भारत सरकार Government of India
विद्युत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विद्युत समिति
North Eastern Regional Power Committee
एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

Ph. No: 0364 - 2534039
Fax No: 0364 - 2534040
Website: www.nerpc.nic.in

No. NERPC/SE (O)/OCC/2018/***2670-2707*** Dated: August 24, 2018

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone),Department of Power ,Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
15. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. GM, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 147th OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 147th OCC Meeting held at Guwahati on the **10th August, 2018** for your kind information and necessary action. The minute is also available on the website of NERPC, **www.nerpc.nic.in**.

Any comments/observations may kindly be communicated to NERPC Secretariat at the earliest.

Encl: As above

भवदीय/Yours faithfully,

बि. लिंगखोइ / B. Lyngkhoi
निदेशक / **Director/ SE**

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP,Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.

निदेशक / **Director/ SE**

North Eastern Regional Power Committee

MINUTES OF THE 147th OPERATION COORDINATION SUB-COMMITTEE MEETING OF NERPC

Date : 10/08/2018 (Friday)

Time : 10:00 hrs

Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 147th OCC Meeting is attached at **Annexure – I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 147th OCC meeting. He expressed satisfaction about large number of participation and stated that such participation has ensured amicable resolution of many regional issues in a fruitful manner. He informed that the 19th TCC/RPC meeting is scheduled to be held in the second week of September. Further he intimated that the PDMS tender has been floated and also stated that the SAMAST tender would be published after approval in the RPC meeting. Member Secretary, NERPC felicitated Shri N. R. Paul, GM, NERLDC, POSOCO on behalf of the forum.

The forum put in record the numerous contributions made by him for the region. All members appreciated his humbleness, simplicity and his technical expertise.

Shri N. R. Paul, GM thanked the NERPC forum and said that the various sub-committees of NERPC has taught him many things both in technical & personal life. Further, he mentioned that he would be more than happy to extend any help to the forum whenever they face any problem.

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

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 146th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 145th meeting of Operation Sub-committee held on 17th July, 2018 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 30th July, 2018.

The Sub-committee confirmed the minutes of 146th OCCM of NERPC as no comments/observations were received from the constituents.

I T E M S F O R D I S C U S S I O N

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 147th OCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	Tender by Sep'18	Revised DPR submitted	-	DPR submitted for Techno-Economic Appraisal.
Nagaland	Pack-A: completed Pack-B: Aug'18 Pack-C: Aug'18 Pack-D: Completed.	Revised DPR yet to be submitted	To re-submit proposal to NERPC for Study.	DPR submitted for Techno-Economic Appraisal
Mizoram	LOAs completed. First tranche of funds requisitioned.	Revised DPR submitted	Appraisal Committee is yet to approve	DPR submitted for Techno-Economic Appraisal
Manipur	LOAs issued.	Revised DPR submitted	Submitted to NERPC for Study before sending to NPC/NLDC.	DPR submitted for Techno-Economic Appraisal
Tripura	Fund Released ▪ 17.2 Cr. Tentative Completion by 31.12.2018	Revised DPR submitted	To submit proposal to NERPC for Study.	DPR submitted for Techno-Economic Appraisal
Assam	Substation auxiliary and diagnostics tools - Tendering in process. LOA by Aug'18.	Revised DPR submitted	-	DPR submitted for Techno-Economic Appraisal
Meghalaya	MePTCL- All LOAs awarded. Earthing Package Tendering in Progress. Balance items by Sep'18 MePGCL –UC submitted.	Revised DPR submitted. Query referred to DISCOM	-	DPR submitted for Techno-Economic Appraisal

Deliberation of the sub-Committee:

ED, NERLDC noted that the SAMAST project has a huge expenditure involvement, in fact it is much higher than the old ULDC project. He requested all the members involved in various committees for preparation of tender to be extra cautious. Further he suggested that a Project Monitoring Committee similar to ULDC project be formed after award of works to spearhead the execution.

Director(O&P), NERPC informed the forum that members of the SAMAST committee(s) in its meeting on 09.08.18 has finalised various roles and responsibilities w.r.t. tender preparation. It was decided in the meeting that all SRS should be finalised before 31.08.18.

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 147th OCC
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	SCM MoM yet to be issued.
400KV 80MVAR Bus Reactor at Palatana	OTPC	Charged on 27.07.18. DoCO yet to be finalised. **To be dropped.**
Repairing of R-ph bushing of 63MVAR L/R at Balipara for 400kV Balipara-Bongaigaon -II (*out since 17.02.18)*	NERTS	By Nov'18
400/132kV 125MVA ICT-II at Palatana (*out since 08.07.2018)*	OTPC	Restored on 21.07.2018. RCA to be submitted by 18.08.18.
Outage of 420kV 80MVAR L/R for 400kV Bongaigaon-NSLG-I at Bongaigaon - (out since *04.07.18*)	NERTS	By 15.10.2018
132kV Dimapur - Imphal (*out since 25.07.18*)	NERTS	**
63 MVAR B/R-4 at 400kV Biswanath-Chariali(*out since 27.04.18*)	NERTS	Internal failure. By 15.10.18

**AGM, NERTS informed that for 132kV Dimapur - Imphal, tower has been sheared in a number of locations and has been temporarily de-energised. The line is in critical condition and cannot be put on ERS due to rough terrain. However NERTS is trying its level best to install new tower but it is being delayed due to RoW issues. Expected restoration by Oct'18.

The Sub-Committee noted as above.
Action: All concerned utilities.

3. Furnishing of various data for reliable grid operation:

<table>
<tr><td>Data regarding</td><td>Status as of 146th OCC</td></tr>
<tr><td>DAS output for FRC calculation</td><td>Event Date: 30.07.18; Kopili, Palatana and Pare submitted the data.
NERLDC once again requested all generators to provide DAS data at the earliest for FRC calculation.</td></tr>
<tr><td>Operating Procedures</td><td>
<table>
<tr><th>Items</th><th>Data submitted by</th></tr>
<tr><td>OP of States</td><td>Submitted only by AEGCL, MePTCL and TSECL</td></tr>
<tr><td>OP of Transmission System</td><td>Not submitted by any constituents</td></tr>
<tr><td>OP of Generating Stations</td><td>Not submitted by any generators</td></tr>
<tr><td>OP of GIS</td><td>Not submitted by any constituents</td></tr>
</table>
</td></tr>
<tr><td>Data related to Power Map.</td><td>
<table>
<tr><th>Items</th><th>Data submitted by</th></tr>
<tr><td>Communication (PLCC/OPGW/ GPRSVSAT/ Satellite</td><td>NERTS, Meghalaya, Assam & Mizoram provided the data.</td></tr>
</table>
</td></tr>
<tr><td>Patrolling report(s) for T/L**.</td><td>Patrolling report and vegetation clearance self-certification to be immediately submitted for 132kV Balipara-Khupi, 132kV Dimapur-Kohima & 132kV Aizawl - Kumarghat</td></tr>
</table>

The Sub-committee noted as above.
Action: All utilities as above.

4. Monitoring of Corrective actions as decided in PCC forum:

Name of the Element	Action to be taken	Name of Utility	Status as of 146th OCC
132 kV Dimapur - Doyang 1 & 2 Lines	Installation of Numerical Relay at Doyang	NEEPCO	By Dec'18
AGTCCPP LFO	AVR Replacement	NEEPCO	By Oct'18

132kVPK Bari-Kumarghat	Installation of Line differential relay	NERTS	By Dec'18
132kV AGTCCPP-Agartala D/C.	Line differential relay to be installed	NERTS	By Dec'18
132kV PKBari	Installation of Numerical Relay under R&M (*high priority).* TSECL to divert NR to AGTCCPP.	TSECL	By 10.09.18
132kV Rokhia-79Tilla D/C	DPR to be installed	TSECL	By 10.09.18
400kV Silchar-Byrnihat and 400kV Silchar-Azara	Earthing through chemical treatment/installation of TLSA in the lightning prone areas with high tower footing resistance	NERTS	By Aug'18. TLSA not to be installed as decided by NETC.
Repeated tripping of Doyang Machines	DPR to be installed for lines and relays. CTs to be replaced.	NEEPCO	DPR lines-Dec'18, Units-Jun'19. CT replaced by Jun'19

The Sub-committee noted as above.

Action: All utilities as above.

5. DIFFERENCE IN ACTUALS VS LGBR:

Energy Requirement:

Name of State	Apr18 (actual)	Apr18 (LGBR)	May18 (actual)	May18 (LGBR)	Jun 18 (actual)	Jun18 (LGBR)
Ar. Pradesh	69.80	68.35	71.77	70.26	70.76	65.89
Assam	680.19	612.74	738.04	778.29	913.96	864.22
Manipur	64.99	64.76	68.18	67.46	67.74	64.86
Meghalaya	131.74	149.00	138.92	143.00	143.28	142.00
Mizoram	53.94	45.67	40.70	47.82	43.66	42.44
Nagaland	69.72	66.35	72.75	74.90	78.16	76.55
Tripura	155.05	99.18	101.52	98.38	121.77	123.16

Energy Availability:

Name of State	Apr18 (actual)	Apr18 (LGBR)	May18 (actual)	May18 (LGBR)	Jun18 (actual)	Jun18 (LGBR)
Ar. Pradesh	50.27	58.89	70.09	70.50	74.78	83.78
Assam	650.76	720.23	738.28	810.91	898.04	892.17
Manipur	70.23	76.30	95.07	86.53	101.66	102.23
Meghalaya	140.32	149.76	191.42	204.20	236.66	254.18
Mizoram	64.83	62.69	71.74	72.60	79.19	82.67
Nagaland	55.39	56.26	67.15	66.14	78.35	83.84
Tripura	276.86	267.05	252.31	281.99	255.49	242.47

Demand:

Name of State	Apr18 (actual)	Apr18 (LGBR)	May18 (actual)	May18 (LGBR)	Jun18 (actual)	Jun18 (LGBR)
Ar. Pradesh	130.38	141	128.33	145	138.12	131.00
Assam	1532.51	1447.42	1625.51	1665.49	1782.35	1761.14
Manipur	192.89	170.68	179.01	169.41	179.48	163.70
Meghalaya	307.28	320.10	370.59	334.40	325.51	298.94
Mizoram	98.37	94.60	95.98	94.60	102.57	85.16
Nagaland	155.71	128.56	147.06	140.94	129.40	152.90
Tripura	304.80	299.20	275.65	282.80	280.66	307.24

Deliberation of the sub-Committee:

Member Secretary, NERPC requested the members to monitor the deviation in actual vs LGBR and provide suggestions so that LGBR may be made more accurate.

The Sub-committee noted as above.

Action: All SLDCs.

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING JULY, 2018

As per the data made available by NERLDC, the grid performance parameters for July, 2018 are given below:

NER PERFORMANCE DURING JULY, 2018

	Energy Met (MU)		w.r.t. Jun,18 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Jun,18 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Jul,18
States	**Jul-18**	**Jun-18**		**Jul-18**	**Jun-18**		
Ar. Pradesh	69.00	62.78	9.91	70.01	63.73	9.85	-1.44
Assam	990.99	897.70	10.39	1027.43	936.53	9.71	-3.55
Manipur	72.02	65.26	10.36	73.09	66.32	10.21	-1.46
Meghalaya	172.38	149.63	15.20	172.38	149.63	15.20	0.00
Mizoram	51.15	53.00	-3.49	51.98	53.66	-3.13	-1.60
Nagaland	71.17	67.87	4.86	79.51	76.21	4.33	-10.49
Tripura	146.94	121.86	20.58	148.89	124.75	19.35	-1.31
Region	**1573.65**	**1418.10**	**10.97**	**1623.30**	**1470.82**	**10.37**	**-3.06**

	Demand Met (MW)		w.r.t. Jun,18 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Jun,18 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Jul,18
States	**Jul-18**	**Jun-18**		**Jul-18**	**Jun-18**		
Ar. Pradesh	128	133	-3.76	138	138	0.00	-7.25
Assam	1776	1750	1.49	1863	1782	4.55	-4.67
Manipur	171	172	-0.58	174	179	-2.79	-1.72
Meghalaya	332	326	1.84	334	326	2.45	-0.60
Mizoram	98	93	5.38	101	103	-1.94	-2.97

Nagaland	126	129	-2.33	133	129	3.10	-5.26
Tripura	288	276	4.35	298	281	6.05	-3.36
Region	**2798**	**2564**	**9.13**	**2899**	**2640**	**9.81**	**-3.48**

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	**Jul-18**	**Jun-18**
Total Generation in NER (Gross)	1853.459	1623.369
Total Central Sector Generation (Gross)	1402.548	1221.425
Total State Sector Generation (Gross)	450.911	401.944
Inter-Regional Energy Exchange		
(a) NER-ER	**3.24**	**38.21**
(b) ER-NER	**372.10**	**307.54**
(c)NER-NR	**468.53**	**309.33**
(d)NR-NER	**0.00**	**0.00**
© Net Import	-99.67	-40.00

AVERAGE FREQUENCY (Hz)

Month---->	**Jul-18**	**Jun-18**
	% of Time	% of Time
Below 49.9 Hz	10.25	11.84
Between 49.9 to 50.05 Hz	76.03	76.96
Above 50.05 Hz	13.01	11.18
Average	49.98	49.98
Maximum	50.24	50.24
Minimum	49.62	49.60

Deliberation of the sub-Committee:

NERLDC gave a presentation on the grid performance for the month of July'18 **(Annexure-B.2).** NERLDC also highlighted that Daily, Weekly and Monthly Voltage Deviation Report, Frequency Deviation Report and System Reliability Report for July'18 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. NERLDC informed the forum about the number of lines kept open on high voltage. Forum express concern about the same and requested the generators to absorb MVAR. NERLDC again requested for early restoration of reactors which are under long outage and commissioning of new reactors at the earliest as mentioned in Sl. No. B.1.2 and C.1 so that it does not require to open lines for maintaining voltage profile within IEGC band.

Telemetry Availability Status at NERLDC from Constituents(as on 02-08-2018)

Sl No.	Name of the Constituents	Total Analog	Total Digital	Total Data Points	Analog Reporting	Digital Reporting	Total Reporting	Total Percentage of data Availability
1	Arunachal Pradesh	104	149	253	4	2	6	2.37%
2	Assam	1230	1739	2969	514	509	1023	34.45%
3	Manipur	180	255	435	88	139	227	52.18%
4	Meghalaya	433	450	883	199	95	294	33.29%

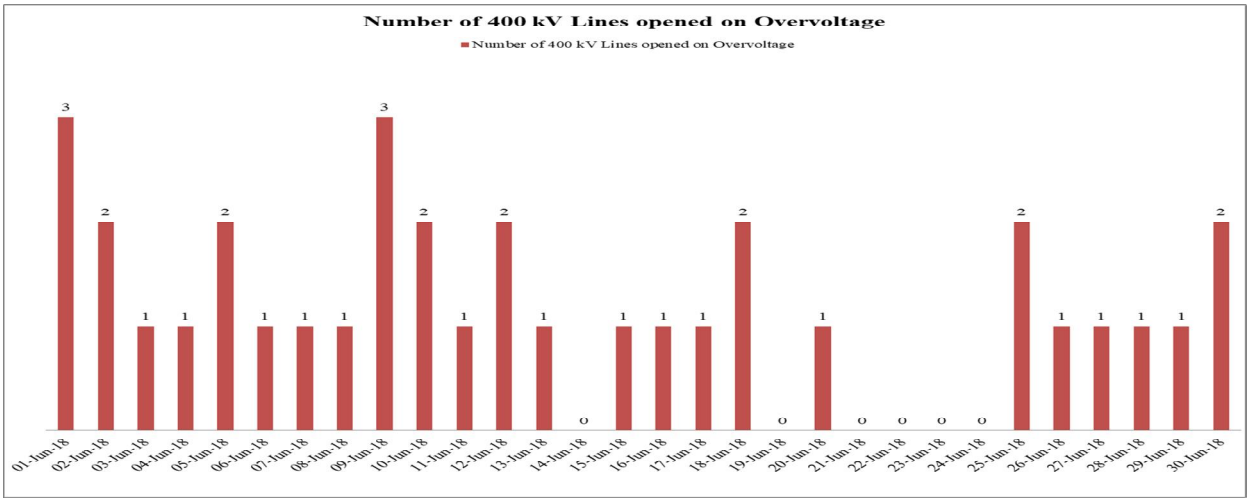
5	Mizoram	71	50	121	9	9	18	14.87%
6	Nagaland	237	270	507	0	0	0	0%
7	Tripura	524	715	1239	144	146	290	23.40%
8	PGCIL	628	1082	1710	435	736	1171	68.47%
9	NEEPCO	202	286	488	140	155	295	60.45%
10	NTPC	31	49	80	23	49	72	90%
11	OTPC	44	90	134	41	81	122	91.04%
12	NHPC	18	29	47	16	14	30	63.83%

Telemetry status was also highlighted. The forum noted the very low availability(less than 50%) of data for majority of the control areas. Director(O&P) requested Meghalaya to elucidate on the measures taken to improve availability. SE, SLDC, MeECL stated that for Meghalaya all Analog points and among digital points only CB status may be monitored. EE(SM), MePTCL informed the following:

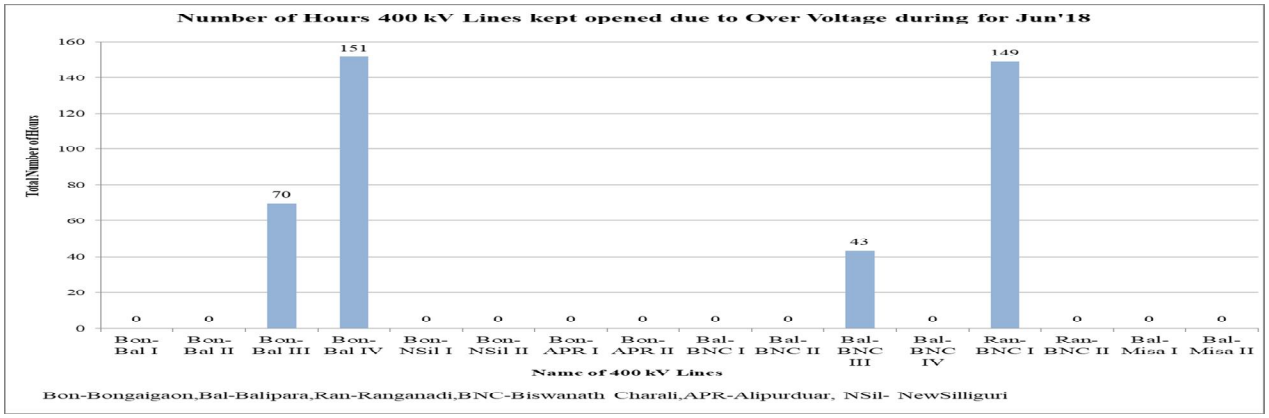
- Points are to be seen in totality, particularly those considered important by SLDC.
- Under Augmentation scheme technology has been upgraded. Due to this MePTCL is facing RTU problems.
- The DO/AO may be updated to improve availability.

EE, System Protection, MePTCL informed the forum that as the project for installation of RTU was conceived and executed in the earlier part of 2012, the requirement of the analog and digital points at that point of time was very limited and therefore the technical specifications of RTU's was based in line with system available at that point of time. He further stated that an exercise for providing at least the CB points reporting to the SLDC has also been undertaken during the year 2017. As desired for totality of points to be reporting to SLDC, the existing RTU's capacity may have to be upgraded. He assured to take necessary action to see that at least all the CB status points from all the Sub Stations under MePTCL is reporting to SLDC.

Member Secretary, NERPC concluded that communication issues are very important. Since NETeST is being held quarterly, he requested NERLDC to synopsize action taken w.r.t. data non-availability (in line with discussion in NETeST forum) on a monthly basis.



Outage Hours: For 400 kV Lines



The Sub-Committee noted as above.

I T E M S F O R D I S C U S S I O N

C. OLD I T E M S

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

During 147th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 146th OCC Meeting		Status as given in 147th OCC Meeting	
		Timeline for completion	Furnishing of detail parameters	Timeline for completion	Furnishing of detail parameters
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	By Oct-Nov'18	To be submitted to NERLDC.	By Oct-Nov'18	To be submitted to NERLDC.

2	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Dec'18	Already submitted.	Dec'18	Already submitted.
3	400 kV D/C Silchar - Melriat line of PGCIL	Work held up due to not allowing POWERGRID to carryout diversion of State Line by P&E Mizoram.	To be submitted to NERLDC.	Work held up due to not allowing POWERGRID to carryout diversion of State Line by P&E Mizoram.	To be submitted to NERLDC.
4	132kV Monarchak – Surjamaninagar D/C of TSECL	RoW issue resolved. By Dec'18	To be submitted to NERLDC.	By Dec'18	To be submitted to NERLDC
5	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	Nagaland**- DoCO to be finalized Ar. Pradesh, Manipur - CoD Mizoram-ToC date to be confirmed. Except DG set(WIP), all other works are completed. Additional supply of RTUs & minor pending works by 4months.	Not applicable.	Nagaland- DoCO to be finalized Ar. Pradesh, Manipur - CoD Mizoram-ToC date to be confirmed. Except DG set (WIP), all other works are completed. DG set - by Aug'18	Not applicable.
6	400/220 kV 315 MVA ICT-II at Bongaigaon	Modification required in GIS Hall. Oct'2018	To be submitted to NERLDC.	Modification required in GIS Hall. Oct'2018	To be submitted to NERLDC.
7	220/132 kV, 160MVA ICT-II at Balipara	ICT#II - delayed, Sept''18	To be submitted to NERLDC.	ICT#II - despatch by Dec'18	To be submitted to NERLDC.
8	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Sept, 2018.	To be submitted to NERLDC.	Dec'18	To be submitted to NERLDC.
9	400/132 kV, 1x315 MVA ICT-III at Silchar	Charged on 16.07.2018. After loading 24hrs DoCO to be finalized.	Already submitted.	Charged on 16.07.18. **To be dropped**	Already submitted.

10	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	ICT-I : Nov'18 ICT-II : Dec'18	To be submitted to NERLDC.	ICT-I : Nov'18 ICT-II : Dec'18	To be submitted to NERLDC.
11	400 kV Silchar – Misa D/C	2019	To be submitted to NERLDC.	2019**	To be submitted to NERLDC.
12	1x125 MVAR Bus Reactor at 400 kV at Balipara	Sept, 2018 (LOA date).	Already submitted.	Charged on 1st Aug'18. **To be dropped**	Already submitted.
13	1x125 MVAR Bus Reactor at 400 kV Bongaigoan	Sept, 2018 (LOA date).	Already submitted.	Charged on 20.07.18. **To be dropped**	Already submitted.
14	33kV bay at 220kV Mariani(AS) S/Sn	Security Paid. Agreement made. Meter to be installed by ASEB.	Not applicable.	Security Paid. Agreement made. Meter to be installed by ASEB.	Not applicable.
15	33kV bay for 132kV Badarpur(PG) S/Sn	APDCL to submit revised estimate as earlier estimate was based on 33kV feeder from same source.	Not applicable.	Revised estimate by APDCL within Aug'18	Not applicable.
16	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	MePDCL requires ROW clearance certificate from POWERGRID PGCIL taken up with district authority.	Not applicable.	RoW issues to be bilaterally resolved.	Not applicable.
17	Construction of 132 kV Imphal (PG) - Yurembam III lines with high capacity conductor by MSPCL	RoW problem#. Tentative Completion: Jul'18	To be submitted to NERLDC.	RoW problem#. Tentative Completion: Sep'18	To be submitted to NERLDC.
18	LILO of 132kV Aizawl-Jiribam at Tipaimukh by MSPCL	Completed but telemetry not in place.	Already submitted.	By Dec'18. Voice communication to be put in place ASAP.	Already submitted.

19	132kV Ranganadi - Chimpu S/C of DoP Ar. Pradesh	July'18 - IR value for 1 ph very low.	Already submitted	Charged on 21.07.18. **To be dropped**	Already submitted
20	MW Vacation OPGW project	All nodes are reporting. Srikona-Silchar-Badarpur-Kolasib-Aizwal completed. DOCO 01.04.18. Rectification by Sept18.	Not applicable.	All nodes are reporting. Srikona-Silchar-Badarpur-Kolasib-Aizwal completed. DOCO 01.04.18. Rectification by Sept18.	Not applicable.
21	VOIP Exchange Project under NER FO exp/Add coom OPGW	All SLDC & NERLDC is now connected over VOIP Exchange. Completed in 31.03.2018	Not applicable.	All SLDC & NERLDC is now connected over VOIP Exchange. Completed in 31.03.2018	Not applicable.
22	NER FO Expansion/Add req of OPGW	Present Status: Out of the list as per 18th RPC: WIP: Silchar-Melriat, SMN-Palla, SM-79T, 79Tila-rc Nagar, Badarpur-Jiribam, Completed OPGW: Khandong-Haflong, Doyang-Dimapur, Doyang-Mokokchung (St) Mokokchung-Mariani, Mariani-PG-Kathalguri. Equip: Supplied/ Comm pending	Not applicable.	Present Status: Out of the list as per 18th RPC: WIP: Silchar-Melriat, SMN-Palla, SM-79T, 79Tila-rc Nagar, Badarpur-Jiribam, Completed OPGW: Khandong-Haflong, Doyang-Dimapur, Doyang-Mokokchung (St) Mokokchung-Mariani, Mariani-PG-Kathalguri. Equip: Supplied/ Comm pending	Not applicable.

