred due to the above incident. One unit of Doyang (Unit #1) survived with generation of around 15 MW.

Tripping of 220/132 kV, 30 MVA ICT 1 & 2 at Mokokchung(PG) had led to initiation of the oscillation. It is requested to analyse and furnish the reason of tripping of ICTs at Mokokchung. This being one of the routes for evacuation of Doyang generation, reliable operation needs to be ensured.

Thanking You,

Encl. PMU & SCADA Snapshots

Yours sincerely,

  
14/8/2019  
(आर. सूत्रधर / R. Sutradhar)

व. महाप्रबंधक ( एस.ओ.-I) / Sr. GM ( SO-I)

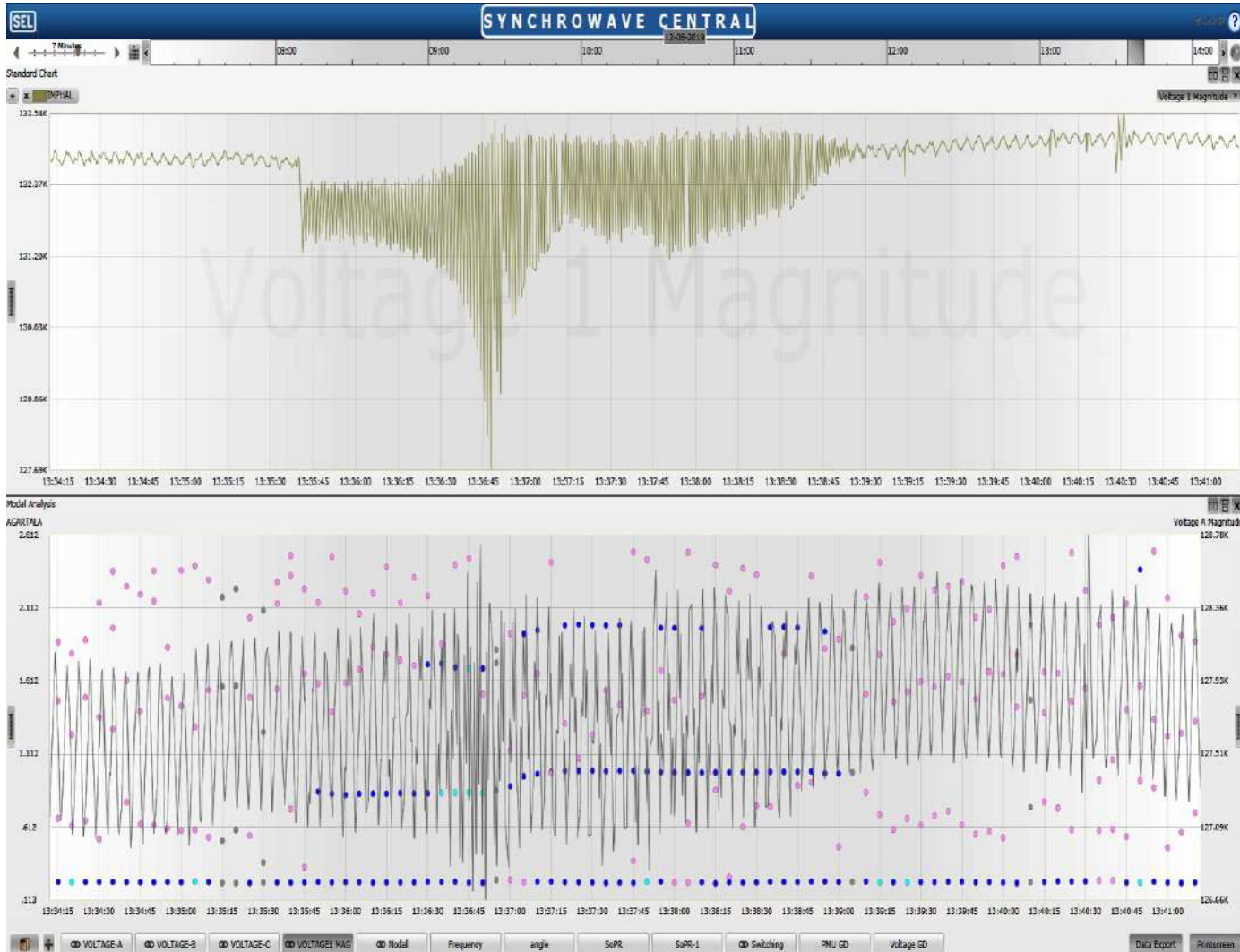
उ . पू . क्षे . भा . प्रे . के /NERLDC

Copy To:

- सदस्य सचिव, उ.पू.क्षे.वि.स /MS, NERPC



# PMU Snapshot: Oscillations observed in NER grid



पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
POWER SYSTEM OPERATION CORPORATION LIMITED  
(A Government of India Enterprise)



उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र : लोअर नंगरा, लापालांग, शिलांग-793006, (मेघालय)  
North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)  
Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerldc.org, Email - nerldc@posoco.in, CIN : U40105DL2009GOI188682

संदर्भ / Ref: NERLDC/SO-1/AGTCCPP/2019/81/944

दिनांक / Date: 13.08.2019

To  
The Head of Project,  
AGTCCPP, NEEPCO  
Ram Chandra Nagar, Tripura(W)  
Pin- 799008

Sub: Manual opening of all 132 kV lines at AGTCCPP during contingency situation in Grid  
Sir,

At 03:13 Hrs of 12.08.2019, Contingency situation arose in Tripura system due to simultaneous tripping of 132 kV Rokhia-Agartala I and 132 kV Palatana-SM Nagar lines. Rokhia Unit #7,8,9; Monarchak GTG, STG and AGTCCPP Unit#1,2,3,5,6 also got tripped at the same time. These tripping led to overloading of 132kV Palatana-Udaipur with a flow of around 94-97 MW. At 03:16 Hrs, all 132 kV lines at AGTCCPP were hand tripped without any prior intimation to NERLDC. The consequences of these hand-tripping were as follows,

1. Loading of 132 kV Palatana-Udaipur line increased to around 110-115 MW, aggravating the situation further.
2. Voltage of 132 kV Agartala BUS got reduced from 122 kV to 116 kV, further deteriorating the Grid condition. PMU snapshot is enclosed herewith for reference.