23	URTDSM project	Supply & Installation completed:13/14 location 18nos. PMUs in 4 locations integrated	Not applicable	Supply & Installation completed:13/14 location 18nos. PMUs in 4 locations integrated	Not applicable
b. Elements under breakdown/upgradation					
24	Up-gradation of 132 kV Lumshnong-Panchgram line	Entire line upgradation to be taken up by MePTCL for funding from PSDF. Revised DPR to be submitted.	Not applicable.	Revised DPR submitted to Techno-Economic Sub-group PSDF*	Not applicable.
25	Switchable line Reactors at 400kV Balipara & Bongaigoan Ckt # 1 & 2	Bongaigaon-Aug'18 Balipara - Aug'18	To be submitted to NERLDC.	Bongaigaon-Aug'18 Balipara - Aug'18	Not applicable
26	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	Oct'2018	Not applicable.	Oct'2018	Not applicable.
27	Re-conductoring of 132kV Umiam Stg#I - Umiam Stg-III	DPR prepared and submitted for approval	Not applicable.	DPR prepared and submitted for approval	Not applicable.
28	Upgradation of ULDC FO node	Target completion : June 2018	Not applicable.	Target completion : June 2018	Not applicable.
29	Upgradation of 132kV Silchar-Imphal to 400kV	Oct'18	To be submitted to NERLDC	By Sep'18. But may be delayed. MSPCL to confirm LILO at 400kV Thoubal.	To be submitted to NERLDC
30	Integration of existing bays with C264 RTU at RHEP by NEEPCO	Dec'18	Not applicable	Dec'18	To be submitted to NERLDC

31	Replacement of CTs and installation of Bus Bar Protection at 220kV Misa	Under NERSS-VII	Not applicable	Under NERSS-VII. By Dec'18	Not applicable

Deliberation of the sub-Committee:

**In view of a number of TBCB projects underway in NER, the forum requested NERPC to ensure the presence (of the Companies awarded work) in OCC meetings at least quarterly. This would enable updation of the latest status.

ED, NERLDC opined that since MSPCL is facing RoW problems existing D/C tower of 132kV Imphal-Yurembam D/C may be upgraded to M/C and used. The forum requested MSPCL and NERTS to conduct a joint survey and revert back.

*EE (System Protection), MePTCL informed that PSDF Sub-Committee on Techno-Economic Appraisal raised some clarifications on the DPR for Up-gradation of 132 kV Lumshnong-Panchgram line pertaining endorsement by AEGCL. He placed to the forum the following:-

- AEGCL may be requested to provide No Objection written assurance to MePTCL for execution of the Ratacherra – Panchgram section of the line.
- AEGCL may be requested to provide undertaking for extending full support and cooperation to MePTCL during execution of works in the Ratacherra – Panchgram section of the line.

Director/SE(O&P) informed that NERPC will take up the matter with AEGCL.

The Sub-Committee noted as above.
Action: All state utilities/central utilities/NERPC.

ITEMS REG. SUBMISSION OF DATA/COMPLIANCE

C.2. Audit of PSS:

Decisions as per discussion in previous meeting(s):

- Members noted that PSS inspection would be futile and recommended that SRT may be submitted by all plants who have not done since last 3 years, at the moment.
- As per prevalent regulations only units above 50 MW are supposed to activate PSS mandatorily.

OTPC has to submit SRT for Palatana GBPP.

Deliberation of the sub-Committee:

OTPC informed that the SRT would be submitted by 12.09.2018.

The Sub-Committee noted as above.

Action: OTPC.

C.3 Geospatial Energy Portal for NITI Aayog:

Latest status - MeECL and P&ED Mizoram has submitted. Remaining utilities yet to submit.

Deliberation of the sub-Committee:

Director(O&P), NERPC informed that data has been received from APDCL and TSECL. He requested remaining utilities to submit at the earliest.

The Sub-Committee noted as above.

Action: MSPDCL, DoP Ar. Pradesh & DoP Nagaland.

C.4. Registration of all existing and upcoming electricity generating units of the country of capacity 0.5 MW and above under National Level Data Registry System

Deliberation of the sub-Committee:

Name of utility	***Nodal officer***
APGCL	CGM, APGCL
MePGCL	Sh. W. Khyriem, EE(GSPD), MePGCL

Director(O&P), NERPC requested remaining utilities to nominate nodal officer and also intimated that current database as available with CEA would be circulated to all generating utilities for verification.

The Sub-Committee noted as above.

Action: DoP Ar.Pradesh, P&ED Mizoram, DoP Nagaland, TSECL.

C.5 Flexibility in generation and scheduling of thermal power station to reduce emissions:

The draft framework was circulated previously.

Deliberation of the sub-Committee:

All thermal generating utilities and NERLDC were requested to submit their comments at the earliest.

The Sub-Committee noted as above.

Action: OTPC/NTPC/NEEPCO/ NERLDC.

C.6. Absorption of Reactive Power by generators:

In 146th OCCM, Director/SE(O&P) informed that the common practice in other regions is to ensure absorption as per capability curve. Only when there are deviations then testing is performed as per suggestion of OEM. ED, NERLDC opined that presently at least absorption as per capability curve must be ensured for all CSGS. The forum requested all generating utilities to submit the capability curve for their respective units.

Deliberation of the sub-Committee:

After detailed deliberation it was decided that the Submission of capability curve to NERPC/NERLDC would be monitored under item **B.1(3)**.

NERLDC will present Voltage vs MVAR chart in next OCC Meeting.

The Sub-Committee noted as above.
Action: NERPC/ all ISGS.

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			
Kopili-II	1			
Kopili	4			
Ranganadi	2		Subject to inflow	
Doyang	2			
Loktak	3			
Pare	2	-	Subject to inflow	

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

In 142nd OCCM, Director/SE(O&P), NERPC suggested that henceforth shutdown list may be prepared under following categories:

(i) New Construction Related Shut Down

(ii) Existing System Improvement Related Shut Down.

(iii) Existing System Normal Maintenance Related Shut Down

(iv) Communication Related Shutdown

(v) R&U works Related Shut Down under PSDF

The forum further decided that the modalities of communication related shutdown should be finalized. Members requested NERPC to invite POWERGRID telecom in next OCCM alongwith with officials (handling communication issues) from all utilities for this purpose.

In 143rd OCCM, , NERPC once again reiterated that shutdowns which are not being availed will not be entertained in the following month and would only be accorded in the next to next month. He hoped that in view of greater complexity in grid operation due to communication issues, the list of important links would be finalized by NERLDC very soon. He also requested NERTS to impress upon POWERGRID Telecom to attend the next OCCM positively.

Deliberation in the Meeting:

NERLDC highlighted that OCC forum approves the S/D after lots of discussion but it is observed that some of the shutdowns are not being availed. Details of Shutdown not availed and shutdowns applied on D-3 basis is as below:

Total S/D approved	Total S/D availed	Total S/D not availed	Total S/D availed on D-3 basis	Total S/D not applied on D-3 basis
77	51	26	55	22

NERLDC highlighted that the inordinate delay in revival of elements under S/D for ISTS licensees is coming very high which is affecting the secure operation of the grid. Details for the month of July'18 are as below:

Transmission Licensee	Total Delay	Avg. Delay	Max. Delay
POWERGRID	45:93	1:35	5:27
NETC	3:13	1:36	1:35
ENICL	0:31	0:31	0:31

NERLDC requested ISTS licensees to return the element under shutdown as per approved schedule.

NERLDC also informed the forum that from Shutdowns which are not applied on D-3 basis shall not be allowed henceforth. The forum agreed to the same.

The sub-Committee discussed and approved the proposals received from the constituents regarding transmission elements and generating units for August,2018 - September, 2018 and the same has already been uploaded in website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of March, 2018 to May, 2018:

NETC and POWERGRID have submitted the outage data for the month of March, 2017 to May, 2018. So the attributability of outage of the said elements may please be finalized.

For streamlining the process of Verification of Transmission Element Availability, a draft Procedure is prepared by NERLDC and NERPC.

In 144th OCC meeting , NERPC asked POWERGRID and NETC to comment on the procedure**.** The procedure will be finalized in the next meeting.

Member Secretary, NERPC informed the forum that 3 times reminder may be sent for any document for which comments were sought. If no comments are still received, the document will be considered as final.

Deliberation in the Meeting:

The Sub-Committee ratified the attributability from March, 2018 to May, 2018.

The Sub-Committee noted as above.

Action: Concerned transmission utilities/NERLDC/NERPC

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 03.08.18. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of September'18 using these cases, and submit the study cases and results to NERLDC by 20.08.18.

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 the TTC of their control areas as computed by NERLDC and give comments, if any, by 20.08.18.

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 websites for information dissemination.

Deliberation in the meeting

NERLDC has assessed TTC of each state control area of NER, each state subsystem on behalf of SLDCs of NER and group of control-area wise TTCs for NER Grid for the month of September'18:

States	Off Peak	Peak
Arunachal	209	215

Assam	1599	1504
Manipur	242	245
Meghalaya	170	160
Mizoram	116	116
Nagaland	164	161
Tripura (including Bangladesh)	86	73

NERLDC requested all the SLDCs and STUs to upgrade the PSSE to Ver.34 before Nov'18, failing which it would expire. DGM, SLDC, AEGCL informed that SLDC Assam has upgraded the PSSE licenses to Ver.34. Sr.EE, SLDC, Mizoram informed that SLDC has received the licenses and the same would be upgraded. The forum requested the remaining STUs and SLDCs to upgrade the licenses at the earliest by approaching M/s SIEMENS Ltd. directly.

The Sub-Committee noted as above.

Action: All SLDCs/STUs.

D.5. <u>SPS mock testing & existing SPS scheme related:</u>

As per previous discussion it was decided that:

- Separate asset would be created for SPS at Palatana and Silchar.
- OTPC would complete procurement on behalf of all beneficiaries. NERTS to provide technical support.
- A committee comprising of members from OTPC, PGCIL, POSOCO & NERPC to look into the matter viz. BCU replacement, Changing of SPS 3 Channel to other circuit, checking of SPS-3 logics in SCADA etc. at Silchar and submit report for taking further decision of implementing SPS 3 Scheme with existing asset. The committee visit date to be finalized soon for any date after 2nd August 2018.

<u>Deliberation in the meeting</u>

After detailed deliberation it was decided that the Committee visit would be scheduled on the day when both the units of Palatana would be under approved shutdown tentatively on 01.09.2018.

The Sub-Committee noted as above.

Action: OTPC/NERTS/NERPC/NERLDC.

D.6. Update on Real Time Energy Assessment for Effective Grid Management:

In 139th OCCM, CDAC representative stated that they would require the proprietary protocol from the meter manufacturer(s) to proceed further with the Project. DGM(MO), NERLDC explained that as per practice followed in other Regions like NR, ER etc., AMR provider, Meter manufacturer and Powergrid sign a tripartite agreement to enable passing of the protocol to AMR provider. A sample of draft agreement in ER (TCS is AMR provider) was provided to CDAC and it was advised that CDAC should initiate process and circulate a draft agreement for the present case. CDAC agreed to do the needful and stated that they would develop protocol converter accordingly.

CDAC has furnished the draft tripartite agreement which is to be signed between CDAC, POWERGRID-NERTS and meter manufacturer(s).

In 140th OCCM, NERPC intimated that the process of signing tripartite agreement between CDAC, POWERGRID and L&T was in progress. He requested NERTS to expedite the matter.

In 145th OCCM Director/SE(O&P), NERPC informed that amongst selected 120 locations, 90 locations devices are to be installed in the first phase and remaining 30 in the second phase.

Deliberation in the meeting

M/S CDAC representative made a presentation on update about the project. After discussion, following were resolved:

1. CDAC would commission the project tentatively in three months' time. During this period, CDAC would install the "TARA" device at all identified metering locations (one device for each meter to be connected with meter through RS-485) to enable transmittal of data to SLDCs. Final updated meter list with 79 meters attached at **Annexure-D.6.**
2. As NDA signing and sharing of protocol has been done with L&T, Elster/Secure make meters would be replaced by L&T make as per attached list.
3. Respective States would purchase SIMs to be inserted in the device as per Annexure (Total 79 SIMs). SIMs would be purchased as per GPRS network availability in respective locations.
4. Data from all 79 meters would be preferably sent to NERLDC/NERPC in tabular format for each State. CDAC to co-ordinate with NERLDC/NERPC for obtaining

public IP. SLDCs would log in to NERLDC/NERPC server and view their respective schedule vs actual data for each time block.

5. Pilot project for the same would be done by CDAC for the two SEMs at Azara within next one month and data transmittal would be verified by Assam SLDC and NERLDC.
6. CDAC confirmed that it would take about 5-7 minutes for transmittal of whole set of data from site locations and hence SLDCs would be able to view previous time block data in their terminal.
7. The project would be under warranty for one year and AMC would be done after that.
8. Spare devices would be used for future locations

The Sub-Committee noted as above.

Action: CDAC.

D.7. Recording of operational instructions over VOIP in RLDC:

Status as updated in 146th OCCM: LOA has been placed and supply would be done by Aug'18.

Deliberation in the meeting

NERTS informed that LOA has been placed and supply would be done by Aug'18.

The Sub-Committee noted as above.

Action: NERTS

D.8. Ensuring proper functioning of Under Frequency Relays(UFR) & df/dt Relays:

In 7th 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.

Discussions as per previous meetings:-

- Procedure for testing finalized
- First phase of UFR inspection and testing would be carried out from 27.07.2018 to 31.07.2018 for Mawphlang, Khliehriat and Nongstoin.

Deliberation in the meeting

Director(O&P), NERPC informed that by Aug'18 date(s) would be finalized and intimated for UFR inspection for Mawphlang, Khliehriat and Nongstoin.

The Sub-Committee noted as above.

Action: NERPC/NERTS/NERLDC/AEGCL/MePTCL/TSECL.

D.9 Non-availability of SOE records of Biswanath Chariali, Ranganadi, Dimapur & Bongaigaon:

The SOE records of both BNC and RHEP do not appear for any breaker operations in any of the elements of both the stations. This causes lack of proper visibility for the system operators in real time and causes hindrance in proper & quick decision making.

In 144th OCCM, NERLDC requested the forum to restore the CB status and SOE data of HVDC,BNC as well as RHEP at the earliest as both the stations are very important for NER grid management.

NERLDC has also informed that SOE and Alarm records for Dimapur and Bongaigaon(Interregional links and others) do not appear for any breaker operation in any of the elements of the stations.

DGM(AM), NERTS informed the following w.r.t. different stations:

- *Dimapur :* NTAMC Integration work in progress. After completion of the work Dimapur SOE will be available. Completion by : November-2018.
- *Bongaigaon* : All Data OK as per Site.(Details given in Anex) For resolving the issue better, joint visit(PGCI & RLDC) at respective site is proposed
- HVDC BNC : All Data OK as per Site.(Details given in Anex) For resolving the issue better, joint visit(PGCI & RLDC) at respective site is proposed
- RHEP : RTU configuration is not in POWERGRID Scope. RLDC may contact respective concern utility.

Deliberation in the meeting

NERTS informed the following:-

- HVDC Biswanath Chariali: Under ABB scope. Would be resolved by 15.08.2018.
- Dimapur: Fire incident. By Nov'18.
- Bongaigaon: Within 7 days database updation required.

For RHEP RTU integration works complete by Dec'18.

The Sub-Committee noted as above.

Action: NERTS/NERLDC/NEEPCO.

D.10 Poor Governor Response during sudden drop of frequency

On 23.04.2018 at 10:42 Hrs, there was a sudden decrease of frequency from 50.02 HZ to 49.72Hz in which Palatana has shown an increase of 49MW instantly. Whereas the other NER generators has shown almost a NIL response. Reasons may be intimated.

In 144th OCCM, NERLDC informed the forum that on 23.04.2018 at 10:42 Hrs, there was a sudden decrease of frequency from 50.02 HZ to 49.72Hz. During calculation of Frequency Response, it has been observed that most of the generators in NER has shown NIL response except for Palatana.

Sr. Manager, NEEPCO informed that TGBPP responded very well with GTG contributing 7MW and STG almost 2MW. He also informed that Kopili reservoir was very low but still increased generation by 0.75MW inspite of LFO issues. Further the vanes were at full capacity. For AGBPP, he informed that the unit(s) were in temperature control mode which did not allow to respond due to dip in frequency. The forum requested NHPC and NTPC to revert back with the reasons for poor response.

In 145th OCCM NERLDC gave a detailed presentation. It was stated by NERLDC is regularly carrying out calculation of FRC to ascertain governor response. It was explained that non-response by Governor would be treated as a violation of IEGC provision.

Sr. Manager, NEEPCO informed that Khandong & Kopili-Stg-II were running at full capacity, while AGTCCPP did not have any reserve capacity for generation. Manager, NHPC informed that Loktak HEP was generating at full capacity. NTPC agreed to revert back on the governor non-operation **during the event at 1651 Hrs on 06.05.2018**.

In 146th OCCM DM, NTPC informed that OEM would look into the issue and report would be presented in the next OCC meeting. NEEPCO is also requested to look into the matter as the Generators response were also negligible.

Deliberation in the meeting

NERLDC informed that till now FRC was being calculated for the entire station. This was leading to inaccurate conclusion as some units were responding while others weren't. It was decided that henceforth NERLDC would calculate the FRC unit-wise for major events. Also it was decided to drop the agenda item and review FRC for major events under item **B.2.**

The Sub-Committee noted as above.

Action: NERLDC.

D.11 Crossing of 400 kV D/C Silchar-Melriat and 132 kV D/C Bawktlang - Sihmui Line

POWERGRID is constructing 400 kV D/C Silchar —Melriat Line as part of Pallatana Transmission Sytem. During check survey, it has been observed that this line has to cross the 132 kV D/C Bawktlang-Sihmui line already constructed by P&E Department, Govt. of Mizoram. As per the proposed route alignment, the Loc No. 244 of the 400 kV line has to be erected at 10m distance from the Loc No. 86 of the 132 kV Line, which is not possible. Also there is no suitable place to relocate the Loc 244.

A number of possibilities have been explored jointly with P&E Deptt., Mizoram to divert either of the two lines and the only feasible option has been intimated to Mizoram vide our letter No. NEAZL/CONST/P&E/2018 dtd. 21.05.18, in which 4 Nos. towers of the 132 kV Line are to be diverted by erecting 5 Nos. new towers. POWERGRID proposes to bear the cost of this diversion. A sketch of the propose arrangement is attached here with for kind reference.

It may please be noted that the matter is being pursued with P&E Deptt. Mizoram since January'2017 and a number of joint verification have been carried out but a consensus is yet to be reached.

In 145th OCCM, DGM(AM), NERTS informed that 400kV Silchar - Melriat commissioning works are going on at an accelerated pace, and the diversion is an utmost necessity. Sr. Executive Engineer, P&ED Mizoram informed that in principle concurrence of P&ED Mizoram is there to the shifting of 132kV Bawktlang-Sihmui D/C. He also stated that estimate is being prepared by Executive Engineer(Trans), Kolasib and the same once approved would be given to NERTS. DGM (AM), NERTS requested Mizoram to allow POWERGRID to carry out the job immediately in parallel to approval of estimate to avoid delay in completion of the project.

In 146th OCCM DGM (AM), NERTS stated that on 29/06/2018, Engineer-in-Chief, P&E Mizoram communicated POWERGRID for taking up the Diversion of the 132 kV Kolasib – Sihhmui (Mizoram) line at POWERGRID's expense and complete the same before Dec-2018. Thereafter on 04/07/2018, POWERGRID intimated P&E Deptt that the dismantling work of TOWER LOC 86 of the 132 kV Kolasib – Sihhmui will be started by POWERGRID for the construction of TOWER NO 244 of 400 kV Silchar –

Melriat (Mizoram) Line. However, on 10/07/2018, SE (Project Circle-I), Aizawl communicated POWERGRID not to start dismantling works of 132 kV Bawktlang – Sihhmui till diversion of the line is completed by POWERGRID.

He further stated that since POWERGRID had already agreed to take up the diversion work of 132 kV Kolasib – Sihhmui (Mizoram) Line and also, the commissioning of the said line will take some time, POWERGRID should be allowed to at least dismantle Tower loc no 86 of the 132 kV Kolasib – Sihhmui (Mizoram) line immediately so that the construction of 400 kV Silchar – Melriat (PG) Line can be continued for commissioning the same by August 2018. Otherwise, the project is likely to get delayed resulting unnecessary financial impact on all the concerned beneficiaries of NER including Mizoram.

After detail deliberation the forum requested NERPC to take up the issue strongly with Mizoram for allowing POWERGRID to continue the construction activity of 400 kV Silchar – Melriat (PG) Line by immediately dismantling of tower loc 86 of the 132 kV Kolasib – Sihhmui (Mizoram) Line.

Deliberation in the meeting

DGM (AM), NERTS informed that the draft agreement is lying with SE (Trans), P&ED Mizoram. He requested that signing of the same be expedited. Director (O&P), NERPC requested Mizoram to expedite the matter to facilitate POWERGRID to complete the job soon and also informed NERTS to co-ordinate with Sh. Benjamin Tlumtea Sr.EE (SLDC), Mizoram for early resolve of the issue.

The Sub-Committee noted as above.

Action: P&ED Mizoram.

D.12. Overloading Problem of 132 kV Pare-Ranganadi I and 132 kV Pare – Lekhi Lines

After commissioning of two units of PARE HEP (NEEPCO), the generation with full capacity is 110 MW and the power evacuation is through 132 kV Pare-Ranganadi and Pare-Lekhi lines. Whenever 132 kV Nirjuli-Gohpur line remains closed and the Gohpur load (14-18MW) is fed radially from Nirjuli, it creates overloading of 132 kV Pare-Lekhi line (90-95 MW) during peak hours and during off peak hours, overloading takes place at 132 kV Pare-Ranganadi line (90-94 MW). Hence to avoid any tripping due to overloading, load management/generation reduction has become the daily issues in real time condition.

In 145th OCCM, NERLDC representative explained the overloading in 132 KV Pare-Ranganadi line mainly during evening peak load hours. It was felt that commissioning of Ranganadi-Pare-Chimpu lines would provide solution to the issue. Ar. Pradesh representative stated that the line(s) were ready for charging, only signing of connection agreement between NEEPCO and Ar. Pradesh was to be done. He stated that matter was pending with State Govt. and was expected any time. He agreed to pursue with State Govt.

Till that time, it was agreed to control overloading with load management at Gohpur. It was also agreed not to supply Gohpur from Nirjuli during peak load hours.

In 146th OCCM ED, NERLDC stated that at present to mitigate the overloading problem and to avert the tripping of 132kV Gohpur- Nirjuli and 132kV Nirjuli-Lekhi on O/C, split bus at Gohpur is essential. CGM, APDCL opined that for integrated operation split bus is not recommended and would reduce reliability of power supply. After detailed deliberation the forum decided the following:-

- A case study would be done by NERLDC for (i) closed loop operation at Gohpur, (ii) Split bus at Gohpur. This is to be circulated forthwith.
- In the meantime Gohpur load to be made radial from Nirjuli.
- 132kV RHEP-Chimpu to be charged ASAP by DoP Ar. Pradesh.
- NERLDC informed the forum that commissioning of the 132 kV Biswanath Chariali – Itanagar line & 132 kV Biswanath Chariali – Gohpur - Itanagar lines, which have been approved by joint Standing Committee of ER and NER on 03.01.2014 and 6th Standing Committee of NER on 03.10.16 respectively and is under execution by Sterlite Grid 4; would enhance the reliability of power supply to Gohpur.

Deliberation in the meeting

NERLDC informed the following (Presentation is at **Annexure - D.12**):

- As per study open loop operation at 132kV Gohpur results in maximum loading of 132kV Nirjuli-Lekhi (79MW)
- As per study, closed loop operation at 132 kV Gohpur results in maximum loading of 132kV Lekhi - Nirjuli (115 MW).
- The TBCB project of 132kV Biswanath Chariali – Itanagar D/C includes in its scope LILO of one circuit at Gohpur. However the TBCB project of 132kV Pare-N. Lakhimpur D/C has also provision of LILO at 132kV Nirjuli.

AEGCL agreed for spilt bus operation at 132kV Gohpur. The forum requested NERPC to include LILO of 132kV Pare-N. Lakhimpur at Nirjuli in the MoM of the 7th SCM of NER.

The Sub-Committee noted as above.

Action: AEGCL/ NERPC.

D.13. High MVAR Drawl by Bangladesh

It has been observed mostly during peak hours that, Bangladesh drawal reaches 190 MW with reactive power consumption of 60-70 MVAR and sometimes even more. Any generation outage at Tripura during these periods (say outage of Monarchak/ Rokhia) causes severe low voltage issue at Agartala and hence AGTCCPP Units /132 kV system are compelled to supply very high quantum of MVAR to maintain Agartala Bus voltage which is not desirable for safety of the grid system. To prevent such issues, action needs to be taken to restrict MW/MVAR drawal by Bangladesh.

In 145th OCCM Director/SE(O&P, NERPC informed the forum that the issue would be discussed with CEA/NLDC how to resolve the issues pertaining to power supply from Tripura. The detail would be communicated subsequently.

In 146th OCCM DGM, SLDC, AEGCL informed the forum that the high MVAR drawal by Bangladesh is affecting the South Assam voltage with frequent dips. Member Secretary, NERPC took note of the concerns of the members and assured that the matter would be taken up with CEA/NLDC/MoP.

Deliberation in the meeting

After detailed deliberation it was decided that the matter would be taken up in the India-Bangladesh Co-ordination Meeting.

The Sub-Committee noted as above.

Action: NERPC.

D.14 Surplus in NER and backing down of hydro ISGS:

In 145th OCCM it was stated that due to sudden rains resulting in spillage in Ranganadi HEP coupled with load crash in States, all NER States were drawing much less than their schedule during early hours of 13.06.2018. This resulted in export to ER to the tune of 800 MW against schedule of around100 MW. NERLDC took action by coordinating with States and all thermal units were reduced to Technical minimum

level. In-spite of that still there was deviation in inter-Regional schedule and one unit of BgTPP was sent under Reserve Shutdown wef 1230 Hrs on 13.06.2018. Also the reservoir based hydro Stations which were not spilling were asked to reduce generation.

NERLDC requested all the States and Generators to cooperate in such situation to maintain Grid Security. The States were advised to explore the option of intra-day market in such a situation of sustained underdrawal, this would be beneficial to the States in view of shortage in other Regions during Summer season.

NTPC-BgTPP stated that it would be preferable for them to go under RSD rather than running in part load close to 55%. NERLDC clarified that once U-3 of BgTPP is commissioned, backing down would be frequent during monsoon and NTPC units would be needed during peak load hours only. Accordingly, NTPC may opt to operate the units accordingly by preferring the option of RSD.

NEEPCO representative stated that hydro units should not be asked to back down in monsoon when there is spilling like situation. NERLDC clarified that respective generating station would have to declare spilling backed up by water level data and in such a case generator would not be asked by NERLDC to back down.

In case of Loktak, it was agreed that Power Channel water level would be considered by NERLDC.

It was apprehended that with the commissioning of Pare HEP and probable commissioning of BgTPP U-3 and Kameng HEP, there would be substantial surplus during monsoon mainly in off-peak and proper planning would be required by beneficiary States and generators to tackle such situation.

In 146th OCCM Sr. Manager, OTPC stated that with consent of beneficiaries, OTPC can sell the excess in the DAM and Contingency market at good rates. Sr. Manager, TSECL informed that in TAM Intraday market there is no demand of power. Members unanimously voiced their concern over the irregular generation pattern of Ranganadi. It has been observed that RHEP generation has been inconsistent, with frequent revision in R1 at 23:00 due to sudden increase of generation i.e. 0 to 405 MW which resulted in very high unscheduled interchange with Eastern region. NERLDC requested RHEP, NEEPCO to have proper forecasting technique and declare DC realistically for scheduling/entitlement and R0. DGM(MO), NERLDC stated that though NEEPCO has every right to make revisions with notice, full capacity withdrawal or generation should be avoided to reduce the burden on beneficiaries. Sr.

Manager, NEEPCO informed that forecasting has been improved for RHEP with installation of 4 nos. RWG (contract given to NASAQ). NERLDC has also pointed out that whenever generation reduction instruction is given to AGBPP upto their tech. min of 55%, AGBPP responded reluctantly. ED, NERLDC stated that CERC has decided 55% as technical minimum and hence unless CERC gives any new direction in this regard, the same should be followed. He also informed that if generation reduction instruction(for AGBPP&AGTCCPP) is given suddenly by NERLDC (up to technical minimum), then gas supply would be throttled by suppliers. However NERLDC stated that CERC guideline is always followed whenever any generation reduction instruction given to AGBPP by maintaining effective from the 4th time block. NERLDC further raised that the present Khandong water level is greater than full reservoir level declared by Khandong which is impossible. NEEPCO informed that for Khandong HEP W.L is greater than FRL because of installation of vertical gates. The revised FRL would be communicated upon concurrence of CEA.

Deliberation in the meeting

NERLDC requested NEEPCO to reduce generation when instruction is given (in case of spillage). NEEPCO concurred. SE, SLDC, MeECL informed that the schedule of Ranganadi is suddenly changed resulting in deviation of almost 35-40MW for Meghalaya. NEEPCO informed that 7 hrs inflow can be predicted, thus revising DC from now onwards in every 6hrs. The forum requested NEEPCO to take up the matter of accurate weather forecasting and give rational DC from 00:00hrs of 13.08.2018.

The Sub-Committee noted as above.

Action: All DISCOMs, NEEPCO, NERLDC.

D.15 Increase of Reliability of Power Flow to Bangladesh

At present, power is fed to Bangladesh through 132 kV Suryamaninagar – Comilla D/C (400 kV charged at 132 kV). At Suryamaninagar end, adopted CT ratio is 1000:1, Over-current Plug Setting Multiplier (PSM) is 0.8. This calculates to a power flow of about 183 MVA (1.7321*Voltage*CT Ratio * PSM) in single circuit.

With the above settings and in high power flow scenario to Bangladesh (~192 MW as contracted), in case of tripping of one circuit of 132 kV Suryamaninagar – Comilla D/C, the reliability is greatly reduced as the other circuit will not able to cater the power flow. Changing the PSM value at Suryamaninagar to “1” will allow power flow of about 229 MVA via single circuit of 132 kV Suryamaninagar – Comilla D/C.

For safe and reliable power transfer to Bangladesh, it is propose the set the PSM at Suryamaninagar to a higher value so that full contracted power flow to Bangladesh can be transferred even if one circuit trips.

Members may discuss the PSM value to be set at Suryamaninagar and restrictions, if any, at Comilla end.

In 145th OCCM Director/SE(O&P), NERPC took strong note of the unilateral action of TSECL to increase power flow to 160MW without intimating the forum. Since bays at Surjamaninagar are being maintained by NERTS, any increase in power flow ordains changes to be made in protection settings. DGM(AM), NERTS opined that changing PSM would be futile since it is meant for O/C protection of particular line. He suggested that Overload Relay with higher time setting may be installed. Members approved the suggestion and requested NERPC to take up the matter with NPC/NLDC/MoP regarding uncontrolled load pattern of Bangladesh.

At present due to any outage in the Palatana-SMNagar corridor, whether ICT/line the power flow to Bangladesh is affected. Tripura may please inform its views and clarify on the contracted load to Bangladesh.

Deliberation in the meeting

After detailed deliberation it was decided that the matter would be taken up in the India-Bangladesh Co-ordination Meeting.

The Sub-Committee noted as above.

Action: NERPC.

D.16. Review of Automatic Under Frequency Load Shedding (AUFLS) relay settings in Indian Power System

In the 7th meeting of NPC on 8th September 2017, it was agreed that the present AUFLS scheme in Indian Power System need to be reviewed. Under frequency load shedding relays are meant to act in cases of grid frequency dip below a set level due to significant mismatch of load generation in the system.

The present UFLS scheme in Indian Power System is set to operate in 4 stages of 0.2 Hz steps, viz. at 49.2 Hz, 49.0 Hz, 48.8 Hz and 48.6 Hz. Recent events in the Indian Power System indicate that frequency response characteristics (FRC) has improved from around 5000 MW/Hz in 2015 to 15000 MW/Hz at present.

Frequency response of grid in the recent events indicates that it is very unlikely that frequency dips due to credible contingencies of loss of large generation complexes or loss of tie lines would cause operation of UFR relays at present settings.

For modification of AUFLS scheme for Indian Power System, following aspects can be considered:

a. *Raise the frequency of operation of each stage of AULFS by 0.4 Hz, and set the revised AUFLS scheme in 4 stages at 49.6 Hz, 49.4 Hz, 49.2 Hz and 49.0 Hz.*
b. *Limit the total trip time for modified AUFLS to 200 milliseconds (including measurement time, relay operation time, and breaker operation time)*
c. *Design AUFLS scheme for at least 25% of load-generation mismatch in Indian Power System.*
d. *Define the terms of 'Synthetic Inertia' and 'fast frequency response' and include appropriately in the Grid Standards*
e. *Co-ordinate under frequency trip relays of Pump storage plants in pumping mode with modified AUFLS scheme, and set the trip frequency to around 49.8 Hz.*
f. *Geographically distribute the AUFLS trip relays to prevent over voltages.*

NERLDC informed that the points have been suggested by NLDC for the entire Indian grid. Director/SE(O&P) stated that the stages of the operation should be as per revised scheme agreed in the last NPC meeting i.e. 49.4 Hz, 49.2 Hz, 49.0 Hz, 48.8 Hz. It was decided that the state-wise quantum would be prepared and presented in the next OCCM for ratification.

Deliberation in the meeting

Director(O&P),NERPC informed that the state-wise quantum would be prepared and tabled in the next OCCM for ratification.

The Sub-Committee noted as above.

Action: NERPC.

D.17. Repeated trippings due to vegetation:

In the deliberations of the Sub-group it has been observed that a number of lines are tripping due to vegetation overgrowth i.e. transient tripping almost continuously throughout the year.

Month	Name of line/ No. of trippings		
	132kV Balipara-Khupi	132kV Dimapur-Kohima	132kV Aizawl-Kumarghat
Jan'18	2	1	1
Feb'18	1	1	2
Mar'18	3	4	1

Apr'18	4	1	2
May'18	0	0	4
June'18	4	6	3
July'18	6	4	4

For this patrolling reports and self-certification of vegetation clearance is to be submitted by the concerned utilities.

Also the following lines have been observed to have tripped frequently on transient faults due to vegetation in the months of May-Jul'18:

- 400kV Balipara- Biswanath Chariali -II
- 400kV Silchar - Azara
- 400kV Balipara - Bongaigaon-III

NERTS may please certify the vegetation clearance for the above critical corridors.

Deliberation in the meeting

Director(O&P),NERPC informed that the matter has been discussed in detail in the 51st PCCM. He requested NEEPCO, NERTS and DoP Nagaland to furnish the vegetation clearance and patrolling reports at the earliest. The forum strongly noted the repeated tripping of lines due to vegetation and requested concerned utilities to take urgent action to prevent recurrence.

The Sub-Committee noted as above.

Action: NEEPCO, NERTS, DoP Nagaland.

D.18. VSAT for power system communications in NER:

As per discussion in 10th NETeST meeting it was decided that VSAT for remote station connectivity would be explored. NERTS was requested to prepare DPR and present in 147th OCC.

Deliberation in the meeting

DGM(AM), NERTS informed that 2 Service Providers have been approached, however no quotation has been received till date. The forum noted that since the scheme deems sufficient financial involvement, RPC approval is required. NERTS suggested that a Committee may be formed for Comprehensive project. After detailed deliberation it was decided that since at present no list of stations are available which require VSAT communication, the stations of Roing, Tezu and Namsai would be given priority.

NERTS was requested to prepare the DPR for VSAT communication i.r.o. above three station at the earliest.

The Sub-Committee noted as above.

Action: NERTS.

D.19. Insurance of SLDC assets:

In the recently concluded 10th NETeST meeting, it was resolved that the Insurance of SLDC assets under SLDC Expansion project would be taken up in the RPC / TCC meeting.

Given the fact that PGCIL will, through CERC based tariff, be recovering the costs for the project, the question arises as to under whose responsibility falls the Insurance of SLDC assets under SLDC Expansion project.

The house may kindly deliberate on the above for clarification".

Deliberation in the meeting

SE, SLDC, MeECL informed that they need clarification from NERTS about the coverage of insurance in existing tariff before processing for insurance. NERTS will clarify the same soon.

The forum requested NERTS and MeECL to mutually discuss the possibilities and revert back at the earliest.

The Sub-Committee noted as above.

Action: NERTS/MeECL.

D.20. Connectivity of 132kV Samaguri from 132kV Balipara:

It is proposed to charge 132kv Balipara- Sonabil line through 220kv Sonabil Samaguri line and further it will be connected to Khaloigaon line at 220kv samaguri Substation as per attached diagram. This arrangment is proposed to mitigate the power problem partially at Samaguri Substation.

Deliberation in the meeting

AEGCL informed that due to outage of 220kV Sonabil-Samaguri D/C the 132kV Balipara - Khaligaon line could not be put through as proposed by them. CGM, APDCL informed that present problem has arisen due to failure of 220/132kV 160MVA ICT at Samaguri supplied under NERPSIP. AEGCL further intimated that no timeline can be given at present for the repair/replacement. It was requested that the regional spare

220/132kV 160MVA ICT at Balipara be temporarily handed over to AEGCL so that power supply can be restored at Khaligaon.

DGM(AM), NERTS stated that the regional spares are procured against central sector transmission systems of NER and the particular 160MVA ICT was procured as spare against Kopili and Balipara Station. He also stated that, even if with due approval of all concerned, if the ICT is spared to Assam then, in the event of breakdown of ICT at Kopili or Balipara the deemed availability should be given to POWERGRID.

SE, SLDC, DoP Ar. Pradesh opined that regional spare should be used for regional benefit and if the present situation warrants then ICT may be given temporarily.

SE, SLDC, MeECL opined that the spare ICT is against critical ICTs at Misa and Balipara. In event of outage of the latter the entire region would be affected. So, the handover may be put on hold.

Sr. Manager, TSECL also concurred with the views of MeECL and requested that the spare ICT be kept reserved to serve its original purpose. Further, during deliberation Assam could not give specific timeline for replenishment.

Considering all above aspects, the forum has decided not to provide the spare ICT to Assam.

DGM (AM) NERTS suggested that some critical spare Transformers & Reactor may be procured for constituent states by NERPC obtaining fund from PSDF as repairing / new procurement has lead time not less than 18 months.

Director(O&P) requested all the state utilities to draw up a list of critical assets so that proposal may be put up in next TCC/RPC meeting. For operationalisation of 132kV Balipara - Khaligaon AEGCL was requested to provide details of SEM and certify protection system at Balipara ASAP.

The Sub-Committee noted as above.

Action: AEGCL/all state transmission utilities.

D.21. <u>Ratification of projected demand and generation for Q3 of 2018-19 (Oct'18 to Dec'18)</u>

In the 3rd Validation Committee meeting for PoC application period Oct'15-Dec'15, held on 30th September 2015, at NLDC conference Hall, CERC had proposed a methodology for ratification of projected data at RPC forum.

Projected demand and generation of NER constituents to be considered in the base case for POC transmission charge and loss calculations for Q3 (Oct'18 to Dec'18) will be presented in the meeting for ratification by the constituents.

Power Utilities are requested to validate the .sav case file by 15th Aug'18 which is communicated vide email.

Deliberation in the meeting

The forum ratified the demand and generation with the following modifications:-

- Kopili-II: peak generation 23MW.

NERLDC informed that the Validation Committee has noted the large deviations from projected peak demand for various states particularly Manipur, Tripura. NERLDC requested all the states to provide reasons for deviations from projected figures in written vide mail before 22nd August'18. NERLDC also informed that due to non-submission of data by DoP, Arunachal Pradesh, their data could not be ratified and requested DoP, Arunachal Pradesh to submit the data at the earliest.

NERPC clarified that Tripura Peak Demand Met including Bangladesh (available at http://www.cea.nic.in/reports/monthly/powersupply should be considered for PoC calculation as has been decided in previous OCC meetings.

The Sub-Committee noted as above.

Action: All utilities as above.

D.22. Status of tests related to +/- 800 kV HVDC Agra - Alipurduar - Biswanath Chariali link

POWERGRID is requested to intimate the status of the following tests related to +/- 800 kV HVDC Agra - Alipurduar - Biswanath Chariali link:

a. Emergency Power Control (EPC)
b. Power Oscillation Damping (POD)
c. Frequency controller.

Deliberation in the meeting

NERTS informed that the tests would be carried out by M/s ABB tentatively by Sep-Oct'18.

The Sub-Committee noted as above.

Action: NERTS.

D.23. Reversion of configuration of 132 kV Balipara – Sonabil – Ghormari lines

During 144th OCCM, NERLDC informed the forum that it has been observed that there is trend of increase in load at Depota area. So, 132 kV Sonabil- Balipara line is to be LILO'd at Depota to cater to the increased load. NERLDC presented the study result in pictorial form for suggestion regarding LILO of 132 kV Sonabil –Balipara line at Depota. AEGCL was of the view that using HTLS conductor in 132 kV Sonabil – Depota line may solve the issue. However, NERLDC opined that LILO of 132 kV Sonabil- Balipara line at Depota will increase the redundancy as well and will be better option for catering more load of Depota area of Assam Power System. DGM, SLDC, AEGCL informed that the feasibility of proposal made by NERLDC would be studied.

Deliberation in the meeting

NERLDC again presented the study highlighting the need for LILO of 132kV Balipara-Sonabil at Depota. DGM, SLDC, AEGCL informed that study has been carried out by SLDC and configuration has been changed by connecting 132kV Balipara-Sonabil as 132kV Ghoramari - Sonabil. The forum noted and decided to drop the agenda item.

The Sub-Committee noted as above.

D.24. Submission of undertaking while returning shutdowns:

This is to inform that NERLDC have received application from NERTS for issuance of successful trial operation of 132 kV Imphal (PG) - Imphal (MSPCL) I line after reconductoring of the line with HTLS conductor vide letter no. NESH/AM/2018-19/F-501/158 dated 27.07.18.

This is to inform the forum that while charging the 132 kV Imphal (PG) - Imphal (MSPCL) I line after reconductoring of the line with HTLS conductor, the information of configuration change was not intimated to NERLDC by NERTS. In order to avoid recurrence, utilities are requested to submit a undertaking to NERLDC that addition or alteration of electrical installation has not been done in “name of element/bay/bus etcs” during the period of shut down alongwith list of works done during the period of shut down.

Deliberation in the meeting

NERLDC informed the forum that while charging the 132 kV Imphal (PG) - Imphal (MSPCL) I line after reconductoring of the line with HTLS conductor, the information of configuration change was not intimated to NERLDC by NERTS.

DGM(AM), NERTS opined that while requisitioning of shutdown reason is clearly mentioned alongwith the category of shutdown. However whenever addition or alteration of electrical installation is done separate application is made to NERLDC for issuance of successful trial operation certificate.

After detailed deliberation the forum decided that henceforth for shutdown under following categories :- (i) New Construction Related Shutdown, (ii) Existing System Improvement Related Shutdown, (iii) R&U works related shutdown under PSDF a separate intimation (by mail) would be given to NERLDC by concerned utility before returning of shutdown. If the indenting utility does not inform about change in configuration before returning shut down, then it will be considered that there will not be any change in configuration.

The Sub-Committee noted as above.

Action: All concerned utilities.

D.25. RIO clearance for addition or alteration of electrical installation

As per regulation 43 of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010, the owner of any installation of voltage exceeding 650 V who makes any addition or alteration to his installation shall not connect to the supply his apparatus or electric supply lines, comprising the said alterations or additions unless and until such alteration or addition has been approved has been approved in writing by the Electrical Inspector.

As per regulation 30 of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010, where an installation is already connected to the supply system of the supplier or trader, every such installation shall be periodically inspected and tested at intervals not exceeding five years by the Electrical Inspector.

All the power utilities of NER are requested to comply with the above-mentioned regulations.

Deliberation in the meeting

After detailed deliberation the forum decided that all concerned utilities would apply for RIO clearance (before charging) when there is any addition or alteration to the existing system.

The Sub-Committee noted as above.

Action: All concerned utilities.

D.26. Optimal Utilization of Water for Loktak HEP, NHPC

It has been observed that Loktak HEP, NHPC is having a reservoir facility which can store water with an FRL of 768.5 meters and MDDL of 766.2 meters. NERLDC is of the view that since it is an reservoir based hydel power station, optimal utilization of water has to be done since during the last few years North East Region is having less amount of rainfall.

Deliberation in the meeting

NHPC representative stated that optimal utilization of water is being done and detailed plan has already been discussed in 146th OCCM. NHPC also informed that an official information will be given regarding FRL issues.

The Sub-Committee noted as above.

D.27. Delay in restoring the grid elements after availing OCC approved shutdowns

There have been instances of inordinate delay in returning the OCC approved shutdown of Grid elements by some constituents. In general, the elements approved for availing shutdown are accorded to return in time before the evening peak hours. But due to delay in restoration of the grid elements on many occasions, the grid security during evening peak hours have been reduced to a certain level. Also, on several occasions, the delays have resulted in decrease on demand met of the states.

Deliberation in the meeting

NERLDC highlighted the list of elements which was not returned on time during the month of Jul'18 and requested the indenting utility to provide the reasons for delay in returning the shutdown. After detailed deliberation it was decided that any delay must be intimated atleast 2hrs prior to scheduled return of shutdown.

The Sub-Committee noted as above.

Action: All concerned utilities.

D.28. Open access co-ordinator from SLDCs

During processing of Short Term Open Access (STOA) applications at NERLDC, there is a need for STOA co-ordinators from SLDC due to the increasing number of applications day by day. Nomination of at least one co-ordinator from each SLDCs would help in smooth processing of STOA applications

Deliberation in the meeting

The following officials were nominated:

Ar. Pradesh	Sh. Sange Phuntso, J.E.
Assam	Sh. P. Saha, DM
Manipur	Ms. K. Steela, Manager
Meghalaya	Sh. T. Gidon, EE
Mizoram	Sh. Benjamin, Sr.EE
Nagaland	Sh. N. Wotsa, EE
Tripura	Sh. D. Paul, Sr. Manager

The Sub-Committee noted as above.

D.29. LFO observation in NER GRID

a. Agartala PMU

Continuous oscillations are regularly observed in Agartala PMU. One such instance has been observed and intimated over email on 24/07/2018. As RC Nagar is the closest generating station to the said PMU, RC Nagar generating units may be contributing as the major source of the LFO.

b. Bongaigaon PMU

Oscillation of about 7 kV magnitude was observed in Bongaigaon PMU at 19:53 Hrs and the same persisted till 20:03 Hrs. The said oscillation died down after opening of BgTPP unit-1 at 20:03 Hrs. As BgTPP is the closest generating station to the said PMU and the LFO died down after opening of BgTPP Unit 1, BgTPP generating units may be contributing as the major source of the LFO.

Deliberation in the meeting

NERLDC presented a report on the LFO occurrence at Agartala and Bongaigaon (Annexure - D.29). The forum decided the following:-

- Bongaigaon SRT would be studied for any anomaly in response.
- Since AGTCCPP does not have any PSS, whenever oscillation occurs AGTCCPP would be instructed to stop its units one by one, until the oscillation dies down to find out the exact unit which is causing the oscillations. NEEPCO agreed to do the same as per instructions received from NERLDC.

The Sub-Committee noted as above.

Action: NEEPCO, NERLDC.

D.30. Round the clock operation required at NEEPCO Control Room, Shillong

In NER, we have 7 Generating Stations (ISGS) of NEEPCO alongwith Monarchak and Turial HEP. Most of the stations are remotely located and communication is very bad. Coordination with 7 stations from NERLDC is difficult especially during night hours. NEEPCO Control room can communicate with them through VSAT on round the clock basis. POWERGRID established RTAMC/ CPCC to co-ordinate with POWERGRID stations which is working 24x7 basis and NERLDC is getting all operation related information from them smoothly and coordination is easier. So from NEEPCO side also one point communication with NERLDC is required for smooth operation of Grid control and this will help in proper & quick decision making process of operation.

Deliberation in the meeting

Since the issue requires sufficient manpower involvement it was decided to refer it to next TCC/RPC meeting.

The Sub-Committee noted as above.

Action: NERPC.

D.31. Load Management during Palatana planned S/D from 23/08/18 to 09/09/18

a. Market sale by States should be done very cautiously during the shutdown period as the entitlement from Palatana would not be available.
b. All state generations must be maximized up till their full capacity to fulfill the generation shortage in the region
c. Load reduction if required must be done if RLDC feels the necessity for the same.

Deliberation in the meeting

OTPC representative informed the following schedule for shutdown of Palatana units:

- Module I : From 23.08.2018 to 01.09.2018
- Both Module i.e. entire plant on 01.09.2018
- Module II: From 01.09.2018 to 10.09.2018.

During either of the Module under shutdown the other module would run at 60% capacity.

The forum noted and requested all the SLDCs and DISCOMs to plan for the shutdown period well in advance.

NERLDC presented the study conducted considering outage of both modules of Palatana **(Annexure D.31**). NERLDC expressed concern about voltage stability in Tripura & South Assam on the day when both the modules would be under shutdown. NERLDC also informed Tripura about the MVAR drawl restriction to be done Bangladesh during the above-mentioned shutdown. MVAR drawl is to be restricted to 30 MVAR.

The forum requested NERLDC to conduct a study with all the upcoming elements in Southern Part of NER especially in Tripura System.

The Sub-Committee noted as above.

Action: All SLDCs/DISCOMs

D.32. Lack of VOIP connectivity at Control Room of major ISGS like Palatana, BgTPP

VOIP phones are not available at Control Rooms of major ISGS in NER Region like Palatana and BgTPP. This results in the lack of proper communication between the NERLDC control room operators and the ISGS. The mobile phones and landlines are not reliable for important activity like grid operation.

Deliberation in the meeting

The forum noted that the matter was already discussed in detail in the 10th NETeST meeting.

The Sub-Committee noted as above.

D.33. Standardization of Format of Data Files being sent by Generators/ States

Excel files are being sent by Generators/ States for preparation of various reports on daily basis by NERLDC. As of now NERLDC is preparing the reports by manually entering data in Microsoft Excel, but NERLDC is in the process of migrating to a Web based software for preparation of all such reports. Using this software generators/states can upload their files directly into the web-based software instead of sending them via email. At present the data file formats are not similar, due to which file formats are not uploading when NERLDC is testing the software. It is therefore requested to adhere to the following format for the respective generators/states:

1. State Files Names—

a. ***Assam***- DD-MM-YYYY
b. ***Meghalaya***- DD-MM-YYYY) Please start your data table from Row 1 instead of row 2)
c. ***Tripura***- DD-MM-YYYY)Please keep the sheet name as “Sheet1”(

2. Generation File Names-

a.***Ranganadi***- DD-MM-YYYY (Please DO NOT put any text in water level cell)
b. ***AGTCCPP***- DD-MM-YYYY
c.***DHEP***- DD-MM-YYYY
d. **Loktak**- DD-MM-YYYY (In O and P Columns please insert the hourly data and energy MU of 132 kV Loktak-Rengpang and 132 kV Loktak -Ningthoukong lines respectively)
e.***Palatana***- DD-MM-YYYY
f. ***AGBPP***- DD-MM-YYYY
g.***Khandong & Kopili Stg 2***- DD-MM-YYYY (Please start the table from column A instead of column B)
h. ***Kopili***- DD-MM-YYYY

Also it is requested to send all data files for a day, by 01: 00Hrs of the next day in the same time when data is given telephonically.

Deliberation in the meeting

The forum noted and requested all generators and SLDCs to follow the same.

The Sub-Committee noted as above.

Action: all SLDCs/ generating utilities.

D.34. Procurement of additional 70 Laptops:

NERTS-POWERGRID explained the following in 146th. OCC Meeting:

Contract for Procurement of Laptop have been finalized. NOA Placed on 06.07.2018. As per the Contract Delivery Schedule 06(Six) Months i.e. by January-2019. Cost estimate for license for MS Office is under preparation. DGM(AM), NERTS clarified that procurement of MS Office would also be completed by Jan'19.

Deliberation in the meeting

NERTS informed the following:

As informed in 146th OCCM, NOA Placed on 06.07.2018. As per the Contract Delivery Schedule 06(Six) Months i.e. by January-2019.