It is mention-worthy that line loading of 132kV Agartala-AGTCCPP D/C as well as 132kV Kumarghat-AGTCCPP, prior to hand tripping, was around 34 MW, which is lower than their SIL.


Hence, it is found that hand tripping of the mentioned lines had jeopardized an already depleted system and had potential to cause further Grid disturbance of higher degree.

It is requested to furnish the reasons of the hand tripping of the mentioned lines. Also, it is advised to ensure that no such manual opening of important Grid lines is carried out without NERLDC consent in future. Strict compliance is solicited.

Thanking You,

Encl. PMU & SCADA Snapshots

Yours sincerely,

  
13/8/2019

(आर. सूत्रधर / R. Sutradhar)

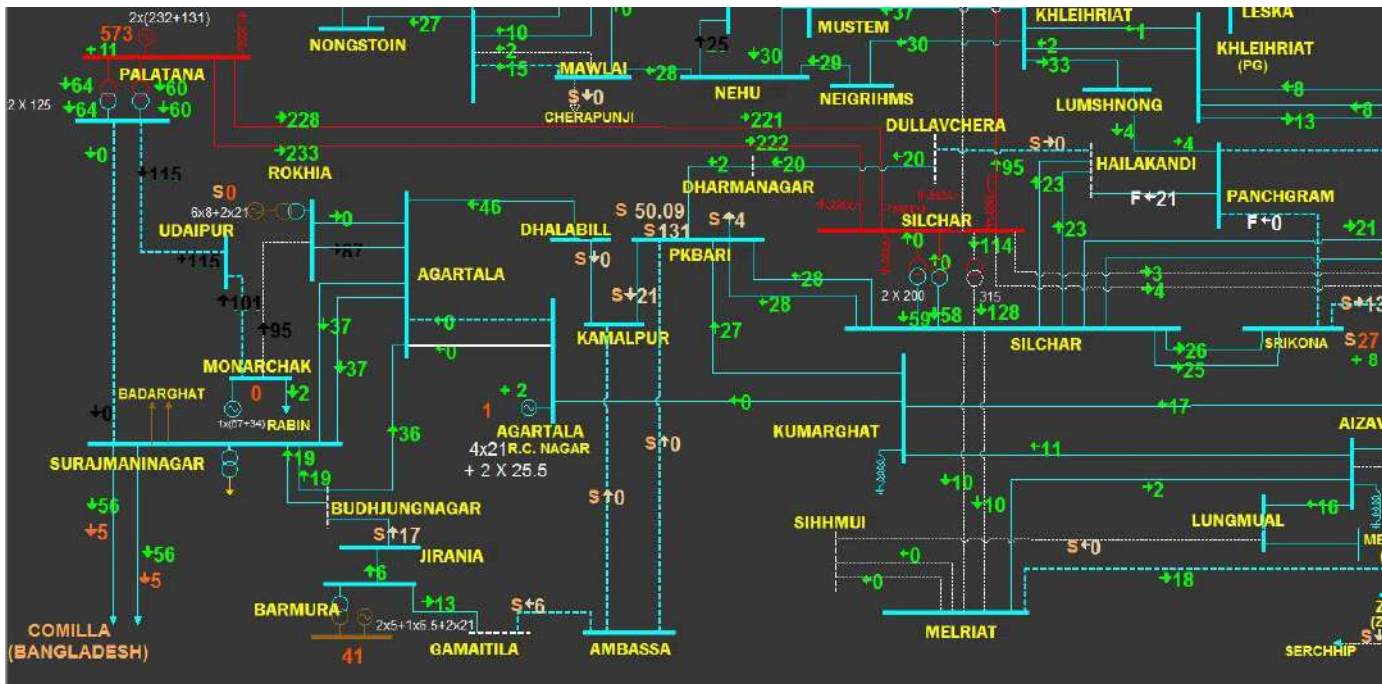
व. महाप्रबंधक ( एस.ओ.-1) / Sr. GM ( SO-1)

उ. पू. क्षे. भा. प्रे. के/NERLDC

Copy To:

- 1) कार्यपालक निदेशक, सं.ओ.अनु, नीपको / ED, O&M, NEEPCO
- 2) सदस्य सचिव, उ.पू.क्षे.वि.स /MS, NERPC