Fresh Offer for for license for MS Office from different parties is expected by 16.08.2018. As intimated earlier procurement of MS Office is targeted by Jan'19.

The Sub-Committee noted as above.

Action: NERTS.

D.36. Installation of new L&T SEMs in NER:

NERTS-POWERGRID intimated the following in 145th. OCC meeting:

"Installation of SEM meters at different sites already taken up.

Balipara : Work in Progress. Completion by 19.06.2018

For other location: SEM meters are being dispatched/collected by different location from central store. Installation will be completed by 31.06.2018 as per target.

Note: On 14-06-2018, installation of 2 nos. of SEMs at Chimpu end is completed as desired by POSOCO.

As installation of SEMs will be completed soon. Hence POSOCO may please suggest whether to proceed with the installation as New SEMs will require new DCD or new software with USB/Optical data cord. If utilities fail to provide laptop/desktop for software installation, collection of SEM will not be possible till procurement/issue of new DCDs which are under procurement."

DGM(MO), NERLDC stated that taking into account above factor, early procurement of Laptop and DCDs would be crucial. He requested NERTS to stick to the timeline for both the activities and until then, any further installation of new Meters in new locations has to be in consultation with NERLDC.

Deliberation in the meeting

Mokokchung (01 No. SEM): Completed

Installation completed at Mokokchung for Mokokchung (State End) of 132kV Doyang-Mokokchung feeder. The SEM bearing S.No - NP-9671-A is installed in series with the existing Energy Meter on 03.08.2018

Khandong (05 SEMs): Installation in halt.

POWERGRID Team visited Khandong for installation on 06.08.2018 with materials/T&P. But on line installation(without shut down) was denied. POWERGRID team returned back. As discussed in many OCCM, online installation to be resorted. Matter may be discussed. Further if shut down is required by NEEPCO during installation, same may be arranged and intimated to POWERGRID in advance.

After discussion, NEEPCO representative agreed for installation of SEM at Khandong without availing shutdown.

Dimapur (05 Nos. SEM): Completed.

The following SEM meters were replaced with new SEM due to high time and date drifts followed by burning incident at Dimapur :-

Imphal SS :-

SEM replacement not pending. Further as required by NERLDC, SEM for following were already replaced long back.

1) 132KV Imphal_II Panel - L&T Meter Sr. No. - NP-8378-A with time drift 0.05 m.
2) 132KV ICT_I Panel - L&T Meter Sr. No. - NP-9520-A with time drift 0.06 m.
2) 132KV ICT_II Panel - L&T Meter Sr. No. - NP-9522-A with time drift - 0.06 m.

ELSTER MAKE of loktak_II feeder has been checked for 1 hr. Details as given below:
1) Power flow from 09:00 hrs to 10 hrs is 51.89 MW.
2) Power flow calculated from SEM meter is 51.48 MW.
The SEM is found healthy.

Bongaigaon: (02 SEMs) : Completed 01 No. Pending 1 No.

a) SEM installed at 400 kV Side of ICT-1 on dated 02.08.2018. Initial reading and data already sent to NERLDC.

b) SEM installation at 220 kV Side of ICT-1 could not be done due to space constraints in old panel at Salakati and due to ongoing construction works. Same will be taken up shortly after work front is ready.

Mizoram(State) : 2 SEMs...Not Completed

Two SEMs are to be installed. One at LONGMOL end and the other at ZUAGTUI end. POWERGRID team approached the P&E officials who informed that they need approval from their higher officials for installation of SEMs. The installation is pending due to delay on part of M/s P&E Deptt. Mizoram. Matter may be discussed.

EE-SLDC Mizoram agreed to look into and obtain internal approval at the earliest.

It was agreed that before any new installation of Meter, NERTS would intimate the programme to NERLDC and NERLDC would take up the matter with respective utility. After getting clearance from NERLDC, NERTS would proceed for installation.

The Sub-Committee noted as above.

Action: NERTS.

D.37. <u>Erratic reading of SEM:</u>

In 146th. OCC, NERTS intimated as below:

i. Dullavcherra end of SEM : Issue resolved. Problem was not with SEM but with phase association.

ii. Jiribam (PG) end SEM of Jiribam(State): Checked and found O.K. in 15 min. block Data. The SEM was replaced as recommended by Forum.

iii. Dimapur(PG) end of Bokajan Feeder: Checked in 15 min. block and found O.K. Variation in recording to be checked.

iv. Imphal(PG) end of Loktak : Checking details to be intimated by 18.07.2018

Matter checked at NERLDC and found that sl. No. (iv) has been set-right.

Sl. No. (iii) would be checked.

Error persisting in Sl. No. (i) and (ii).

Deliberation in the meeting

NERTS intimated the following:

a. The issue jointly checked by POWERGRID & ASEB and issue was resolved after replacement of old SEM with new.
b. Checked and found OK. As flow in the Feeder is very less, no significant difference is found (The old SEM was earlier replaced by new SEM).
c. As recommended earlier, the SEM was replaced with new one on 30.07.2018
d. Issue set right.

The Sub-Committee noted as above.

Action: NERTS.

D.38. Commissioning of RS-485 scheme in all ISGS of NER:

In view of proposed leapfrog to 5 minute metering, it was decided to drop the project.

Deliberation in the meeting

The forum agreed to drop the project.

The Sub-Committee noted as above.

D.39. Time drift in SEMs.

Status of large time drift was discussed in 36th. CCM and matter was referred to OCC.

Deliberation in the meeting

NERLDC highlighted the need of regular time correction of SEMs and intimated that such time drift was causing unwanted financial loss to the utilities on account of inaction on their part.

NERTS representative intimated that they had approached NTPC two times for providing guidance/assistance regarding time correction of Meters, but NTPC declined to avail the help intimating that they were busy with other activities. OCC forum expressed displeasure over this. It was felt that NTPC was responsible for the large time drift of meters at their end and they should take immediate action to rectify this.

The procedure of time correction is given below and NTPC should start the activity immediately and inform compliance in next meeting.

The procedure for time correction steps was explained as below:

1. Press "P" in DCD
2. Enter password "XMISSION"
3. Press "A" or "R" for time advance/retard

After this, SEM should be kept powered ON for 90 minutes.

All utilities were advised to provide time correction command to meters on regular basis.

The Sub-Committee noted as above.

Action: All concerned utilities

D.40 Replacement of SEMs.

2 SEMs at Palatana are reported faulty and the same need to be replaced.

It was agreed that two defective SEMs at OTPC, Palatana would be replaced by new Meters. It was also agreed that one spare SEM would be provided to OTPC to enable quick replacement in case of any malfunctioning while providing time correction command.

Deliberation in the meeting

NERTS intimated the following :

The SEM meters has already been diverted to POWERGRID, Kumarghat S/S. The SEM will be sent to OTPC Pallatana within this week.

OTPC requested for deputing POWERGRID personnel for installation which was agreed to.

The Sub-Committee noted as above.

Action: NERTS.

D.41 Utilization of Laptop for Metering

Fourteen no. of Laptops were distributed for exclusive use in Metering activities in June'17. It is observed that there is no response from Samaguri and 79 Tilla regarding utilisation of the Laptops. For Samaguri & 79 Tilla SEM data are still being downloaded and sent to NERLDC by Powergrid personnel.

In 146th. OCC meeting, TSECL representative stated that there were some issues with Laptop at 79 Tilla and matter could not be resolved by local Powergrid personnel.

TSECL was advised to bring the Laptop to Shillong / OCC meeting in case problem cannot be resolved locally.

Deliberation in the meeting

TSECL representative intimated that there was some issue with the Laptop and it would be handed over to NERTS at the earliest for rectification.

The Sub-Committee noted as above.

Action: TSECL.

Additional Metering related items:-

1) Pending payment from TSECL against supply of Laptop, DCD and SEM to TSECL.
2) TSECL representative intimated that payment would be released to NERTS within a fortnight.
3) There is issue of rectification/Replacement of SEM at Jigmeling end as intimated by ERTS-II. As requested, Forum may discuss about rectification/replacement of SEM of Jigmelling end which does not fall under NERTS.

It was felt that the matter should be intimated by ERLDC to NERLDC and then NERLDC would advise NERTS suitably. NERTS to reply to ERTS-II accordingly.

Recovery mechanism for cost of 70 Laptops being procured by NERTS

It was agreed that NERTS would recover cost of 70 Laptops from the NER States in the same formula which has been agreed for recovery of cost of Special Energy Meters.

The Sub-Committee noted as above.

Action: Concerned Utilities.

D.42 Outage of OTPC plant:

Unit#1 shutdown from 23.08.2018 to 01.09.2018 // Unit#2 shutdown from 31.08.2018 to 10.09.2018 // 31.08.2018 – both the units under shutdown

Deliberation in the meeting

Pls refer to discussion in item **D.31.**

The Sub-Committee noted as above.

Action: All SLDCs/DISCOM.

D.43 Installation of TLSA in 132kV Lines of POWERGRID as per EPRI Guidelines

During 127th OCCM, POWERGRID has given deliberation on requirement of TLSA in 132kV Lines as per EPRI Guidelines for arresting lightning related trippings of 132kV Lines in NER having high Isokeraunic level. However, POWERGRID informed that they are installing limited TLSA on 132kV Khandong - Khliehriat Line # 1, 132kV Badarpur - Khliehriat Line and 132kV Aizawl – Kumarghat Line on experimental basis with following consideration and observe the performance:

- Tower Footing Impedance - Tower locations with relatively higher tower footing impedance were selected.
- Historical data - Tower locations with history of frequent faults (apprehended on account of lightening) were selected.
- Elevation - Towers at relatively higher altitude were selected.

Refer MOM Item No. D.32

Thereafter, in subsequent 18th TCC & NERPC Meeting, in-principle approval for installation of TLSA in 132kV lines of POWERGRID on PoC Mechanism has been accorded (Refer MOM Item No. A.13) by the members subject to improvement of performance of 132kV Khandong - Khliehriat Line # 1, 132kV Badarpur - Khliehriat Line and 132kV Aizawl – Kumarghat Line where TLSA has been installed on experimental basis.

Now, the performance of the above lines are as below:

SN	Line	TLSA Installed	2016	2017	2018 (Jul'18)
1	132 kV Khandong – Khliehriat – I	Nov'16	19	11	10
2	132 kV Khliehriat – Badarpur	Mar'17	24	17	4
3	132kV Aizawl-Kumarghat	Dec'17	21	22	9

Note: *Trippings for the period from April to September for each year has been considered, when lightning related tripping is more pronounced.*

Thus, a visible reduction in number of lightening related trippings in the above three lines observed during the period under study. Here, it is to mention that installation of TLSA in the above lines was purely on experimental basis (in house assessment of tower locations / not as per EPRI Guidelines) with an idea to assess its impact on reduction in lightning actuated trippings in these lines. Hence, the improvement of performance is obvious if more TLSAs are installed as per EPRI Guidelines.

Hence, it is proposed for installation of TLSA in 132kV Lines of POWERGRID as per EPRI Guidelines on PoC Mechnaism.

Deliberation in the meeting

DGM (AM), NERTS explained briefly the NERTS experience in installation of TLSA for lightning prone 132kV lines. The forum appreciated the stark improvement with reduced number of lightning related trippings.

Thus, considering considerable reduction in number of lightening related trippings in the above three lines, the members agreed to the proposal of POWERGRID for installation of TLSA in 132kV Lines of POWERGRID as per EPRI Guidelines on PoC Mechanism. The tentative expenditure will be approximately Rs. 90.00 to 100.00 Crores. Further, as in-principle approval of NERPC already exists, POWERGRID may go ahead with installation of TLSA in 132kV Lines as per EPRI Guidelines and the matter will be appraised in next TCC/NERPC Meeting.

Also Director (O&P) requested the constituents to prepare a list of important state lines which are prone to lightning related tripping. The detailed list may then be presented in the next TCC/RPC meeting for approval of installation of TLSA through funding from PSDF.

The Sub-Committee noted as above.

Action: NERPC.

D.44 Huge underdrawal by Assam due to lack of partial requisition on 08.08.18

On 8th Aug'18 there was huge underdrawal by Assam from 00 hrs to 0815 hrs to the tune of 300 MW due to lack of partial requisition from SLDC Assam inspite of RLDCs request for partial requisition. Assam has to absorbed huge financial loss . This is not an isolated incident with Assam and it is happening with all the constituents. So smart decision making and corrective action by Grid Managers is very much essential.

Annexure attached at D.44.

Deliberation in the meeting

NERLDC highlighted the mismanagement which resulted in huge under-drawal by Assam. DGM, SLDC, AEGCL informed that the matter is under investigation and the detailed cause would be intimated to the forum

The Sub-Committee noted as above.

Action: AEGCL.

D.45 FOR Sub-Group to Recommend Suitable Measures and Roadmap for Institution Building and Strengthening of the Load Despatch Centres (LDCs).

Man Power Survey is being conducted under the FOR Sub-Group to Recommend Suitable Measures and Roadmap for Institution Building and Strengthening of the Load Despatch Centres (LDCs) and the matter was discussed during the 25th FOLD Meeting held on 07th August, 2018.

The survey formats were circulated vide earlier communication from FOLD Secretariat. Subsequently a decision for Online survey was taken. Meanwhile, the SLDCs of Eastern and North-Eastern regions had already filled the offline survey. In order to have the response statistics of all the LDCs at one place as well as the ease of preparation of information for analysis, it is requested to fill up the online survey https://www.surveymonkey.com/r/FOLDsurvey1 and is also available on the FOLD website.

It is requested that the SLDCs of NER to complete the Online survey by August 15, 2018. Members may discuss.

Deliberation in the meeting

NERLDC informed the forum that Man Power Survey is being conducted under the FOR Sub-Group to Recommend Suitable Measures and Roadmap for Institution Building and Strengthening of the Load Despatch Centres (LDCs) and the matter was discussed during the 25th FOLD Meeting held on 07th August, 2018. The survey formats were circulated vide earlier communication from FOLD Secretariat. Subsequently a decision for Online survey is taken. Meanwhile, the SLDCs of NER had already filled the offline survey. In order to have the response statistics of all the LDCs at one place as well as the ease of preparation of information for analysis, NERLDC once again requested all SLDCs to fill up the online survey at https://www.surveymonkey.com/r/FOLDsurvey1 by 15th August'18.

SE, SLDC, MeECL very briefly articulated the problems being faced by Meghalaya SLDC:

- Basic manpower requirement has increased. In light of frequent new regulations and intense monitoring the manpower required has drastically increased.
- Though most of the SLDC personnel have completed their certificate course in System Operation, there has been no increment or financial benefit for them.

- Officials posted in SLDC at the working level are frequently transferred after they are trained. This is resulting in wastage of trained manpower and hampering smooth operation of SLDC. He requested for ring fencing of SLDC at the earliest.
- He stated that in FOR Technical Committee meeting held at Shillong on 16.04.2018, it was decided against Item No. 3 as follows: **"On the issue of SLDC Ring Fencing, a Working-Group of FOR will be formed to examine the institutional, operational, financial and HR related issues at States and make suitable recommendations for ensuring independence of SLDCs".** Accordingly, he felt that the FOR sub-group should have an agenda on Independence of SLDCs.

The forum noted the above and requested NERPC/NERLDC to highlight the problems at the highest level viz. FOLD/TCC/RPC.

The Sub-Committee noted as above.

Action: all SLDCs/NERPC/NERLDC.

ADDITIONAL AGENDA ITEMS FROM AEGCL

D.46 Training of STU official for Planning

DGM, AEGCL informed that as per discussion in previous OCC meetings, training needs to be imparted to STU engineers for long term planning w.r.t. capacity addition. The forum welcomed the proposal. Director(O&P) clarified that since long term planning is being carried out by CEA and CTU advance training may be imparted by CEA/CTU. However basic training with PSSE for planning purpose can be imparted by NERLDC. The forum requested NERLDC to organize such training. ED, NERLDC informed that training may be given at any instant however batch size must be limited to six persons only. AEGCL was requested to draw a schedule and intimate NERLDC.

The Sub-Committee noted as above.

Action: AEGCL/NERLDC.

Date & Venue of next OCC meeting

It is proposed to hold the 148th OCC meeting of NERPC on second week of September, 2018. 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 147th OCC Meetings held on 10th August, 2018

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, SE (SO&PSC)	Ar. Pradesh	09436288643
2.	Sh. Z.A. Choudhury, CGM, SLDC	Assam	09435371734
3.	Sh. J. Baishya, CGM, APDCL	Assam	-
4.	Sh. Dipesh Ch. Das, AGM (LDC)	Assam	09954110254
5.	Sh P. Saha, DM, SLDC	Assam	09435561717
6.	Sh. Nabanit Hazarika, AGM	Assam	09435386310
7.	Sh. G.K. Bhuyan, DGM, AEGCL	Assam	09854015601
8.	Sh. Bimal Ch. Borah, AGM, SLDC	Assam	09475119248
9.	Sh. Pintu Dekaraju, AGM(TRC), APDCL	Assam	09401516094
10.	Sh. Indrajit Tahbildar, DM (TRC), APDCL	Assam	09864799857
11.	Sh. Anirban Roy, DGM, APGCL	Assam	09435386310
12.	Sh. S. Kripachariya, Manager	Manipur	08413948551
13.	Sh. Roshan Oinam, Manager, SLDC	Manipur	09863895218
14.	Sh. F.E Kharshiing, SE, SLDC	Meghalaya	09863066960
15.	Sh. B. Nikhla, EE, SP, MePTCL	Meghalaya	09436314163
16.	Sh. D.J. Lyngdoh, EE (SM), SLDC	Meghalaya	-
17.	Sh. W. Khyriem, EE (GSPD)	Meghalaya	09856007107
18.	Sh. A.G.T ham, AEE, MePTCL	Meghalaya	09774664034
19.	Sh. Benjamin L. Tlumtea, Sr. EE, SLDC	Mizoram	09436151424
20.	Sh. Zoramdina Ralte, SDO, MRT	Mizoram	08415901755
	No Representative	**Nagaland**	**-**
21.	Sh. Debabrata Pal, Sr. Manager (Comml.)	Tripura	09436500244
22.	Sh. Abhijit Kalita, Sr. Manager (E/M)	NEEPCO	09435339831
23.	Sh. T.S. Singh, ED	NERLDC	09436302717
24.	Sh. V. Suresh, GM	NERLDC	09449599156
25.	Sh. R. Sutradhar , DGM (MO)	NERLDC	09436302714
26.	Sh. Ankit Jain, Sr. Engineer	NERLDC	09436335381
27.	Sh. S.C. De, AGM	NERLDC	09436325369
28.	Smti. Momai Dey, Sr. Engineer	NERLDC	09436302716
29.	Sh. Bornali Nath, Asst. Engineer	NERLDC	08414927752
30.	Sh. N.R. Paul,GM	NERLDC	-
31.	Sh. P. Kanungo, DGM	PGCIL	09436302823
32.	Sh. U. Kataki, AGM	PGCIL	09435505418
33.	Sh. N. Yugandhar, Manager (EM)	NHPC	09800003819

34.	Sh. Subhajit Ganguly, Sr. Executive	OTPC	-
35.	Sh. Mitangshu Saha, Sr. Executive	OTPC	-
36.	Sh. Dinesh Laha, AM (O)	OTPC	-
37.	Sh. Kangkan Paul, Dy. Manager	NTPC	09435029230
38.	Sh. L. Mahendra, Pricial Tech. Officer	CDAC	09986160790
39.	Sh. Debashish Deb, Project Engineer	CDAC	08486129510
40.	Sh. Sidhartha D, Project Engineer	CDAC	08801066679
41.	Sh. P.K. Mishra, Member secretary	NERPC	09968380242
42.	Sh. B. Lyngkhoi, Director/S.E (C&O)	NERPC	09436163419
43	Sh. S. Mukherjee, AEE	NERPC	08794277306
44.	Sh. S. Imam, AEE	NERPC	08986666366
45.	Sh. A. Agarwal, AEE	NERPC	-

उ.पू.क्षे ग्रिड प्रदर्शन

NER GRID PERFORMANCE

For Month: ***July 2018***

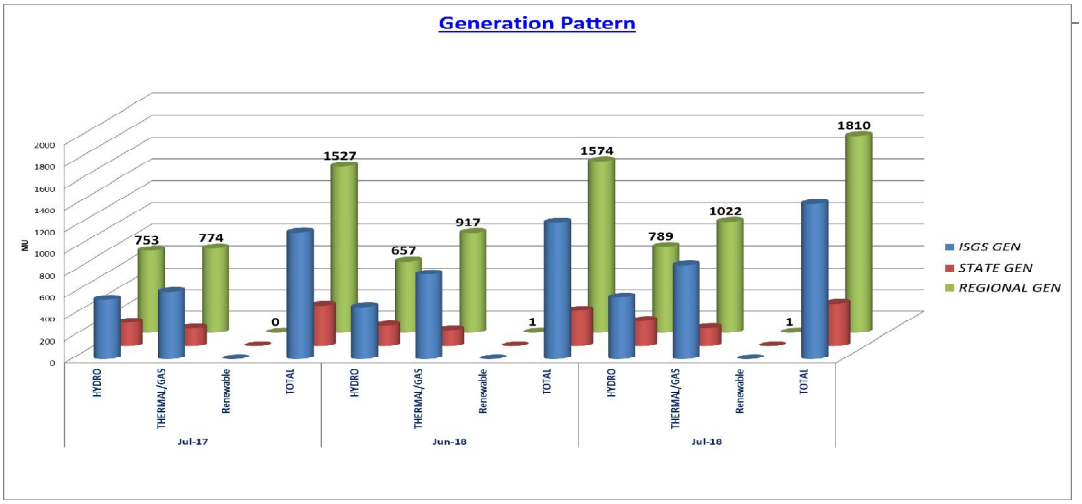
NORTH EASTERN REGIONAL LOAD DESPATCH CENTRE

POSOCO, SHILLONG

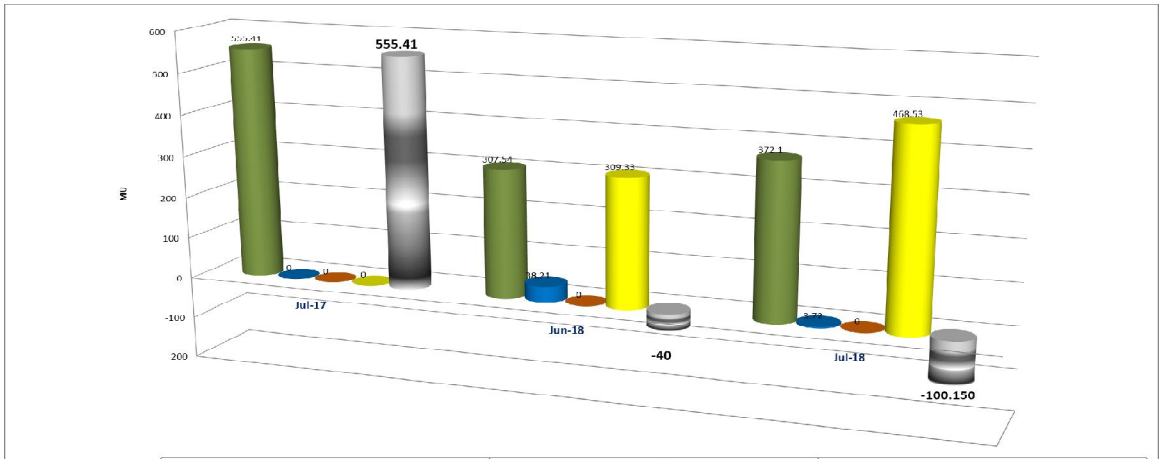
Highlights for the month of july'18:

Sl. no.	Element Name	Date of charging	Time (in Hrs)
1.	132kV Ranganadi – Itanagar TL	06-07-18	12:29
2.	132kV Ranganadi – Pare TL	06-07-18	12:29
3.	132kV Pare - Itanagar TL	07-07-18	12:40
4.	400kV, 315 MVA ICT 3 at Silchar125MVAR	14-07-18	22:24
5.	125 MVAR Bus Reactor at Bongaigaon	20-07-18	22:08
6.	80MVAR, Bus Reactor at Palatana	27-07-18	12:06
7	125MVAR, Bus Reactor at Balipara	01-08-18	00:14

Comparison of GENERATION PATTERN (MU)



Comparison of INTERREGIONAL EXCHANGE (MU)



	Jul-17	Jun-18	Jul-18
ER-NER	555.41	307.54	372.1
NER-ER	0	38.21	3.72
NR-NER	0	0	0
NER-NR	0	309.33	468.53
Net Import(+) /Export(-)	555.41	-40	-100.150

Comparison of Energy Availability (in MU)

Constituents	Energy Met (MU)		Difference	% Difference	Energy Met (MU) per Day	
	Jul-17	Jul-18			Jul-17	Jul-18
Arunachal	60.32	69.00	8.68	14.39	2.01	2.30
Assam	889.19	990.99	101.79	11.45	29.64	33.03
Manipur	60.95	72.02	11.07	18.17	2.03	2.40
Meghalaya	117.29	172.38	55.09	46.97	3.91	5.75
Mizoram	36.70	51.15	14.45	39.39	1.22	1.71
Nagaland	65.70	71.17	5.47	8.32	2.19	2.37
Tripura(Excluding Bangladesh)	145.52	146.94	1.41	0.97	4.85	4.90
Region(Excluding Bangladesh)	1375.67	1573.65	197.98	14.39	45.86	52.45

Inter-Country Power Exchange(in MU)	
Import(+)/Exp(-) by Bhutan	9.897
Drawal by Bangladesh	95.92
Drawal by Myanmar	0.577