## SCADA Snapshot:



## PMU Snapshot:





# METERING ISSUES

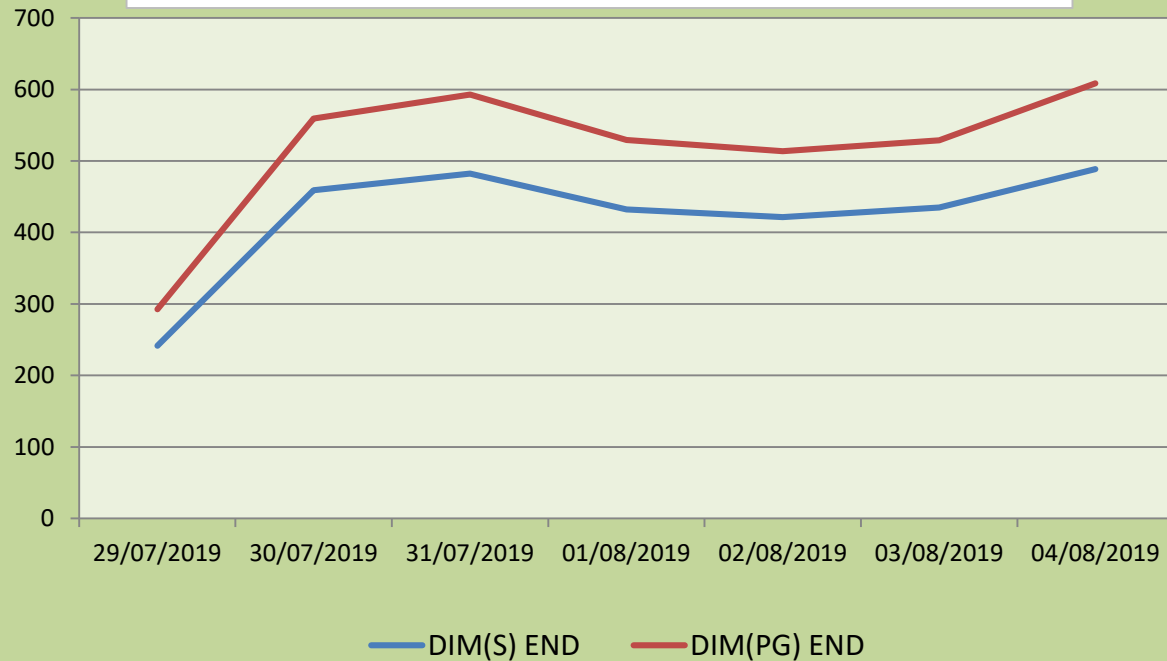
NORTHEASTERN REGIONAL LOAD DESPATCH CENTRE  
SHILLONG

# METER ERRORS

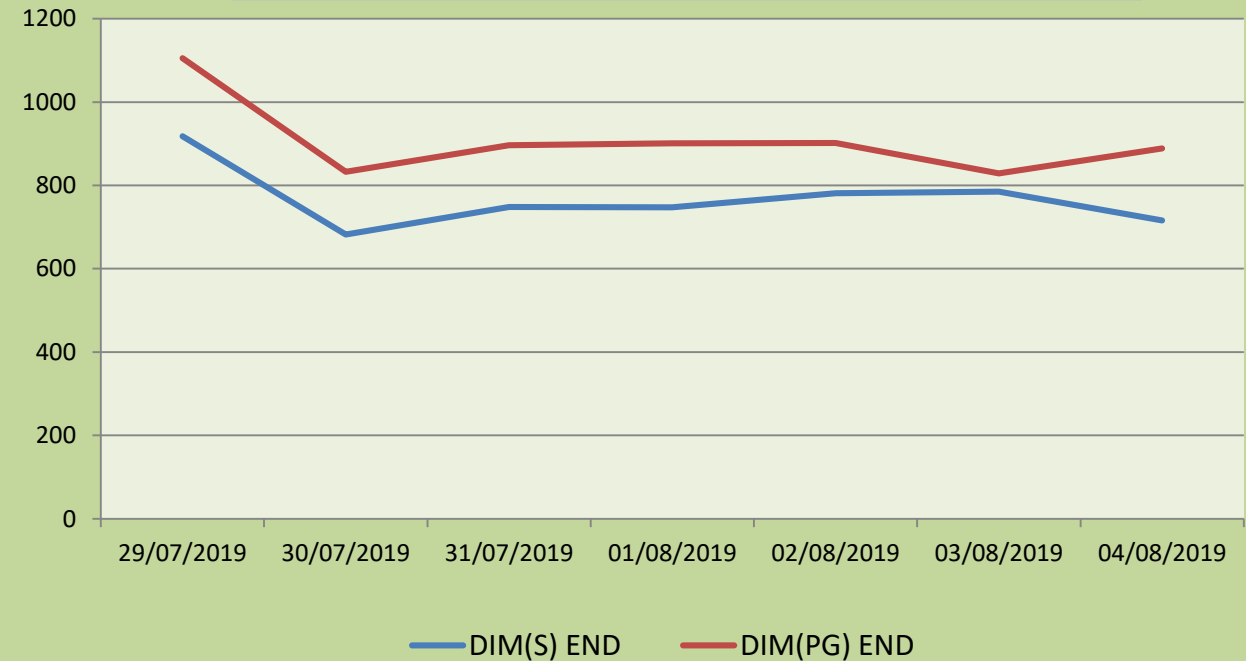
## DIMAPUR (S) END OF DIMAPUR (PG)-I

## DIMAPUR (S) END OF DIMAPUR (PG)-II

**DIMAPUR(S) END OF DIM(PG) FRD-I: READING 20% LESS**



**DIMAPUR(S) END OF DIM(PG) FRD-II READING 18% LESS**

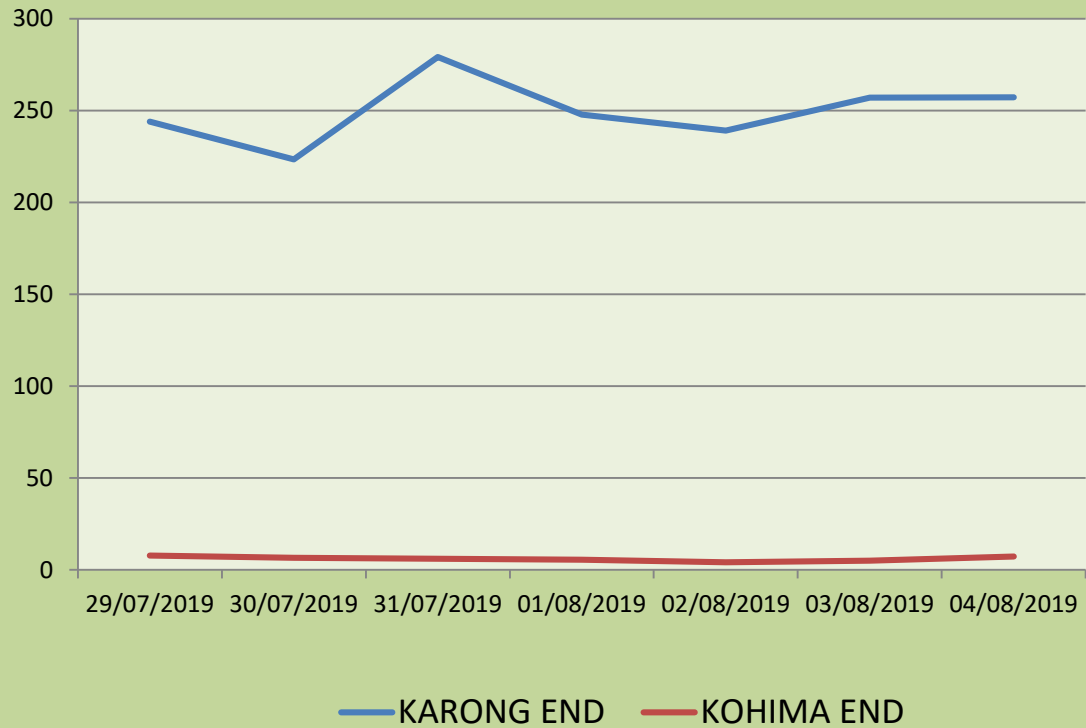


# METER ERRORS



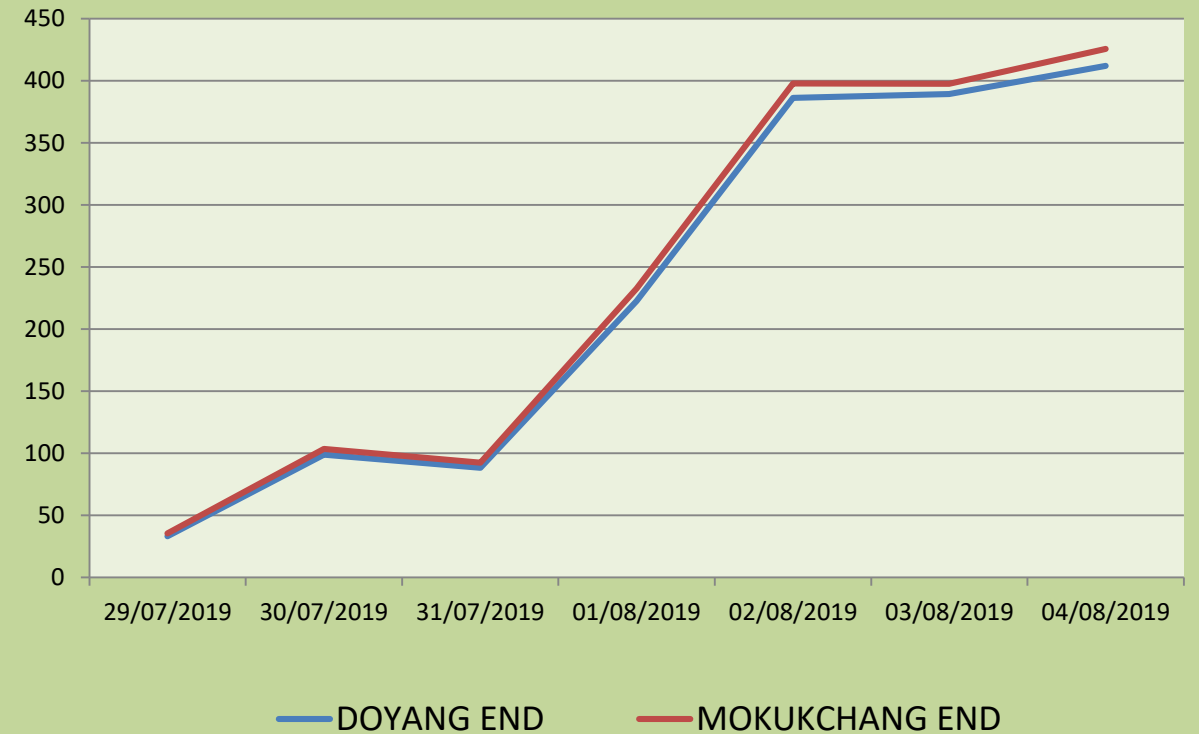