Maximum Demand Met of the states

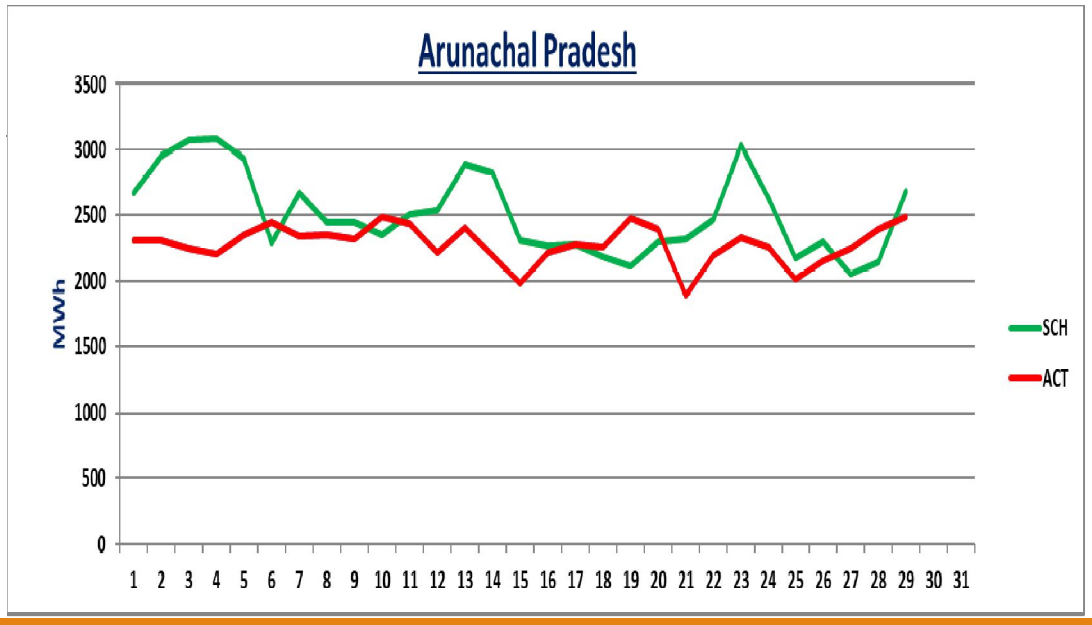
Name of Constituents	Maximum Demand Met (MW) in July'18	Maximum Demand Met (MW) in June'18	Maximum Demand Met (MW) in July'17
Ar Pradesh	128.0	133.0	133.0
Assam	1776.0	1750.0	1645.0
Manipur	171.4	171.7	157.9
Meghalaya	332.0	325.5	303.5
Mizoram	98.4	93.5	82.2
Nagaland	126.1	129.3	135.5
Tripura(Excluding Bangladesh)	288.0	275.5	266.4
Region(Excluding Bangladesh)	2798.0	2564.0	2597.0
Max Drawal by Bangladesh	176.4	192.9	167.8
Max Drawal by Myanmar	2.0	1.6	1.2

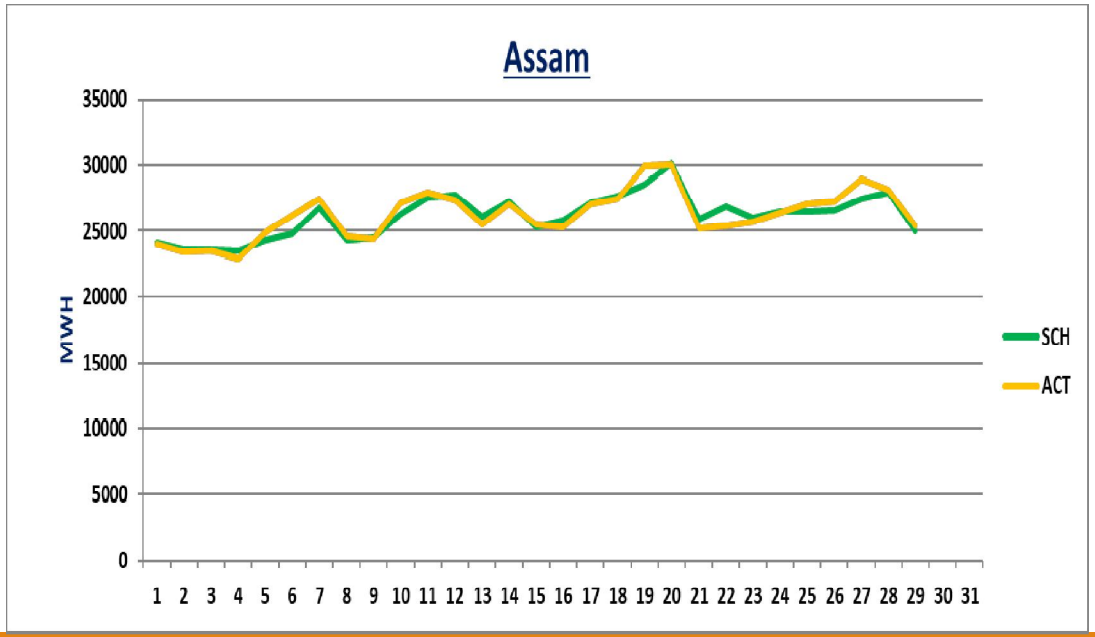
Violation Message Summary of JULY2018

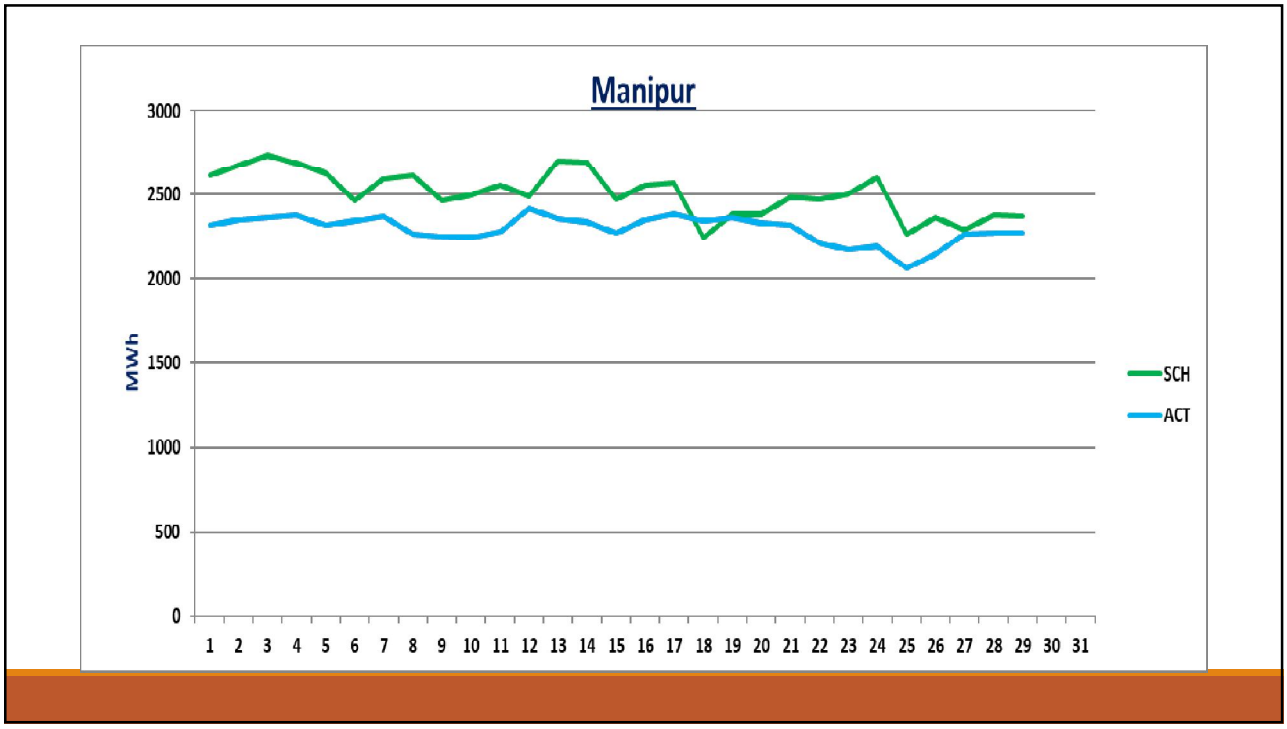
Constituents	Deviation Violation Message			Zero crossing Violation Message			Frequency Violation Message		
	Alert	Emergency	Total	Alert	Emergency	Total	Alert	Emergency	Total
AP	1	0	1	0	2	2	2	0	2
Assam	6	1	7	0	0	0	17	1	18
Manipur	0	0	0	0	2	2	6	0	6
Meghalaya	0	0	0	0	0	0	2	0	2
Mizoram	0	0	0	0	0	0	1	0	1
Nagaland	0	0	0	0	4	4	4	0	4
Tripura	6	0	6	0	3	3	9	0	9
AGBPP	0	0	0	0	0	0	0	0	0
AGTCCPP	0	0	0	0	0	0	0	0	0
RHEP	0	0	0	0	0	0	0	0	0
KOPILI	0	0	0	0	0	0	0	0	0
KHANDONG	0	0	0	0	0	0	0	0	0
KOPILI –II	0	0	0	0	0	0	0	0	0
DHEP	0	0	0	0	0	0	0	0	0
LOKTAK	0	0	0	0	0	0	0	0	0
BgTPP	1	0	1	0	0	0	0	0	0
PALATANA	0	0	0	0	0	0	0	0	0
PARE	0	0	0	0	0	0	0	0	0

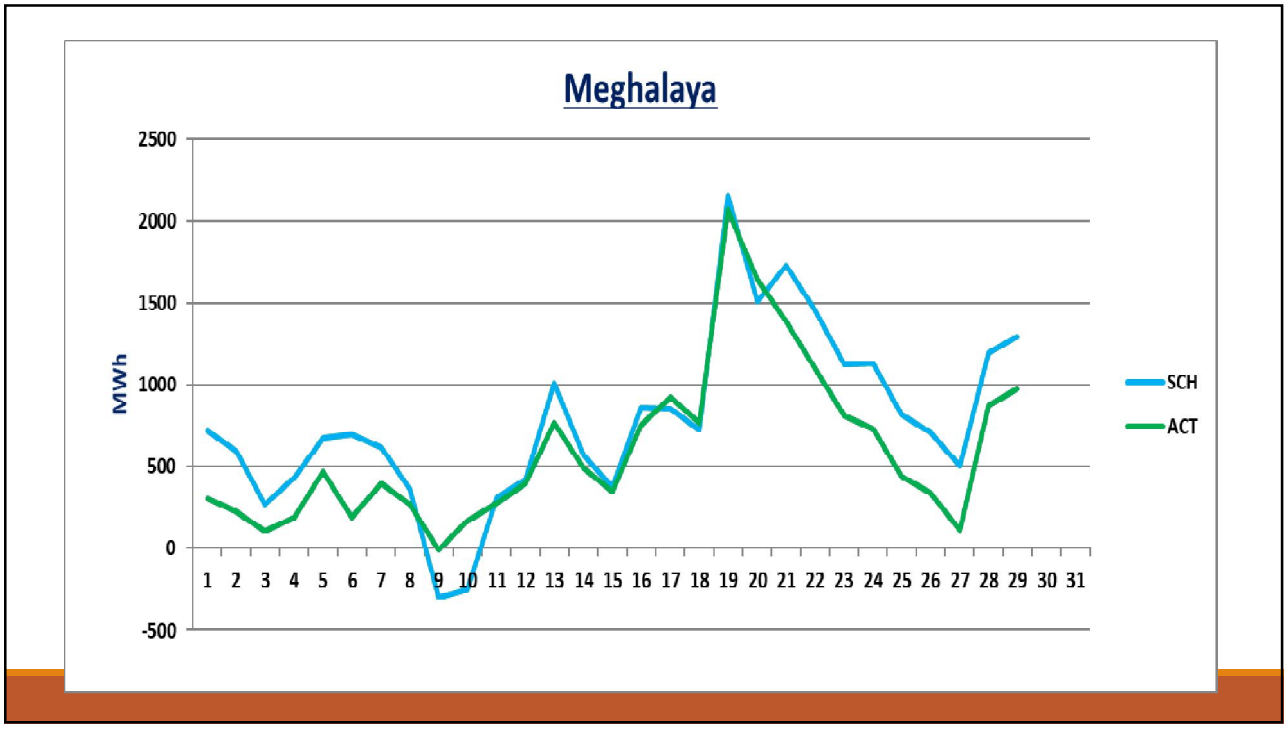
राज्यों के वास्तविक तथा शिड्यूल बिजली की आहरण

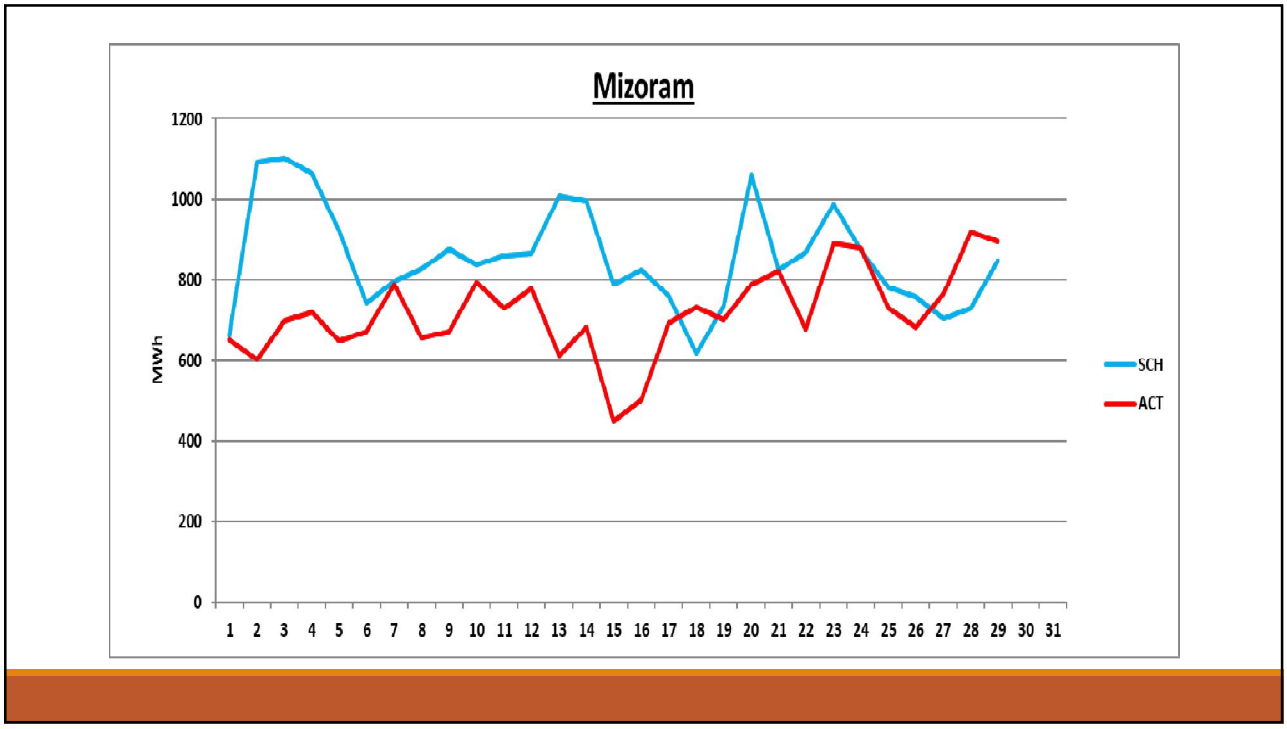
Actual drawal against Schedule Drawal by the States in MWH

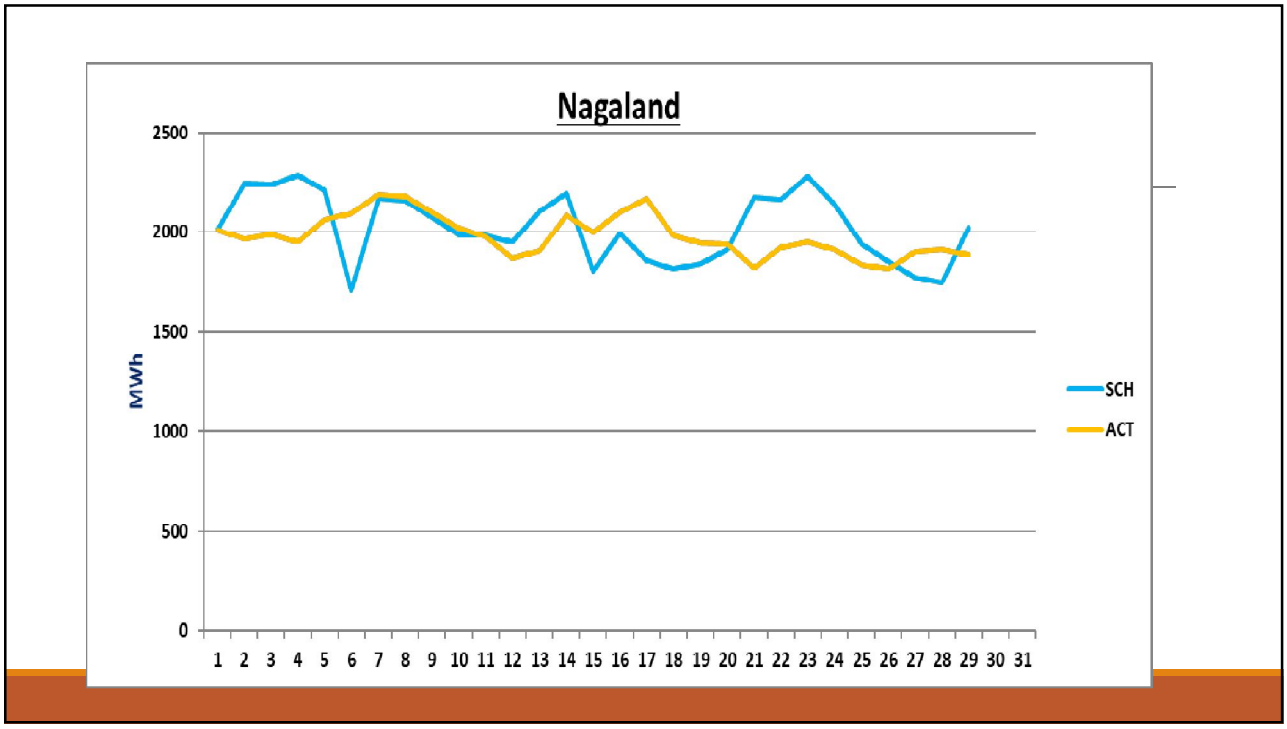

Arunachal Pradesh
MWh
3500
3000
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT

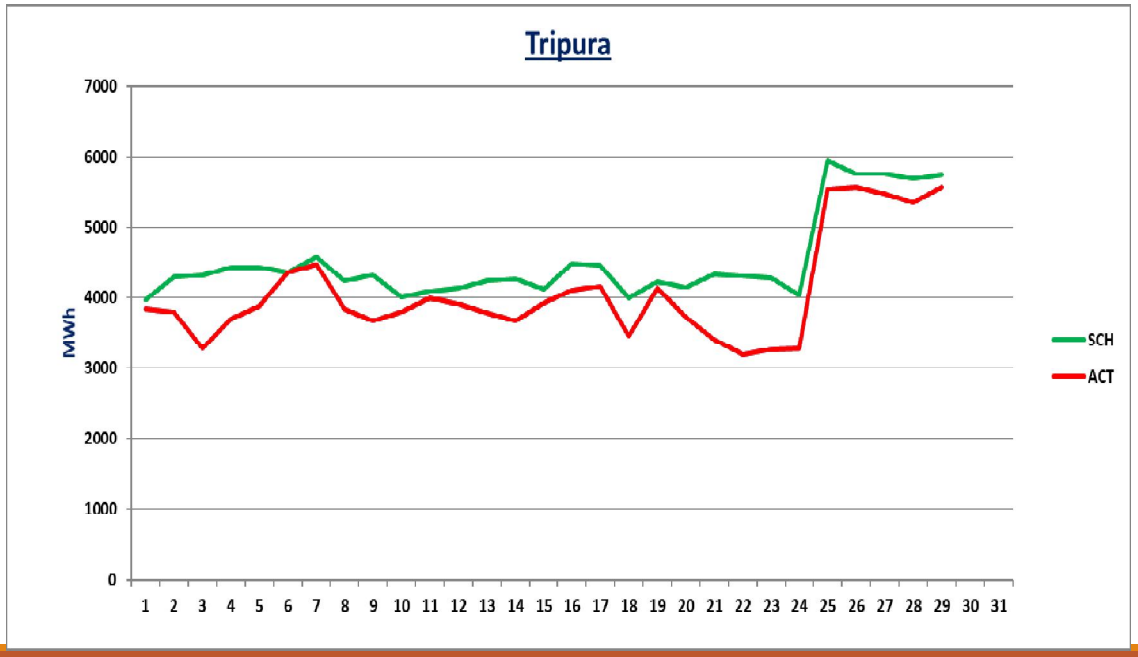

Assam
MWH
35000
30000
25000
20000
15000
10000
5000
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT


Manipur
3000
2500
2000
1500
1000
500
0
MWh
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT


Meghalaya
2500
2000
1500
1000
500
0
-500
MWh
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT

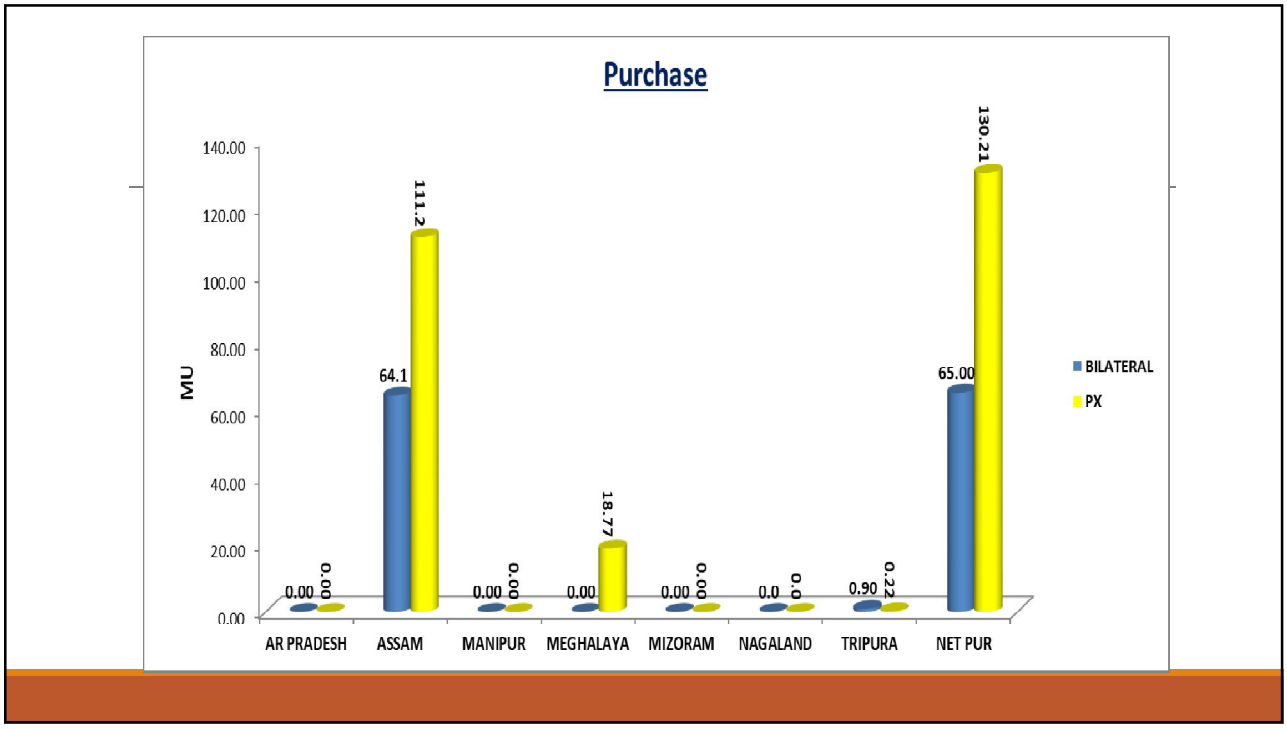

Mizoram
MWh
1200
1000
800
600
400
200
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT

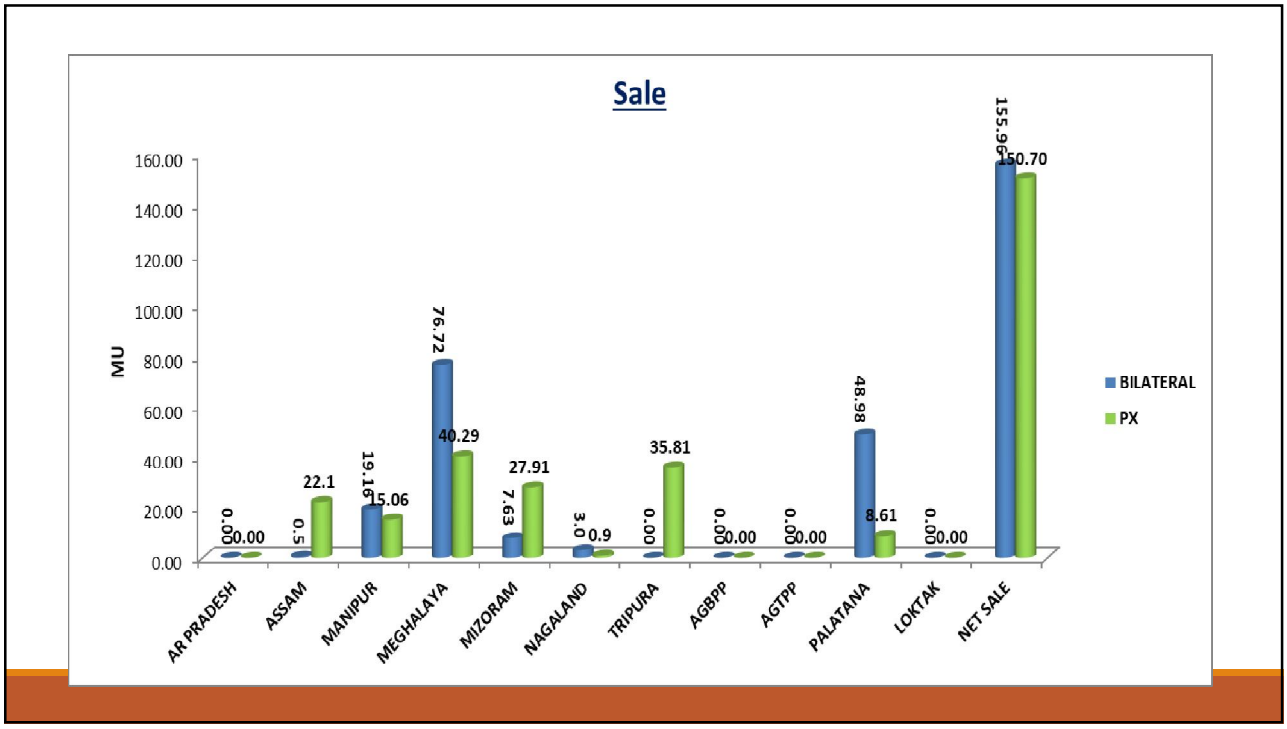

Nagaland
MWh
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SCH
ACT



लघु अवधि ओपन एक्सेस के तहत राज्यों के बिजली खरीद और विक्रय

Purchase and Sell of Power by the States Under Short term open access

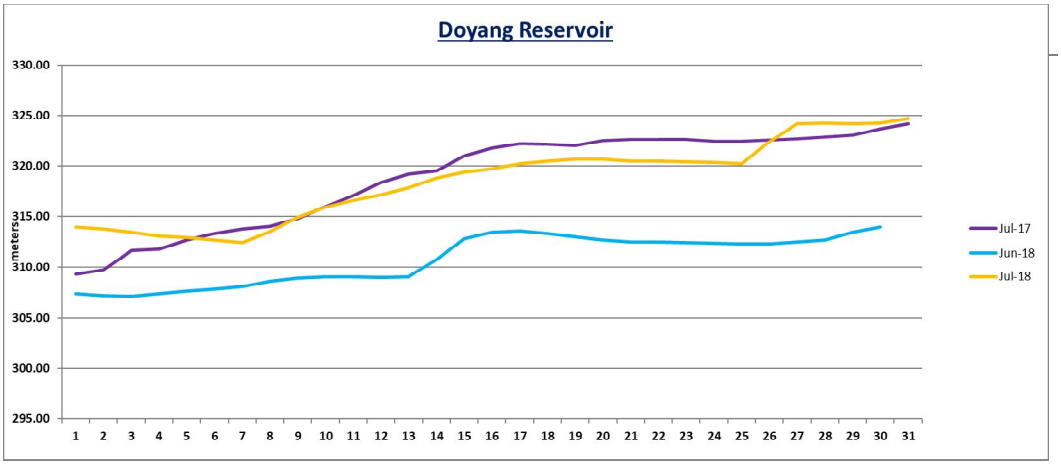

Purchase
MU
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0.00
0.00
64.1
111.2
0.00
0.00
0.00
18.77
0.00
0.00
0.0
0.0
0.90
0.22
65.00
130.21
AR PRADESH
ASSAM
MANIPUR
MEGHALAYA
MIZORAM
NAGALAND
TRIPURA
NET PUR
BILATERAL
PX


Sale
MU
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0.00
0.00
0.5
22.1
19.16
15.06
76.72
40.29
7.63
27.91
3.0
0.9
0.00
35.81
0.00
0.00
0.00
0.00
48.98
8.61
0.00
0.00
155.96
150.70
AR PRADESH
ASSAM
MANIPUR
MEGHALAYA
MIZORAM
NAGALAND
TRIPURA
AGBPP
AGTPP
PALATANA
LOKTAK
NET SALE
BILATERAL
PX

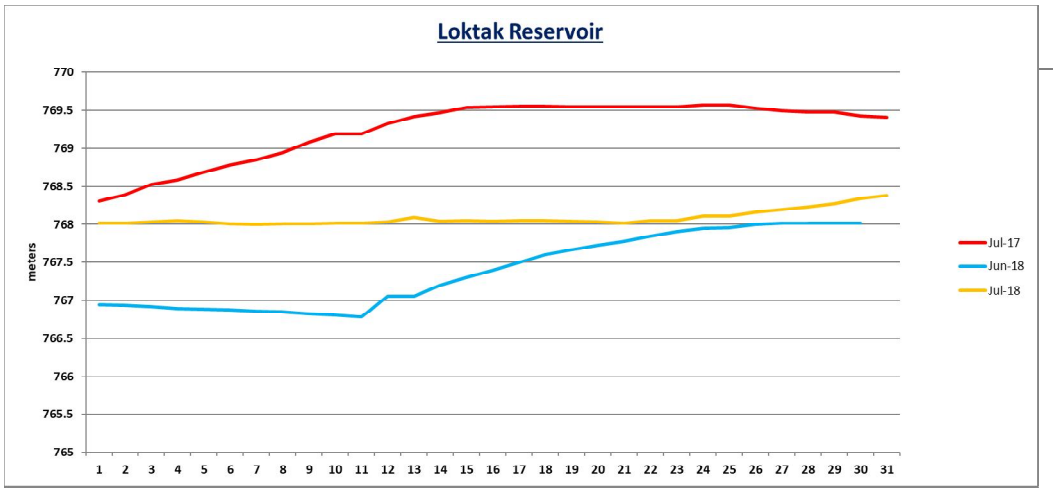
जल स्तर और एनर्जी

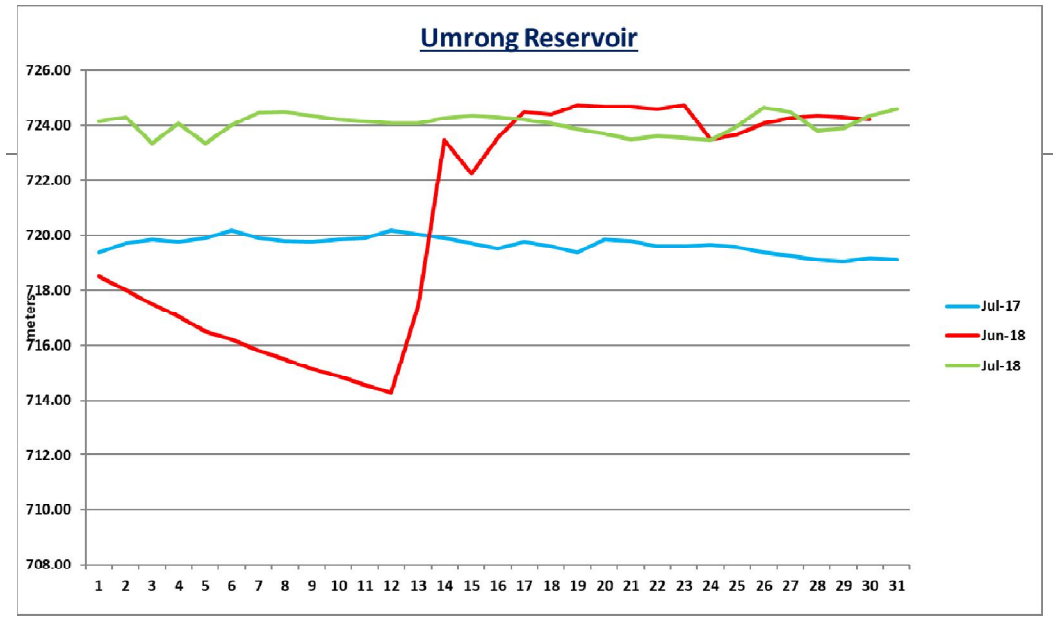
Water Level and Energy

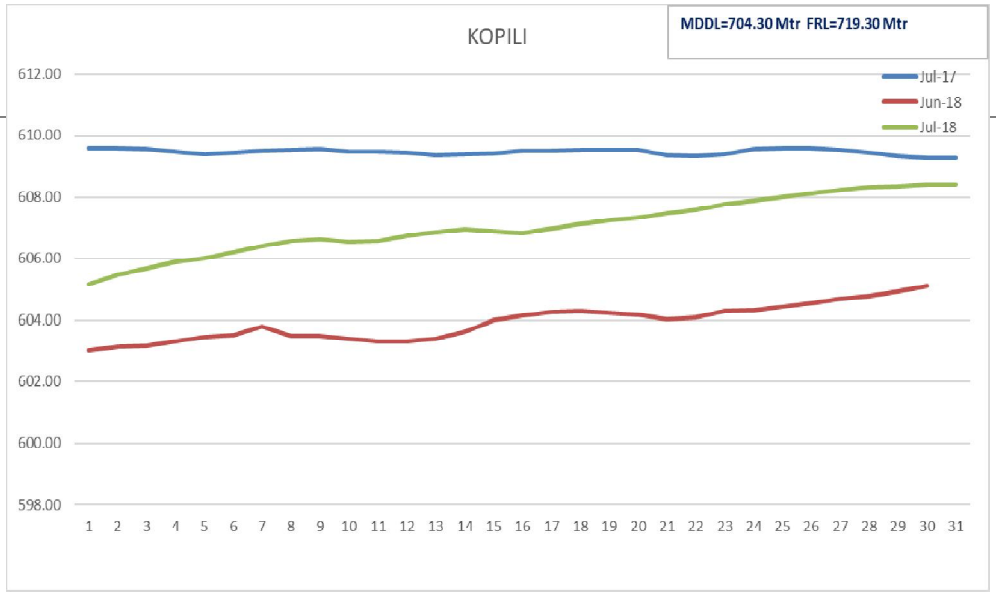
MDDL= 306 Mtr
FRL= 333 Mtr



MDDL= 766.2 Mtr
FRL= 769 Mtr







Reservoir Level and No of Days as per Current Generation

Plants	Reservoir Level in meters (as on 06/08/18)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	724.55	39.75	1.10400+0.50400 1.608	25
Kopili	608.72	(94.3+ 4x39.75) 253.3	4.584	55
Doyang	323.8	33	1.7376	19
Loktak	768.63	250	2.457	102

FDI for the month of July

Sl No.	KPI	Jul'17	Jul'18
1	FDI	0.238	0.215

VDI for the month of July

Sl No.	Name of 400 kV Node	Jul'17	Jul'18
1	Azara (AEGCL)	0.000	0.000
2	Balipara (PG)	0.006	0.001
3	BgTPP (NTPC)	0.004	0.000
4	Biswanath Chariali (PG)	0.001	0.000
5	Bongaigaon (PG)	0.000	0.000
6	Byrnihat (MePTCL)	0.001	0.000
7	Misa (PG)	0.016	0.018
8	Palatana (OTPC)	0.032	0.000
9	Ranganadi (NEEPCO)	0.083	0.068
10	Silchar (PG)	0.000	0.000

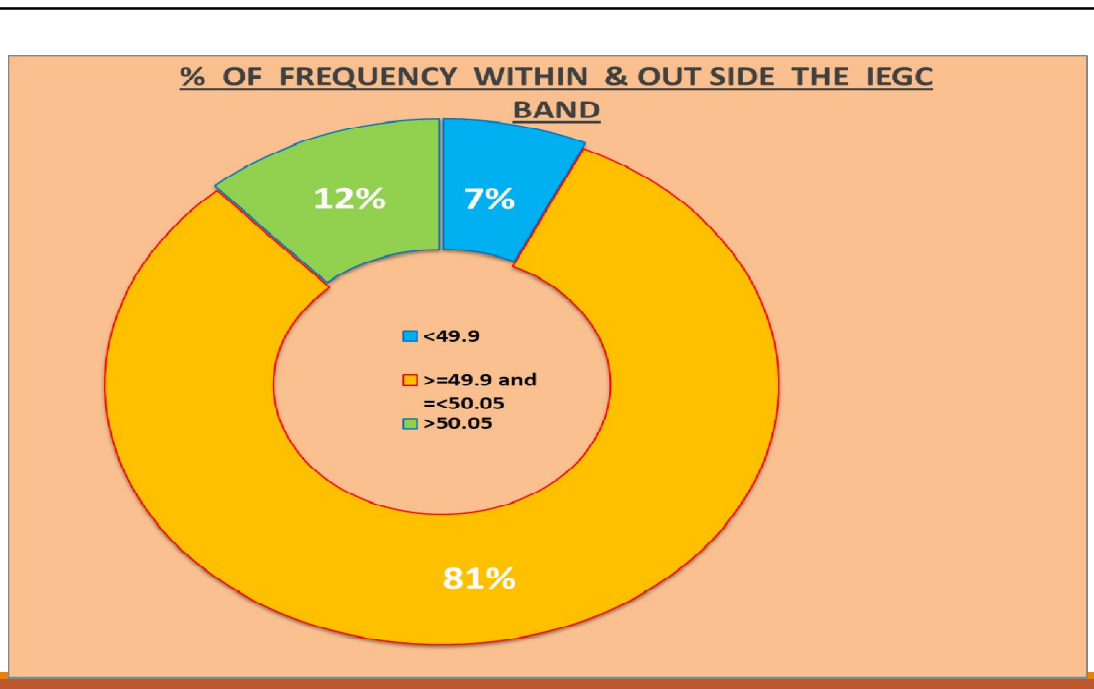
SRI for the month of July

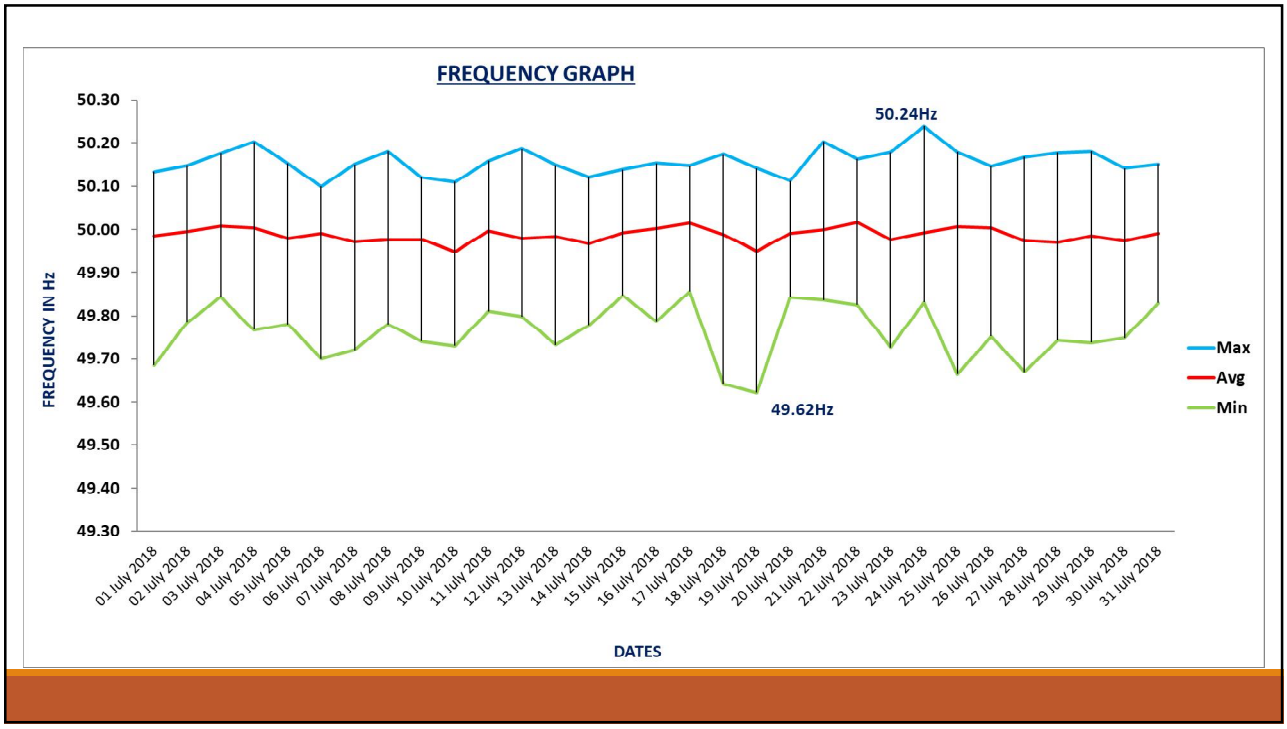
Sl No.		Jul'17	Jul'18
1	ER-NER Import TTC Violation	0.00%	0.00%
	NER-ER Export TTC Violation	0.00%	0.00%
2	ER-NER Import ATC Violation	0.00%	0.00%
	NER-ER Export ATC Violation	0.00%	0.00%
3	400 kV Bongaigaon wrt Balipara (Max angular diff between buses)	11.2	9.7
	400 kV Balipara wrt Misa (Max angular diff between buses)	9.3	9.5
	400 kV Binaguri wrt Bongaigaon (Max angular diff between buses)	14.3	7.7

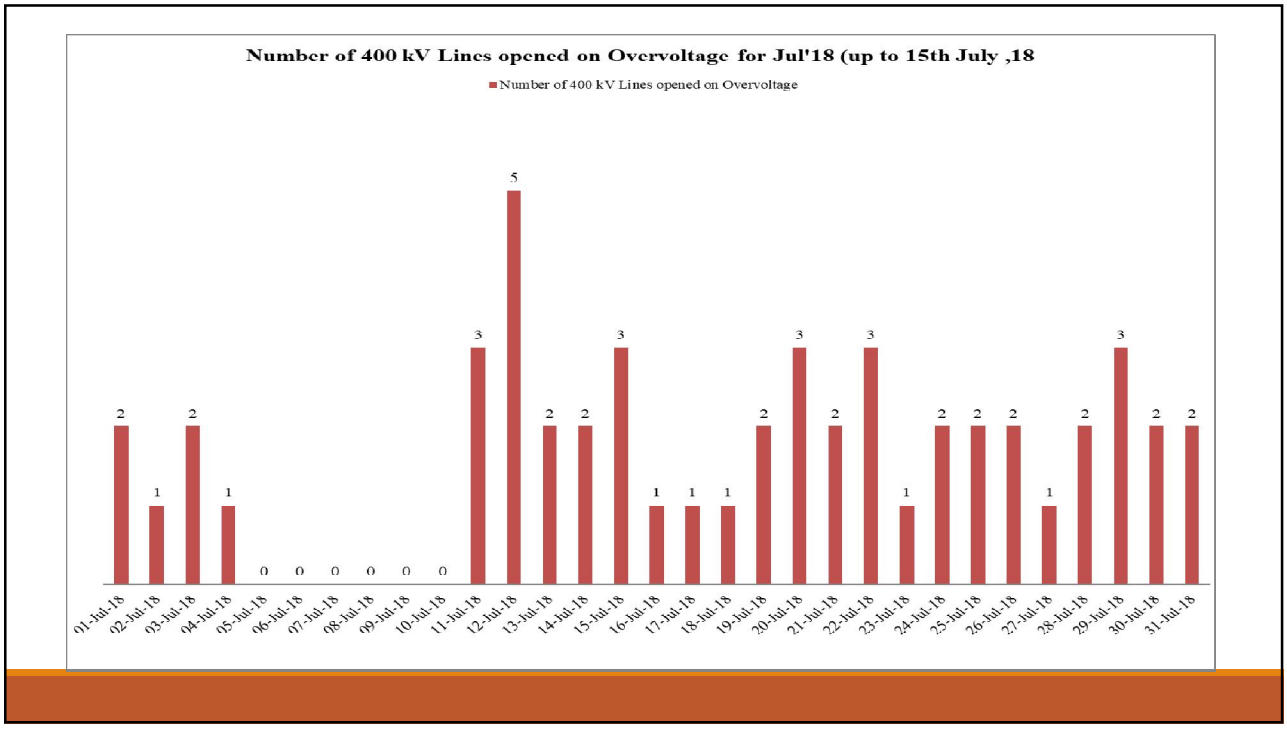
GD & GI Count for Jul'18

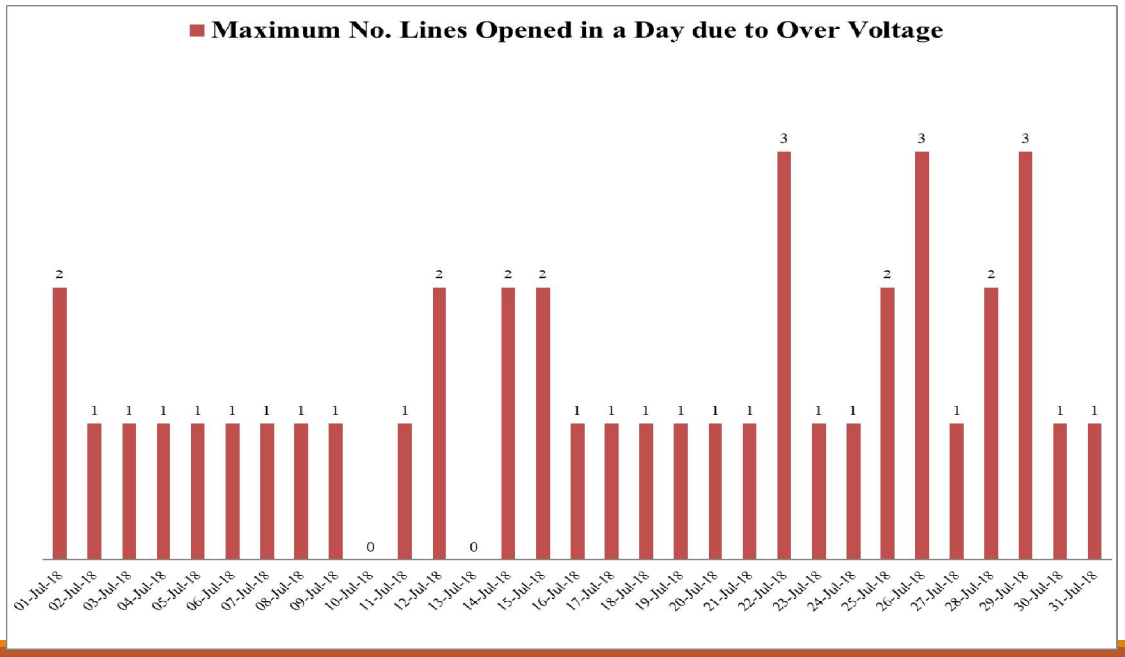
Sl. No.	Category of GD	Total Counts
1	GI 1	6
2	GI 2	8
3	GD 1	19
4	GD 2	0
5	GD 3	0
6	GD 4	0
7	GD 5	0

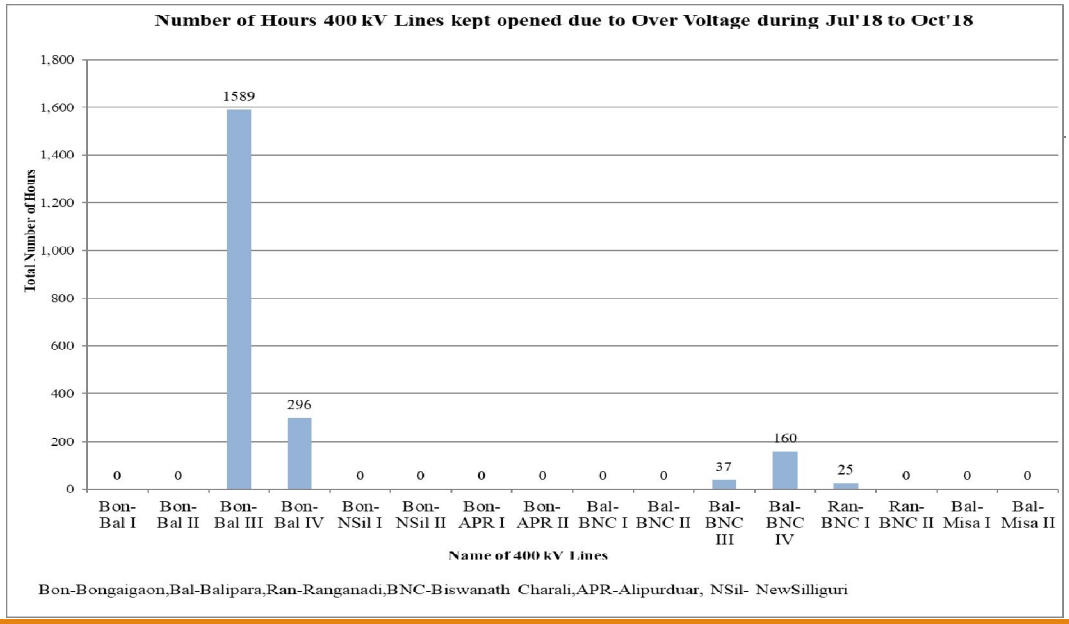
आवृत्ति रूपरेखा
Frequency Profile

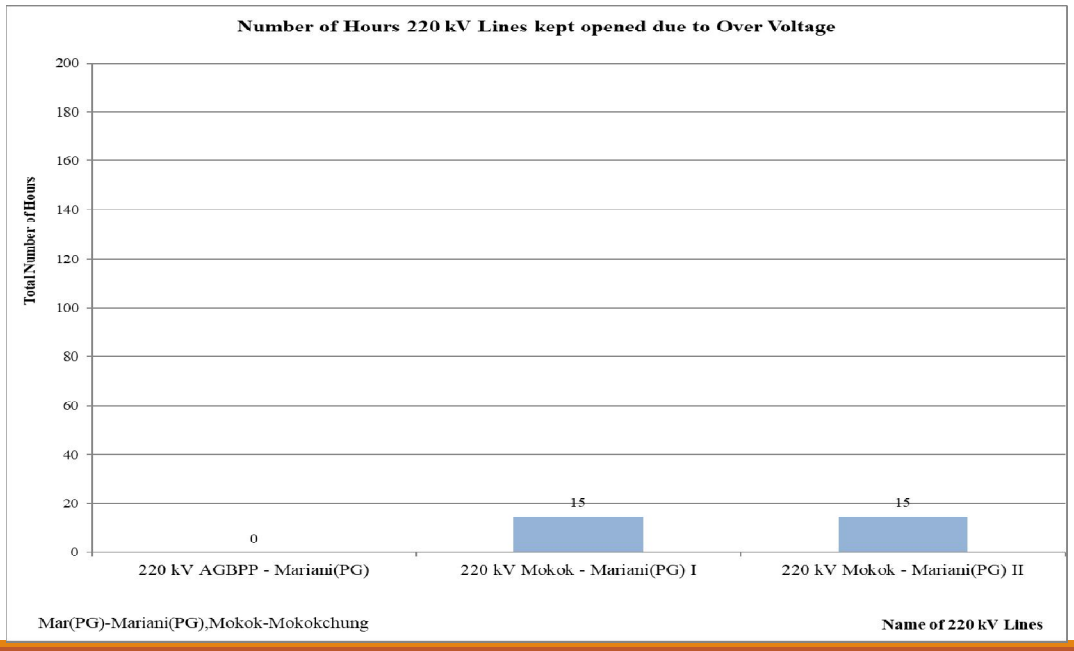



FREQUENCY GRAPH
50.24Hz
49.62Hz
FREQUENCY IN Hz
50.30
50.20
50.10
50.00
49.90
49.80
49.70
49.60
49.50
49.40
49.30
01 July 2018
02 July 2018
03 July 2018
04 July 2018
05 July 2018
06 July 2018
07 July 2018
08 July 2018
09 July 2018
10 July 2018
11 July 2018
12 July 2018
13 July 2018
14 July 2018
15 July 2018
16 July 2018
17 July 2018
18 July 2018
19 July 2018
20 July 2018
21 July 2018
22 July 2018
23 July 2018
24 July 2018
25 July 2018
26 July 2018
27 July 2018
28 July 2018
29 July 2018
30 July 2018
31 July 2018
DATES
Max
Avg
Min