## KOHIMA END OF KARONG

**KOHIMA END OF KARONG: READING 98 % LESS**



## MOKUKCHUNG END OF DOYANG

**MOKUKCHANG END OF DOYANG : SIGN REVERSAL**



# METER ERRORS

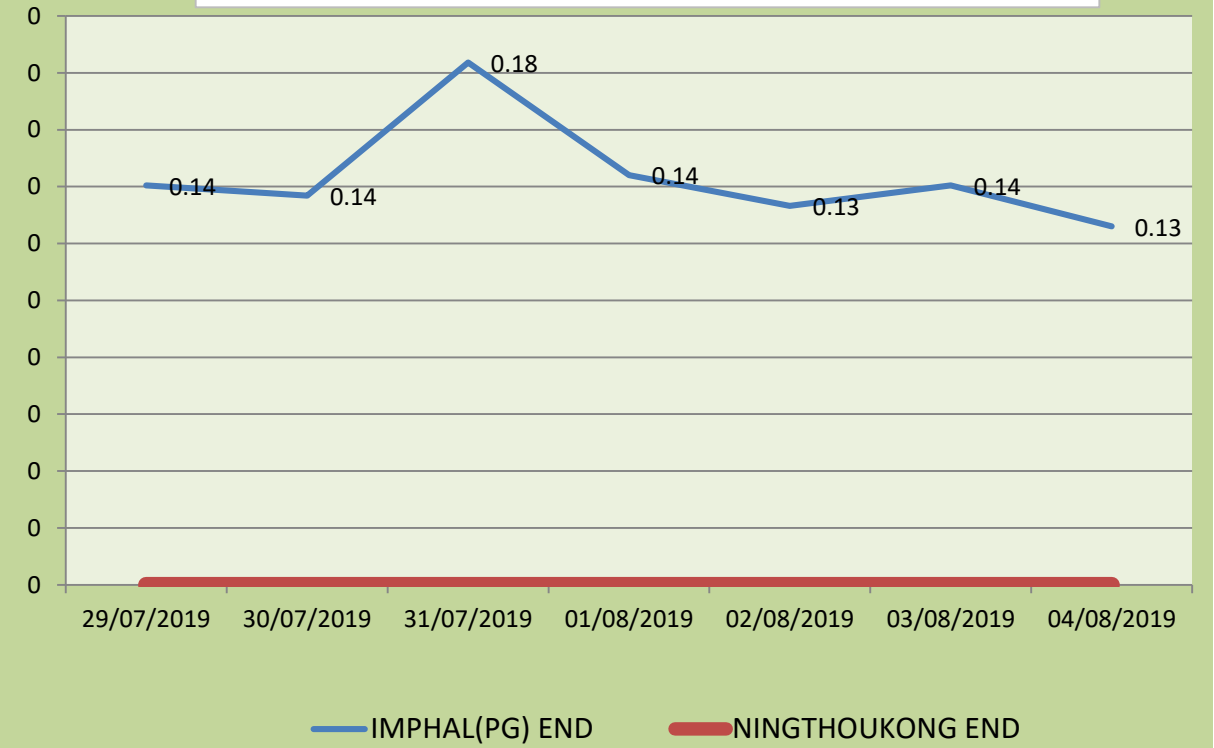
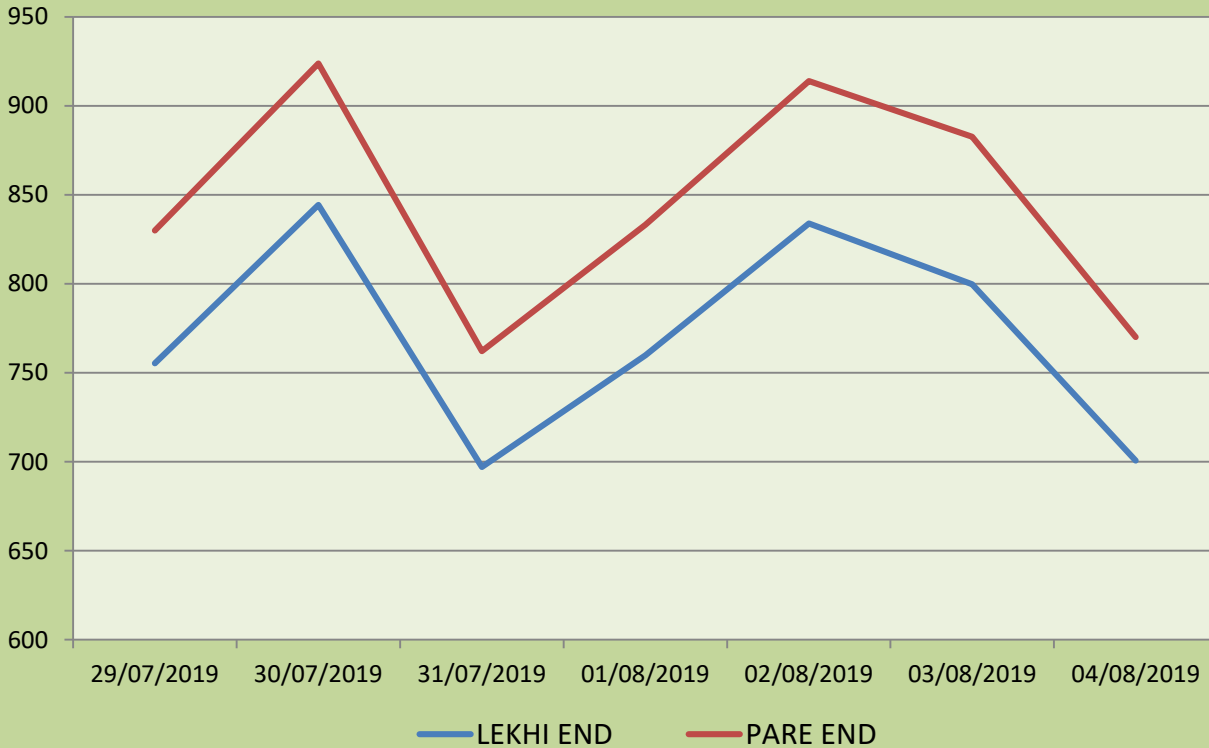


## LEKHI END OF PARE

## NINGTHOKOUNG END OF IMPHAL

LEKHI END OF PARE : SIGN REVERSAL AND ERRATIC READING

NINGTHOUKONG END OF IMPHAL(PG) : READING ZERO

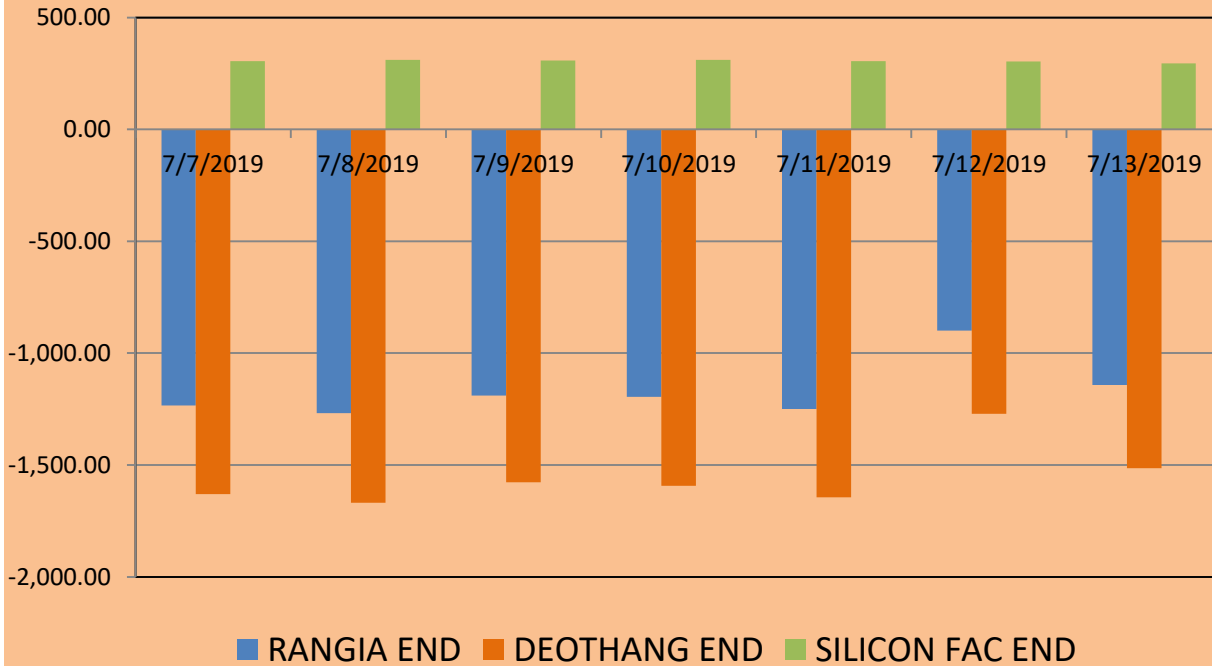


# METER ERRORS



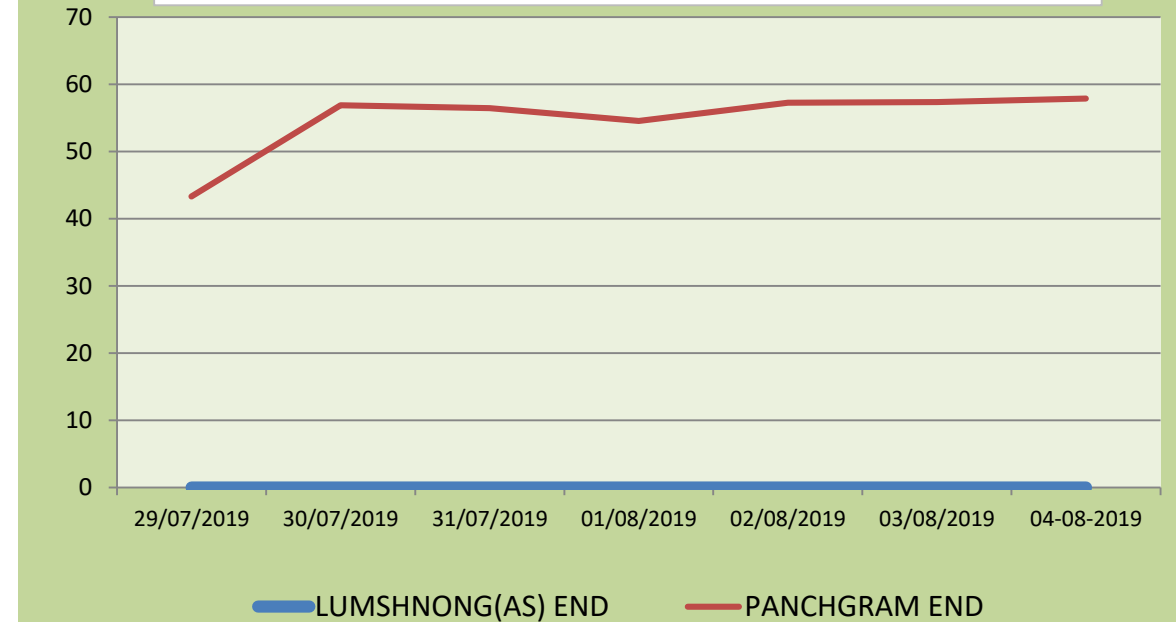
## DEOTHANG END & SILICON FACTORY END OF RANGIA

RANGIA VS DEOTHANG VS SILICON END: SIGN REVERSAL AT BHUTAN END



## PANCHGRAM END OF LUMSHNONG

P'GM END OF LUMSHNONG: READING ERRATIC

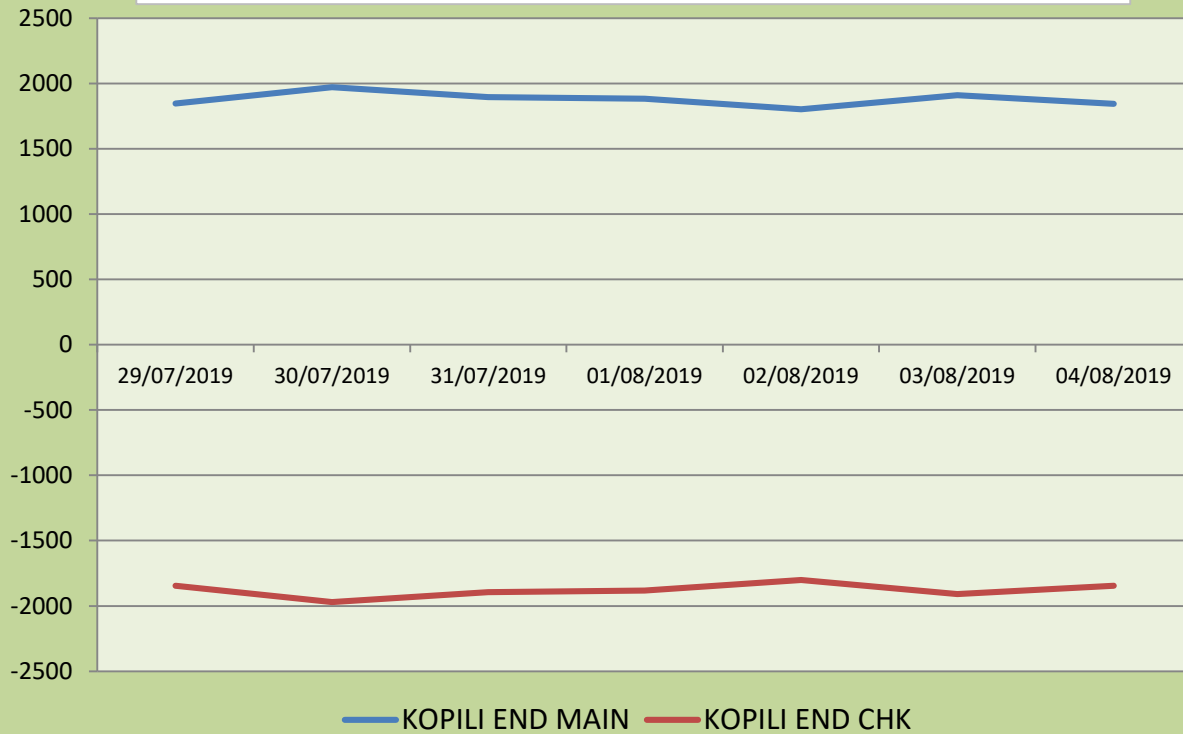


# METER ERRORS



## KOPILI END OF MISA III CHECK METER

**KOPILI (MAIN) VS KOPILI (CHK) MISA III: SIGN REVERSAL**



पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
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North Eastern Regional Load Despatch Centre: Lower Nongrah, Lapalang, Shillong - 793006, (Meghalaya)  
Ph : 0364-2537470, 2537427, Fax - 2537486 Website : www.nerlhc.org, Email - nerlhc@posoco.in, CIN : U40105DL2009GOI188682