Number of 400 kV Lines opened on Overvoltage for Jul'18 (up to 15th July ,18
Number of 400 kV Lines opened on Overvoltage
2 1 2 1 0 0 0 0 0 0 3 5 2 2 3 1 1 1 2 3 2 3 1 2 2 2 1 2 3 2 2
01-Jul-18
02-Jul-18
03-Jul-18
04-Jul-18
05-Jul-18
06-Jul-18
07-Jul-18
08-Jul-18
09-Jul-18
10-Jul-18
11-Jul-18
12-Jul-18
13-Jul-18
14-Jul-18
15-Jul-18
16-Jul-18
17-Jul-18
18-Jul-18
19-Jul-18
20-Jul-18
21-Jul-18
22-Jul-18
23-Jul-18
24-Jul-18
25-Jul-18
26-Jul-18
27-Jul-18
28-Jul-18
29-Jul-18
30-Jul-18
31-Jul-18


Maximum No. Lines Opened in a Day due to Over Voltage
2 1 1 1 1 1 1 1 1 0 1 2 0 2 2 1 1 1 1 1 1 3 1 1 2 3 1 2 3 1 1
01-Jul-18 02-Jul-18 03-Jul-18 04-Jul-18 05-Jul-18 06-Jul-18 07-Jul-18 08-Jul-18 09-Jul-18 10-Jul-18 11-Jul-18 12-Jul-18 13-Jul-18 14-Jul-18 15-Jul-18 16-Jul-18 17-Jul-18 18-Jul-18 19-Jul-18 20-Jul-18 21-Jul-18 22-Jul-18 23-Jul-18 24-Jul-18 25-Jul-18 26-Jul-18 27-Jul-18 28-Jul-18 29-Jul-18 30-Jul-18 31-Jul-18


Number of Hours 400 kV Lines kept opened due to Over Voltage during Jul'18 to Oct'18
Total Number of Hours
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
0 0 1589 296 0 0 0 0 0 0 37 160 25 0 0 0
Bon-Bal I
Bon-Bal II
Bon-Bal III
Bon-Bal IV
Bon-NSil I
Bon-NSil II
Bon-APR I
Bon-APR II
Bal-BNC I
Bal-BNC II
Bal-BNC III
Bal-BNC IV
Ran-BNC I
Ran-BNC II
Bal-Misa I
Bal-Misa II
Name of 400 kV Lines
Bon-Bongaigaon,Bal-Balipara,Ran-Ranganadi,BNC-Biswanath Charali,APR-Alipurduar, NSil- NewSilliguri



Frequency Response characteristic in NER ISGS

Frequency Response Characteristic in North-Eastern Region

Event	On 30.07.2018 at 20:48 Hrs,400 KV Binaguri-Rangpo-2 tripped due to Y-B phase fault. Then SPS II operated which led to tripping of 400 KV Teesta III-Rangpo and all running units of Teesta-III and Dikchu tripped due to loss of evacuation and one unit in each plant of Tashding , Jorethang , Chujachen tripped due to SPS-I operation as reported . The total generation loss in the event is 1024 MW.
and	30.07.18, 20:48 Hrs

			NER ISGS GENERATION									
Sl No.	Particulars	Dimension	Palatana	AGBPP	AGTPP	Khandong + stg II	Kopili	Doyang	RHEP	Loktak	BgTPP	Pare
	DC of Each Machine	MW	654	204	52	66.5	188	68.2	400	103.95	202	108
1	Actual Net Interchange before the Event (20:48:30)	MW	659.3	197.08	51.61	69.5	189.8	68.9	409.2	105.8	204.4	109.9
2	Actual Net Interchange after the Event (20:49:40)	MW	658.6	197.15	52.64	69.5	190.0	69.0	408.2	105.8	200.4	109.8
6	Frequency before the Event	HZ	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	50.02	50.02
7	Frequency after the Event	HZ	49.85	49.85	49.85	49.85	49.85	49.85	49.85	49.85	49.96	49.96
15	Percentage ideal response (9/14)	%	-3.3%	1.1%	62.4%	2.2%	2.5%	0.9%	-7.6%	0.0%	-80.1%	-5.7%

Frequency Response Characteristic in North-Eastern Region

Event	On 06 Aug 18, at 13:06 hrs, all lines emanating from 400 kV Lonikhand and Chakan tripped at 13:06 hrs. Prior to tripping, MSETCL was attending broken insulator in Chakan Bus coupler. As intimated by Maharashtra SLDC about 1300MW load thrown off in Pune.
Date and Tim	06-08-18 at 13:06 hrs

			NER ISGS GENERATION									
Serial No.	Particulars	Dimension	Palatana	AGBPP	AGTPP	Khandong + stg II	Kopili	Doyang	RHEP	Loktak	BgTPP	PARE
1	DC	MW	653	200	52	67	191	72	0	102	232	55
2	Actual Net Interchange before the Event (13:06:20 Hrs) Unit Wise	MW	195, 115.6, 204.4, 117.5	23.1, 27.9, 11.5, 28, 23.3, 0, 28.6, 26.6, 26.4	0, 18.1, 15.8, 0, 9.3, 8.5	24.6, 0, 25.1	46.1, 49.6, 49.3, 47.3	24.1, 24.1, 24.7	0.00	34.3, 35.1, 35.2	0, 181.57	55.5, 0
3	Actual Net Interchange before the Event (13:06:20 Hrs)	MW	624.70	191.15	52.06	49.73	192.31	72.89	0.00	104.61	181.57	55.50
4	Actual Net Interchange before the Event (13:06:20 Hrs)Unit Wise	MW	192.8, 115.6, 203.4, 117.5	23.1, 27.9, 11.5, 28, 23.3, 0, 28.6, 26.6, 26.4	0, 18.5, 15.6, 0, 8.9, 8.5	25.1, 0, 25.1	46.1, 49.6, 49.3, 47.3	24.1, 24.1, 24.7	0.00	33.3, 35.1, 34.4	0, 181.57	55.50
5	Actual Net Interchange after the	MW	624.10	189.95	51.53	50.00	192.31	72.76	0.00	102.80	181.57	55.50
6	Frequency before the Event	HZ	50.08	50.08	50.08	50.08	50.08	50.08	50.08	50.08	50.08	50.08
7	Frequency after the Event	HZ	50.13	50.13	50.13	50.13	50.13	50.13	50.13	50.13	50.13	50.13
8	Percentage ideal response (9/14)	%	5%	31.4%	50.9%	-27.1%	0.0%	8.9%	0.0%	86.5%	0.0%	0.0%

Details of Shutdown availed and applied on D-3 in the 146th OCCM approved. From 17.07.18 to 07.08.18

Total no. of SD approved	Nos. of SDs availed	Nos. of SDs not availed	Nos. of shutdown not given consent	Nos. of SD availed on D-3 basis	Nos. of SD not availed on D-3 basis
77	51	22	4	55	26

Inordinate delay for shutdowns for the month July - '18

Transmission Licensee	Total Delay (in Hrs)	Avg. Delay (in Hrs)	Max. Delay (in Hrs)
POWERGRID	45.93	01.35	05:27
NETC	03.13	01:36	01:35
ENICL	00:31	00:31	00:31

DATA AVAILABILTY AS ON 02/08/2018 10:00HRS

Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
3702	5164	8760	1613	1935	3608	47.95%	42.09%	44.95%

DATA AVAILABILTY OF STATES AS ON 02/08/2018 10:30HRS

Sl No.	State	Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	Arunachal Pradesh	104	149	147	4	2	6	3.85%	1.34%	2.37%
2	Assam	1230	1739	2969	514	509	1023	41.79%	29.27%	34.45%
3	Manipur	180	255	435	88	139	227	48.88%	54.51%	52.18%
4	Meghalaya	433	450	883	199	95	294	45.96%	21.11%	33.29%
5	Mizoram	71	50	121	9	9	18	12.67%	18%	14.87%
6	Nagaland	237	270	507	0	0	0	0%	0%	0%
7	Tripura	524	715	1239	144	146	290	27.48%	20.42%	23.406%

DATA AVAILABILTY OF CENTRAL SECTOR AS ON 02/08/2018 10:30HRS

Sl No.	State	Total No. of Analog Points	Total No. of Digital Points	Total No. of Points	Analog Points Reporting	Digital Points Reporting	Total No. of Points Reporting	%age Availability of Analog Points	%age Availability of Digital Points	%age Availability
1	PGCIL	628	1082	1710	435	736	1131	69.26%	68.02%	68.47%
2	NEEPCO	202	286	488	140	155	395	69.31%	54.19%	60.45%
3	NTPC	31	49	80	23	49	72	74.19%	100%	90%
4	OTPC	44	90	134	41	81	122	93.18%	90%	91.04%
5	NHPC	18	29	47	16	14	30	88.88%	48.27%	68.83%

Reason for change in quantity of Data Availability

PGCIL:

- Availability of Analog Points are increased due to reporting of 132kV Tezu SS data.
- Digital Points availability decreased due to non- reporting of 220kV Mariani SS digital Status.

NEEPCO: Availability Points decreased due to non-reporting of RHEP.

NHPC : Availability of digital Points decreased due to non-reporting of 2 isolator of Imphal & Ningthougang Line.

Thank You

Details of Special Energy Meters at inlet points of NER States

Main Meters

	Loc. ID	Meter (Make)	Meter No.	CTR	PTR	Place of installation of SEM	Mobile/ Telephone	O BE INSTALLI	
	AR. PRADESH INLET POINTS								
1	AR-05	LnT		300	1200	LEKHI END OF 132kV PARE FEEDER	YES	AP	
2	AR-04	LnT	NP-5306-A	300	1200	GOHPUR END OF 132kV NIRJULI FDR	YES	NO	
3	AR-06	LnT	NP-6878-A	150	1200	ZIRO END OF 132kV RANGANADI FDR	YES	AP	
4	AR-07	SE		400	2000	DEOMALI END OF 132kV KATHALGURI FDR	YES	AP	
5	AR-11	LnT		300	1200	KHUPI END OF 132kV BALIPARA FDR	YES	AP	
6	AR-10	LnT		300	1200	KHUPI END OF 132kV KAMENG FDR	YES	AP	
7	AR-09	LnT	NP-9587-A	1000	1200	CHIMPU END OF 132kV RANGANADI FDR	YES	AP	
8	AR-08	LnT	NP-9586-A	400	1200	CHIMPU END OF 132kV PARE FDR	YES	AP	7
	ASSAM INLET POINTS								
1	AS-03	LnT	NP-6888-A	800	2000	MARIANI END OF 220kV KATHALGURI FDR	YES	ASSAM	
2	AS-04	LnT	NP-6886-A	800	2000	MARIANI END OF 220kV MISA FDR	YES	ASSAM	
3	AR-04	LnT	NP-5306-A	300	1200	NIRJULI END OF 132kV GOHPUR FDR	YES	ASSAM	
4	AS-06	LnT	NP-7595-A	400	1200	PANCHGRAM END OF 132kV LUMSHNONG FDR	YES	ASSAM	
5	AS-01	LnT	NP-8490-A	400	1200	KAHELIPARA END OF 132kV UMTRU FDR- 1	YES	ASSAM	
6	AS-02	LnT	NP-8488-A	400	1200	KAHELIPARA END OF 132kV UMTRU FDR- 2	YES	ASSAM	
7	AS-09	LnT	NP-8489-A	400	1200	SARUSAJAI END OF 132kV UMTRU FDR- 1	YES	ASSAM	
8	AS-50	LnT	NP-8492-A	400	1200	SARUSAJAI END OF 132kV UMTRU FDR- 2	YES	ASSAM	
9	AS-07	LnT	NP-6872-A	600	1200	PANCHGRAM(ASEB) END OF132kV BDP (PG) FDR	YES	ASSAM	
10	TR-06	LnT	NP-6892-B	80	1200	D'NGAR END OF 132kVR D' CHERRA FDR	YES	NO	
11	AS-11	LnT	NP-8494-A	50	1200	HAFLONG CONSUMPTION	YES	ASSAM	
12	AS-17	LnT	NP-5797-A	500	2000	SAMAGURI END OF 220kV MISA FDR-1	YES	ASSAM	
13	AS-18	LnT	NP-5796-A	500	2000	SAMAGURI END OF 220kV MISA FDR-2	YES	ASSAM	
14	AS-15	LnT	NP-9070-A	800	2000	BTPS END OF 220kV SALAKATI FDR- 1	YES	ASSAM	
15	AS-16	LnT	NP-8476-A	800	2000	BTPS END OF 220kV SALAKATI FDR- 2	YES	ASSAM	
16	AS-19	LnT	NP-5795-A	400	2000	SONABIL END OF BALIPARA FDR -1	YES	ASSAM	
17	AS-47	LnT	NP-6893-B	40	300	MARIANI END OF 33kV CHANKI FDR	YES	ASSAM	
18	**AS-56**	**LnT**	**NP-6149-A**	**400**	**1200**	**BALIPARA END OF 132kV DEPOTA FDR**	YES	ASSAM	
19	AS-59	LnT	NP-6147-A	400	1200	SONABIL END OF 132kV BALIPARA FDR	YES	ASSAM	
20	AS-73	LnT	NP-8368-A	300	1200	RANGIA END OF MOTONGA(DEOTHANG) FDR	YES	ASSAM	
21	AS-77	ELSTER	NP-8562-A	300	1200	SRIKONA END OF 132kV SILCHAR FDR -1	YES	ASSAM	
22	AS-78	ELSTER	NP-8668-A	300	1200	SRIKONA END OF 132kV SILCHAR FDR -2	YES	ASSAM	
23	AS-79	LNT	NP-5301-A	300	1200	HAILAKANDI END OF 132kV SILCHAR FDR -1	YES	ASSAM	
24	AS-80	LNT	NP-7596-A	300	1200	HAILAKANDI END OF 132kV SILCHAR FDR -2	YES	ASSAM	
25	AS-86	LnT	NP-8484-A	400	1200	AGIA END OF 132kV MENDIPATHAR FDR	YES	ASSAM	
26	AS-93	LNT	NP-9457-A	1000	3636.36	AZARA END OF 400kV SILCHAR FDR	YES	ASSAM	
27	AS-53	LnT	NP-8353-A	800	2000	TINSUKIA END OF 22OkV KATHALGURI FDR -1	YES	ASSAM	
28	AS-74	LnT	NP-8386-A	800	2000	TINSUKIA END OF 22OkV KATHALGURI FDR -2	YES	ASSAM	
29	AS-10	LnT	NP-8498-A	400	1200	PAILAPOOL END OF JIRIBAM FDR	YES	ASSAM	
30	AS-63	LnT	NP-7587-A	400	1200	BOKAJAN END OF 132kV DIMAPUR FDR	YES	ASSAM	
31	AM-01	LNT	NP-9456-A	1000	3636.36	AZARA END OF 400kV BONGAIGAON FDR	YES	ASSAM	
32	AM-04	LnT	NP-5290-A	400	1200	UMRANGSOO END OF 132kV KHANDONG FDR	YES	ASSAM	
33	AM-05	LnT	NP-5295-A	400	1200	UMRANGSOO END OF 132kV HAFLONG FDR	YES	ASSAM	
34	AM-12	ELSTER	NP-4505-A	300	1200	PAVOI END OF 132 KV BNC -1	YES	ASSAM	
35	AM-13	LnT	NP-8801-A	300	1200	PAVOI END OF 132 KV BNC -2	YES	ASSAM	
36	AM-28	LnT	NP-5318-A	800	2000	BTPS END 220 KV NTPC FEEDER -1	YES	ASSAM	35

Details of Special Energy Meters at inlet points of NER States

	MANIPUR INLET POINTS								
1	MN-02	LnT	NP-8375 -A	600	1200	NINGTHOUKHONG END OF LOKTAK FDR	YES	MANIPUR	
2	MN-03	LnT	NP-6949-A	400	1200	KARONG END OF KOHIMA	NO	MANIPUR	
3	MN-04	LnT	NP-8501-A	50	1200	JIRIBAM 132/33kV TRF (MANIPUR CONSUMPTION)	YES	MANIPUR	
4	MN-01	LnT	NP-6950-A	400	1200	YUREMBAM END OF 132kV OF IMPHAL(PG) -I FDR	YES	MANIPUR	
5	MN-17	LnT	NP-9521-A	400	1200	NINGTHOUKONG(MN) END OF 132kV IMPHAL(PG) FD	YES	MANIPUR	
6	MN-11	LnT	NP-6909-A	400	1200	RENGPANG END OF LOKTAK FDR	YES	MANIPUR	
7	MN-19	LnT	NP-8645-A	300	1200	JIRIBAM(MN) END OF 132kV OF JIRIBAM(PG) FDR	YES	MANIPUR	
8	MN-13	LnT	NP-9520-A	300	1200	IMPHAL(PG) END ICT- 1	YES	MANIPUR	
9	MN-14	LnT	NP-9522-A	300	1200	IMPHAL(PG) END ICT- 2	YES	MANIPUR	
10	ZZ-01	LnT	NP-8374-A	300	1200	YUREMBAM END OF 132kV OF IMPHAL(PG) -II FDR	YES	MANIPUR	10
	MEGHALAYA INLET POINTS								
1	AS-06	LnT	NP-7595-A	400	1200	PANCHGRAM END OF 132kV LUMSHNONG FDR	YES	NO	
2	AS-01	LnT	NP-8490-A	400	1200	KAHELIPARA END OF 132kV UMTRU FDR- 1	YES	NO	
3	AS-02	LnT	NP-8488-A	400	1200	KAHELIPARA END OF 132kV UMTRU FDR- 2	YES	NO	
4	AS-09	LnT	NP-8489-A	400	1200	SARUSAJAI END OF 132kV UMTRU FDR- 1	YES	NO	
5	ME-02	LnT	NP-6865-A	600	1200	KHLRT(MeSEB) END OF 132kV KHLRT (PG) FDR- 1	YES	MEGHALAYA	
6	AS-50	LnT	NP-8492-A	400	1200	SARUSAJAI END OF 132kV UMTRU FDR- 2	YES	NO	
7	ME-08	LnT	NP-6866-A	400	1200	KHLRT(MeSEB) END OF 132kV KHLRT (PG) FDR- 2	YES	MEGHALAYA	
8	ME-12	LnT	NP-6856-A	800	2000	BYRNIHAT END OF 220kV MISA(PG) FDR- 1	YES	MEGHALAYA	
9	ME-13	LnT	NP-5302-A	800	2000	BYRNIHAT END OF 220kV MISA(PG) FDR- 2	YES	MEGHALAYA	
10	ME-15	LnT	NP-8371-A	1000	3636.36	BYRNIHAT(KILLING) END OF 400kV B'GAON FDR	YES	MEGHALAYA	
11	ME-14	LnT	NP-8370-A	1000	3636.36	BYRNIHAT(KILLING) END OF 400kV SILCHAR FDR	YES	MEGHALAYA	
12	AS-86	LnT	NP-8484-A	400	1200	AGIA END OF 132kV MENDIPATHAR FDR	YES	NO	6
	MIZORAM INLET POINTS								
1	MZ-19	LnT		300	1200	LUANGMUAL END OF 132kV AIZAWL(PG) FDR	YES	MIZORAM	
2	MZ-11	LnT	NP-8497-A	300	1200	KOLASIB END OF 132kV BADARPUR(PG) FDR	YES	MIZORAM	
3	MZ-12	LnT	NP-8496-A	600	1200	KOLASIB END OF 132kV AIZAWL(PG) FDR	YES	MIZORAM	
4	MZ-20	LnT		300	1200	ZUANGTUI END OF 132kV MELRIAT(PG) FDR	YES	MIZORAM	
5	MZ-17	LnT	NP-9493-A	300	1200	SHIMUI END OF MELRIAT(PG) I FDR	YES	MIZORAM	
6	MZ-18	LnT	NP-9496-A	300	1200	SHIMUI END OF MELRIAT(PG) II FDR	YES	MIZORAM	6
	NAGALAND INLET POINTS								
1	NG-11	LnT	NP-5777-A	1200	1200	DIMAPUR (S) END OF 132kV DIMAPUR (PG) FDR -1	YES	NAGALAND	
2	MN-03	LnT	NP-6949-A	400	1200	KARONG END OF KOHIMA	NO	NO	
3	NG-22	LnT	NP-6148-A	300	1200	SANIS END OF 132kV DHEP FDR	NO	NAGALAND	
4	NG-05	SE	NP-4208-A	300	1200	MOKOKCHUNG END OF 132kV DHEP FDR	NO	NAGALAND	
5	NG-19	LnT	NP-8479-A	400	1200	KOHIMA(S) END OF 132kV DIMAPUR(PG) FDR	YES	NAGALAND	
6	NG-18	LnT	NP-8478-A	1200	1200	DIMAPUR (S) END OF 132kV DIMAPUR (PG) FDR -2	YES	NAGALAND	
7	NG-20	ELSTER	NP-4517-A	300	1200	MOKOK(S) END OF MOKOK-MOKOK-1	YES	NAGALAND	
8	NG-21	ELSTER	NP-4511-A	300	1200	MOKOK(S) END OF MOKOK-MOKOK-2	YES	NAGALAND	
9	AS-47	LnT	NP-6893-B	40	300	MARIANI END OF 33kV CHANKI FDR	YES	NO	7
	TRIPURA INLET POINTS								
1	TR-01	LnT	NP-6850-A	800	1200	AGARTALA END OF 132kV AGTPP FDR- 1	YES	TRIPURA	
2	TR-02	LnT	NP-6851-A	800	1200	AGARTALA END OF 132kV AGTPP FDR- 2	YES	TRIPURA	
3	TR-03	LnT	NP-6875-A	600	1200	P.K.BARI END OF 132kV KUMARGHAT(PG) FDR	YES	TRIPURA	
4	TR-06	LnT	NP-6892-B	400	1200	D'NGAR END OF 132kV D' CHERRA FDR	YES	TRIPURA	
5	TR-14	LnT	NP-8470-A	400	1200	UDAIPUR END OF 132kV OF PALATANA LINE 1	YES	TRIPURA	
6	TR-13	LnT	NP-8471-A	1000	1200	SM NAGAR END OF 132 kV PALATANA	YES	TRIPURA	
7	TR-15	ELSTER	NP-4501-A	300	1200	PK'BARI END 132 KV OF SILCHAR -1	YES	TRIPURA	
8	TR-16	ELSTER	NP-8564-A	300	1200	PK'BARI END 132 KV OF SILCHAR -2	YES	TRIPURA	8
							TOTAL		**79**

NEW ELEMENTS		
ENTITY	**LOCATION**	**Place of installation of SEM**
AR. PRADESH	BNC(PG)	ITANAGAR END BNC OF FDR
AR. PRADESH	ITANAGAR(S)	ITANAGAR END OF GOHPUR FDR
AR. PRADESH	BNC(PG)	GOHPUR END OF BNC FDR
AR. PRADESH	PARE(NEEPCO)	NORTH LAKHIMPUR END OF PARE FDR
ASSAM	SONAPUR(S)	SONAPUR END OF BYRNIHAT FDR
ASSAM	SONAPUR(S)	SONAPUR END OF SILCHAR FDR
ASSAM	MARIANI(PG)	MARIANI (AS) END OF MARIANI (PG) I FDR
ASSAM	MARIANI(PG)	MARIANI (AS) END OF MARIANI (PG) II FDR
ASSAM	MARIANI(PG)	KHUMTAI END OF MARIANI(PG) I FDR
ASSAM	MARIANI(PG)	KHUMTAI END OF MARIANI(PG) II FDR
ASSAM	MISA(PG)	SANKARDEVNAGAR END OF MISA I FDR
ASSAM	MISA(PG)	SANKARDEVNAGAR END OF MISA II FDR
ASSAM	NTPC	BTPS END OF 220 KV NTPC FEEDER II
ASSAM	RANGIA (TBCB)	RANGIA (AS) END OF RANGIA (TBCB) I FDR
ASSAM	RANGIA (TBCB)	RANGIA (AS) END OF RANGIA (TBCB) II FDR
ASSAM	RANGIA (TBCB)	AMINGAON (AS) END OF RANGIA (TBCB) I FDR
ASSAM	RANGIA (TBCB)	AMINGAON (AS) END OF RANGIA (TBCB) II FDR
ASSAM	RANGIA (TBCB)	ROWTA (AS) END OF RANGIA (TBCB) I FDR
ASSAM	RANGIA (TBCB)	ROWTA (AS) END OF RANGIA (TBCB) II FDR
MIZORAM	AIZAWL(PG)	TIPAIMUKH END OF AIZAWL FDR
MANIPUR	JIRIBAM(PG)	TIPAIMUKH END OFJIRIBAM FDR
MANIPUR	THOUBAL(S)	THOUBAL END OF SILCHAR FDR
MANIPUR	THOUBAL(S)	THOUBAL END OF IMPHAL FDR
MANIPUR	LOKTAK(NHPC)	NINGTHOUKONG END OF LOKTAK FDR II
MANIPUR	LOKTAK(NHPC)	RENGPANG END OF LOKTAK FDR II
MANIPUR	IMPHAL (PG)	YUREMBAM END OF IMPHAL(PG) III FDR
MANIPUR	IMPHAL (PG)	YUREMBAM(S) END OF IMPHAL (PG) IV FDR
TRIPURA	PKBARI(TBCB)	PKBARI (TSECL) END OF PKBARI (TBCB) I FDR
TRIPURA	PKBARI(TBCB)	PKBARI (TSECL) END OF PKBARI (TBCB) II FDR
TRIPURA	AGTCCPP (NEEPCO)	PKBARI (TSECL) END OF AGTCCPP I FDR
TRIPURA	AGTCCPP (NEEPCO)	PKBARI (TSECL) END OF AGTCCPP II FDR
TRIPURA	SURAJMANINAGAR (TBCB)	SURAJMANINAGAR (TSECL) END OF SURAJMANINAGAR (TBCB) I FDR
TRIPURA	SURAJMANINAGAR (TBCB)	SURAJMANINAGAR (TSECL) END OF SURAJMANINAGAR (TBCB) II FDR
NAGALAND	NEW KOHIMA (TBCB)	KOHIMA (NG) END NEW KOHIMA(TBCB) I FDR
NAGALAND	NEW KOHIMA (TBCB)	KOHIMA (NG) END NEW KOHIMA (TBCB) II FDR

35

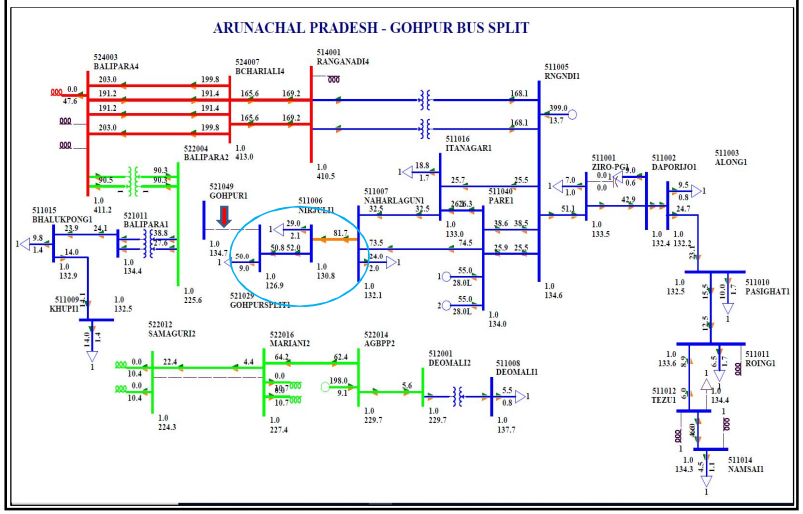
NOTE:

1. All meters have RS-485 ports.
2. Propriety protocol to be shared by Meter manufacturer after signing of tripartite agreement & NDA.
3. Meter supports 15 minute time block data.
4. Actual drawal of each State to be computed by sum of all Meter readings.
5. Schedule file is available in excel format.To be migrated to Oracle database in next 6 months time.