संदर्भ/Ref: NERLDC/SO-1/Assam/2019/92/H-542

दिनांक/Date :22-08-2019

To,  
Chief General Manager,  
AEGCL, Bijulee Bhawan,  
Paltan Bazar, Guwahati  
Assam, 781001

**विषय/SUB: 220 k.V. सामागुरी बस का शटडाउन लेने के लिये अन्य सभी 220 k.V. लाइन का उद्घाटन सीवाय 220 k.V. सोनाबिल-सामागुरी लाइन/Opening of all 220 kV lines except 220 kV Sonabil Samaguri during Shutdown of 220 kV Bus II at Samaguri**

Ref: 1) NERLDC Letter no. NERLDC/SO-1/Assam/2019/77/514 dated 07/08/2019  
2) Reply of AGM-Samaguri S/S to the above mentioned letter via email dated 19/08/2019

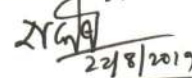
Sir,

This is in reference to the letter dated 07/08/2019 mentioned above on the subject matter wherein we had enquired the reason for opening of all 220 kV lines except 220 kV Sonabil- Samaguri during Shutdown of 220 kV Bus II at Samaguri and not keeping the 220 kV lines in service through Bus I during the shutdown period.

In its reply to the letter via email (copy attached) dated 19/08/2019, AGM-Samaguri S/S has mentioned that the said 220 kV lines were opened to reduce load. It may be noted that opening of the 220 kV lines in order to reduce load is not only a wrong practice & violation of IEGC, but also results in reduced reliability of Grid.

In the reply, it has also been mentioned that "Condition of 220 KV Bus 1 and Bus 2 are not good enough to run separately". Kindly elaborate further on the issue and mention the exact technical limitation which prohibits separate operation of both the busses. Your cooperation in this regard would be highly appreciated.

Yours sincerely,

  
22/8/2019

( आर. सूत्रधार/ R. Sutradhar)

व. महाप्रबंधक (एस.ओ-1)/Sr. GM (S.O-1)  
उ.पू. क्षे.भा.प्रे.के/NERLDC

Copy To:

- 1) सदस्य सचिव, उपक्षेविस/ MS, NERPC
- 2) प्रबंध निदेशक, आईजीसीएल/MD, AEGCL
- 3) एसएलडीसी, असम/SLDC, Assam

## FW: Opening of all 220 kV lines except 220 kV Sonabil-Samaguri during Shutdown of 220 kV Bus at Samaguri

R Sutradhar (आर सूत्रधार)

Sent: 19 August 2019 16:55:04

To: V Suresh (वी सुरेश); SYSTEM OPERATION NERLDC; S C De (एस सी डे)

---

From: Bimal Borah [bimalchandraborah@gmail.com]

Sent: 19 August 2019 16:39:01

To: R Sutradhar (आर सूत्रधार)

Subject: Fwd: Opening of all 220 kV lines except 220 kV Sonabil-Samaguri during Shutdown of 220 kV Bus at Samaguri

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

From: Assistant General Manager AEGCL Samaguri <aegclsmg@gmail.com<mailto:aegclsmg@gmail.com>>

Date: Mon, Aug 19, 2019 at 2:23 AM

Subject: Re: Opening of all 220 kV lines except 220 kV Sonabil-Samaguri during Shutdown of 220 kV Bus at Samaguri

To: Sldc Aegcl <sldcaseb@gmail.com<mailto:sldcaseb@gmail.com>>

Cc: Bimal Borah <bimalchandraborah@gmail.com<mailto:bimalchandraborah@gmail.com>>, Dipesh Chandra Das <dipeshdas21@gmail.com<mailto:dipeshdas21@gmail.com>>, agm.samaguri <agm.samaguri@aegcl.co.in<mailto:agm.samaguri@aegcl.co.in>>

Sir,

With reference to the trailing mail I would like to inform you that an emergency shutdown of Bus 1 was taken on 6 August 2019 at 6.10 hrs for maintenance of a snapped jumper of Bus 1. In this process of separation Bus 1 and Bus 2 load was reduce by opening the 220 KV Jawahar Nagar, 220 KV Sonapur, 220 KV ,220Kv Sonabill line at 6.05 hrs and 220 KV Morioni line at 6.10 hrs. After separating the bus 1 and bus 2, 220 KV Sonapur and 220 KV Sonabill line charged at 6.44 hrs and 6.51 hrs respectively. At this moment 220 KV misa 1 and misa 2 tripped on general trip zone 1 SOTF. Both the line ( misa 1 and misa 2 ) charged at 7.13 hrs and 7.25 hrs. After few minutes heavy flash over observed at bus 2 isolators of 220 KV Misa 1 and Misa 2. At that moment both the CB of misa 1 and Misa 2 manually opened. After charging the bus 1 at 9.25 hrs emergency shut down of bus 2 taken at 10.10 hrs. for repairing of Bus isolators. After completion of repairing work Bus 2 charged at 13.05 hrs and 220 KV Misa 1 and Misa 2 charged at 13.13 hrs , 220 KV Morioni Charged at 13.18 hrs and 220 KV Jawahar Nagar charged at 13.33 hrs. In this regard I would like to inform you that the Condition of 220 KV Bus 1 and Bus 2 is not good enough to run separately.

Regards

AGM, 220 KV GSS,  
SAMAGURI

On Thu, 8 Aug 2019 at 11:30 AM, Sldc Aegcl <sldcaseb@gmail.com<mailto:sldcaseb@gmail.com>> wrote:

From AGM,SLDC,

Please find the trailing mail from NERLDC regarding Bus Shutdown process undergone on 06-08-2019. You are kindly requested to respond to the queries raised by NERLDC

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

From: Sourav Mandal (सौरव मंडल) <souravmandal@posoco.in<mailto:souravmandal@posoco.in>>

Date: Wed, Aug 7, 2019 at 7:41 PM

Subject: Opening of all 220 kV lines except 220 kV Sonabil-Samaguri during Shutdown of 220 kV Bus at Samaguri

To: cgmomaegcl@gmail.com<mailto:cgmomaegcl@gmail.com> <cgmomaegcl@gmail.com<mailto:cgmomaegcl@gmail.com>>

Cc: managing.director@aegcl.co.in<mailto:managing.director@aegcl.co.in>

<managing.director@aegcl.co.in<mailto:managing.director@aegcl.co.in>>,  
md\_aegcl@yahoo.co.in<mailto:md\_aegcl@yahoo.co.in> <md\_aegcl@yahoo.co.in<mailto:md\_aegcl@yahoo.co.in>>,  
sldcaseb@gmail.com<mailto:sldcaseb@gmail.com> <sldcaseb@gmail.com<mailto:sldcaseb@gmail.com>>,  
ms-nerpc@gov.in<mailto:ms-nerpc@gov.in> <ms-nerpc@gov.in<mailto:ms-nerpc@gov.in>>,  
brieflee.lyngkhoi@gmail.com<mailto:brieflee.lyngkhoi@gmail.com>

<brieflee.lyngkhoi@gmail.com<mailto:brieflee.lyngkhoi@gmail.com>>,  
<vsuresh@posoco.in<mailto:vsuresh@posoco.in>>,  
<rajibsutradhar@posoco.in<mailto:rajibsutradhar@posoco.in>>,  
<amareshmallick@posoco.in<mailto:amareshmallick@posoco.in>>,  
<scde@posoco.in<mailto:scde@posoco.in>>,  
<sourav04mandal@gmail.com<mailto:sourav04mandal@gmail.com>>

<vsuresh@posoco.in<mailto:vsuresh@posoco.in>>, V Suresh (वी सुरेश)

<rajibsutradhar@posoco.in<mailto:rajibsutradhar@posoco.in>>, R Sutradhar (आर सूत्रधार)

<rajibsutradhar@posoco.in<mailto:rajibsutradhar@posoco.in>>, Amaresh Mallick (अमरेश मल्लिक)

<amareshmallick@posoco.in<mailto:amareshmallick@posoco.in>>, S C De (एस सी डे)

<scde@posoco.in<mailto:scde@posoco.in>>, sourav04mandal@gmail.com<mailto:sourav04mandal@gmail.com>

<sourav04mandal@gmail.com<mailto:sourav04mandal@gmail.com>>

Sir,

Please find attached signed copy of letter from Sr. G.M. (S.O-1) NERLDC on the above mentioned subject matter.

Regards,

सौरव मंडल/ Sourav Mandal

उप प्रबंधक/ Deputy Manager,

उ.पु.क्षे.भा.प्रे.के., शिलांग/ NERLDC, Shillong

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--  
Regards

-----

Shift Charge Engineer

State Load Despatch Centre

ASSAM ELECTRICITY GRID CORPORATION LIMITED (AEGCL)

Kahilipara, Guwahati-781019

ASSAM

Website : <http://www.sldcassam.in><<http://www.aegclsldc.org>>  
Email : [sldcaseb@gmail.com](mailto:sldcaseb@gmail.com)<<mailto:sldcaseb@gmail.com>> ,  
[sldcaseb@rediffmail.com](mailto:sldcaseb@rediffmail.com)<<mailto:sldcaseb@rediffmail.com>>  
Phone no: 9531206854 , 9435550850  
Fax no: 0361-2387929

### **TIME DRIFT REPORT STATUS**

<b>SL.NO</b>	<b>PGCIL</b>	<b>STATUS</b>
1	BNC (PG)	REPORT NOT RECEIVED/ACTION NONE
2	BADARPUR (PG)	REPORT NOT RECEIVED/ACTION NONE
3	Silchar(PG)	REPORT NOT RECEIVED/ACTION NONE
4	MARIANI (PG)	REPORT NOT RECEIVED/ACTION NONE
5	HAFLONG (PG)	REPORT NOT RECEIVED/ACTION NONE
6	Mokokchang(PG)	REPORT NOT RECEIVED/ACTION NONE
7	RANGIA (PG)	REPORT NOT RECEIVED/ACTION NONE
8	Aizawl(pg)	REPORT NOT RECEIVED/ACTION NONE
9	SALAKATI(PG)	REPORT NOT RECEIVED/ACTION NONE
10	BONGAGIGAON(pg)	REPORT NOT RECEIVED/ACTION NONE
11	DIMAPUR(pg)	REPORT NOT RECEIVED/ACTION NONE
12	Khliehriat(Pg)	REPORT NOT RECEIVED/ACTION NONE
	<b>ASSAM</b>	
13	DULLAVCHERRA	REPORT NOT RECEIVED
14	TINSHUKIA	REPORT NOT RECEIVED
15	<b>NAGALAND(S)</b>	REPORT NOT RECEIVED
16	<b>MIZORAM(S)</b>	REPORT NOT RECEIVED
	<b>TRIPURA</b>	
17	SM NAGAR	REPORT NOT RECEIVED
18	79 TILLA	IRREGULAR
	<b>MEGHALAYA</b>	
19	BYRNIHAT	REPORT NOT RECEIVED
	<b>ARUNACHAL PRADESH</b>	
20	CHIMPU	REPORT NOT RECEIVED
	<b>GENERATION</b>	
21	AGBPP	REPORT NOT RECEIVED
22	DOYANG	REPORT NOT RECEIVED
23	PALATANA	IRREGULAR

### **Time Drift Corrective Action Not taken**

SL NO	ENTITY	LOCATION	TIME DRIFT STATUS(MIN)	REMARKS
1	ASSAM	AZARA-BONG	-3:55	Meter replaced due to high time drift but due to inaction drift >3
2	ASSAM	AZARA-SIL	-4:24	Meter replaced due to high time drift but due to inaction drift >4
3	ASSAM	DULLAVCHERRA	+2:20	No action taken

### **Locations not sending weekly SEM data**

SLNO	LOCATION NOT REPORTING	STATUS
1	UDAIPUR(TR)	DATA NOT SENT
2	SONABIL(AS)	DATA NOT SENT