Study Results of Gohpur Bus in Split & Loop Mode

As per discussions at 146th OCCM

Figure 1: Case with Gohpur in Split Mode



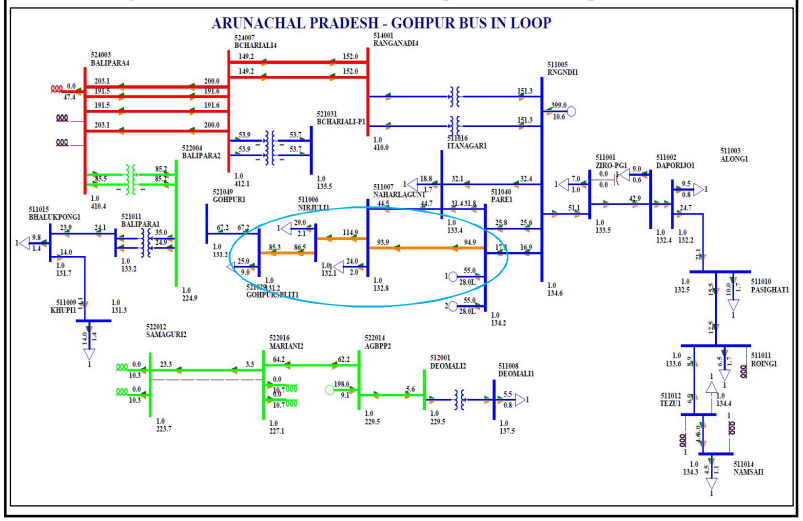
Case i: Open Loop Operation at Gohpur

- The maximum allowable flow to Gohpur via 132 kV Nirjuli – Gohpur S/C is limited by **132 kV Lekhi – Nirjuli S/C (79 MW)**
- The allowable flow through 132 kV Nirjuli – Gohpur S/C is about **(79 - 29) MW = 50 MW** considering the load of Nirjuli Substation of **29 MW** (as given by Arunachal Pradesh for TTC Studies)

Case ii: Closed Loop Operation at Gohpur.

- The maximum allowable flow to Gohpur via 132 kV Nirjuli – Gohpur S/C is limited by **132 kV Lekhi – Nirjuli S/C (79 MW)**
- In Open Loop Operation at Gohpur, about **55 MW** flows from Pavoi to Gohpur but after closing the loop at Gohpur, the value decreases to **28 MW**
- Also about **55 MW** flows from 132 kV Nirjuli to Gohpur and **115 MW** from 132 kV Lekhi to Nirjuli
- Trying to bring the flow from Nirjuli to Gohpur **(from 85 MW to 50 MW)** demands high reduction in the loads of Gohpur Area and Sonabil Areas and also causes underutilization of the **132 kV Biswanath Chariali – Pavoi corridor**

Figure 2: Case with Gohpur in Loop Mode



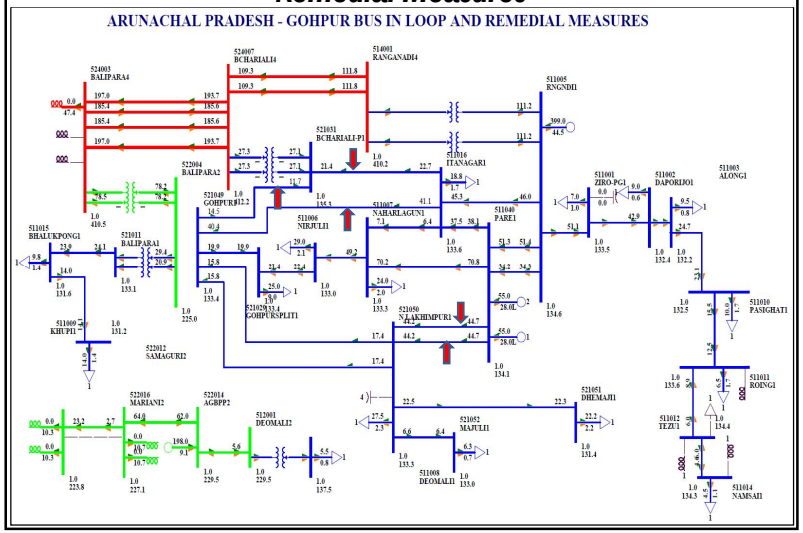
Remedial Measures

- Commissioning of these elements will facilitate closed loop operation of Gohpur Bus:
  - ***132 kV Biswanath Chariali – Itanagar line,***
  - ***132 kV Biswanath Chariali – Gohpur - Itanagar lines &***
  - ***132 kV Pare – North Lakhimpur D/C***

Results:

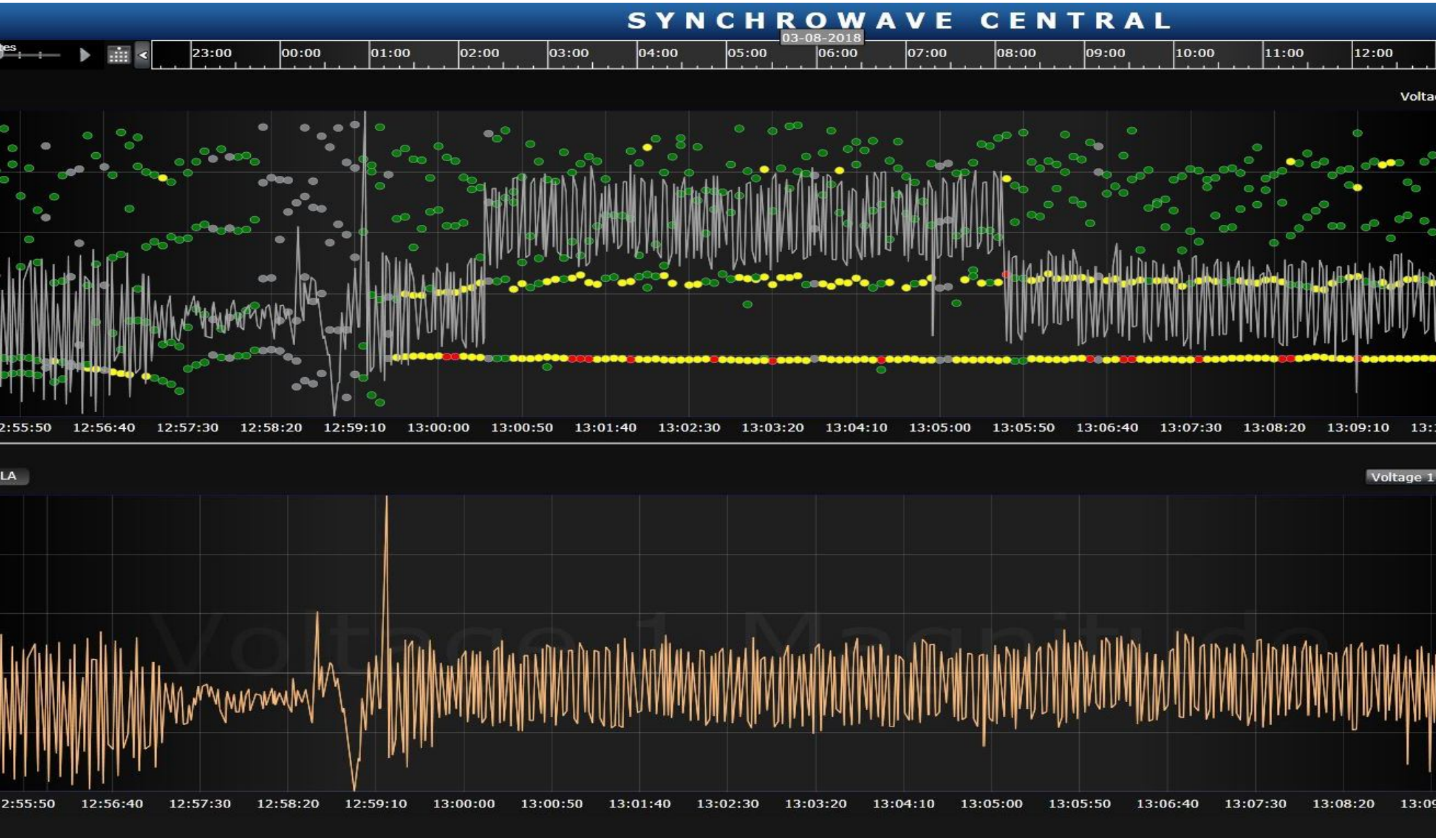
- It is desired to keep Gohpur Bus in **Split mode** in order
  - to prevent over loading of ***132 kV Lekhi – Nirjuli S/C*** and
  - to prevent underutilization of ***132 kV Biswanath Chariali – Pavoi*** Corridor.

Figure 3: Case with Gohpur in Loop Mode with Remedial Measures

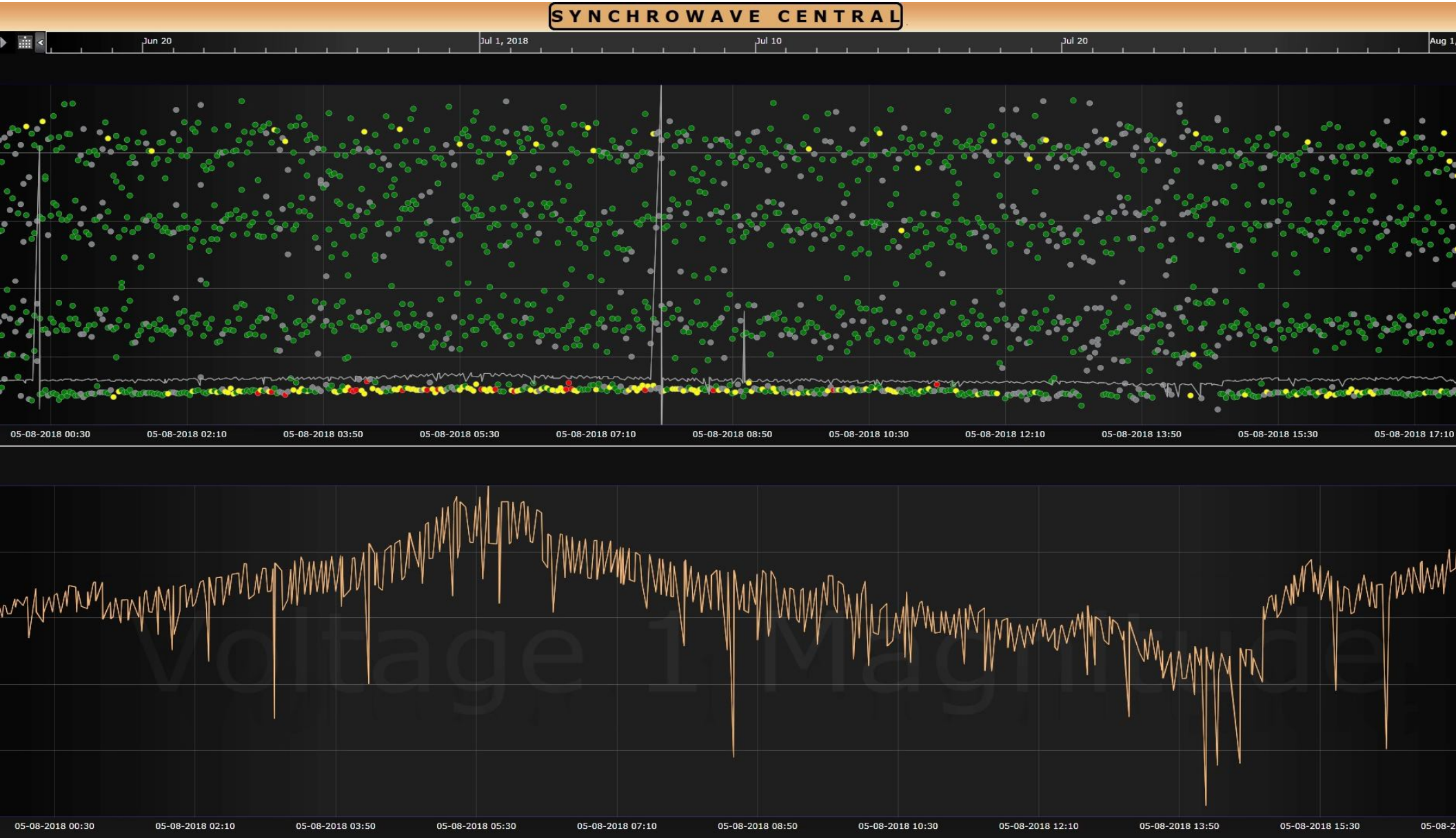


THANK YOU

LFO in Agartala PMU



LFO in Agartala PMU



LFO in Bongaigaon PMU

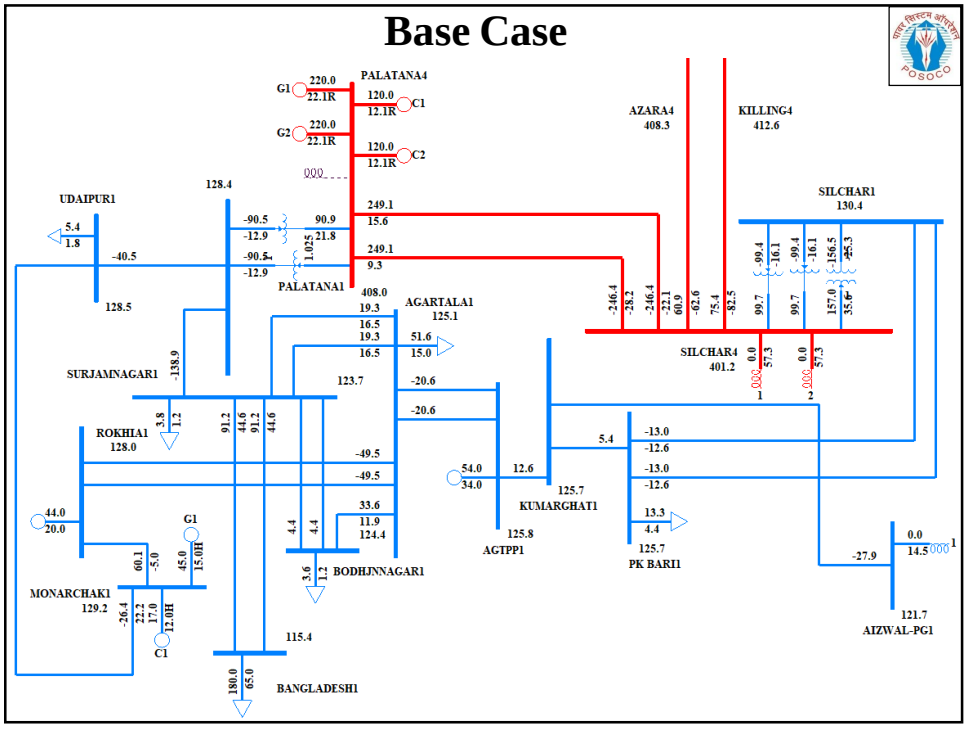
System Study for Proposed Shutdown of Palatana Generation from 23.08.18 to 09.09.18

Presentation for 147th OCCM

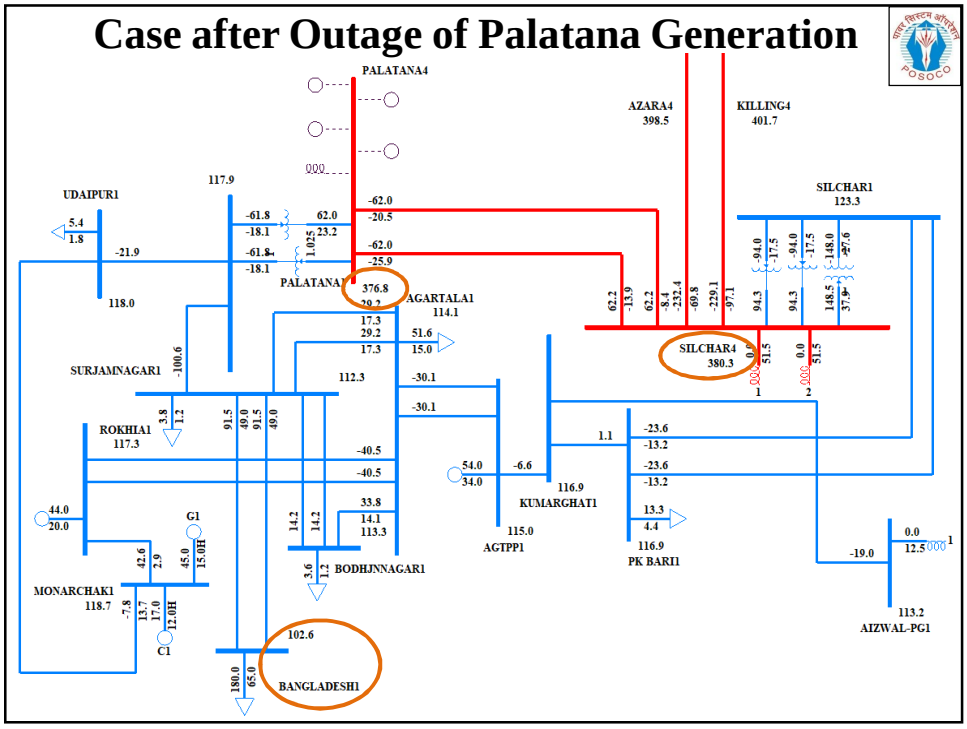
Load- Generation in Base Case

	Demand Met	Generation
Tripura without Bangladesh	200 MW	133 MW
Bangladesh	**180 MW, 65 MVAR**	-
Mizoram	98 MW	32 MW
Manipur	173 MW	-
South Assam	214 MW	-

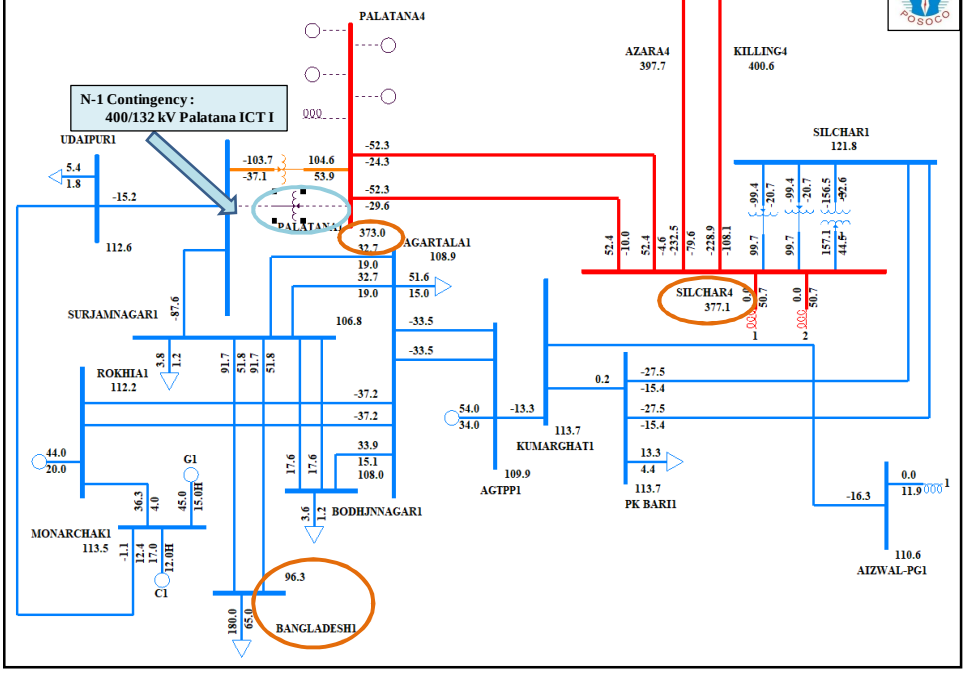
Base Case



Case after Outage of Palatana Generation



Case after Outage of Palatana Generation with N-1



Observations

- The shutdown of Palatana Generation causes ***loss of reactive power support*** from Palatana Generating Plant.
- This ***leads to voltage decrease*** in Palatana Bus **(373 kV),** Silchar Bus **(377 kV)** and in 132 kV power systems of Tripura, Bangladesh, Mizoram, Manipur and South Assam Power Systems.
- After considering ***N-1 contingency*** of 400/132 kV ***Palatana ICT I***, it is observed that ***voltage is further deteriorated*** in the mentioned regions. Voltage is seen to deteriorate to as low as ***96 kV in Surjamaninagar Bus.***

Remedial Measures

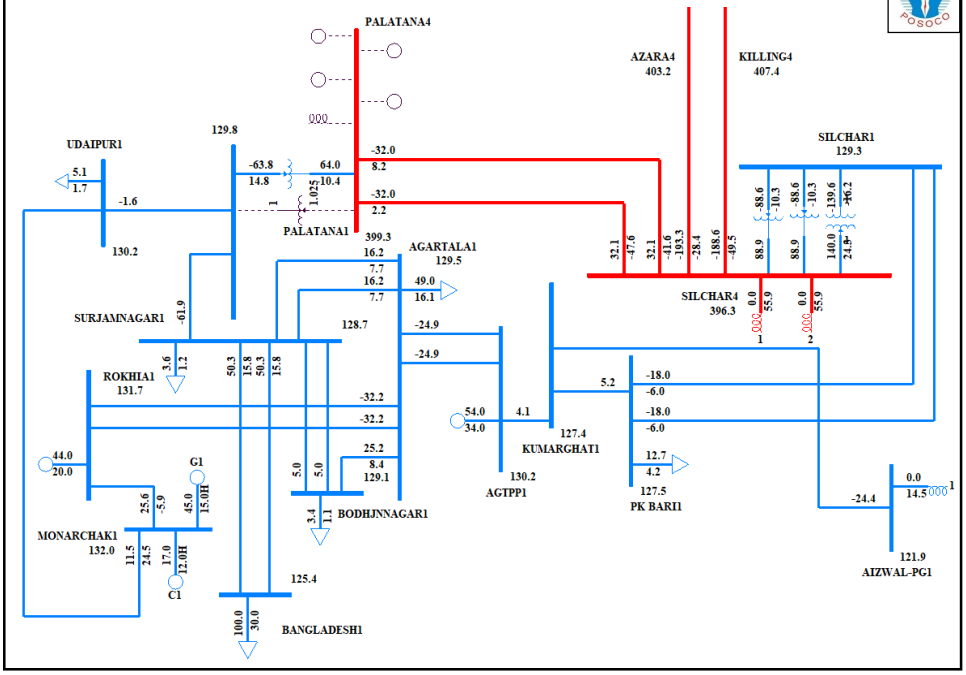
The load – generation of the following power systems to be maintained as under for maintaining the voltage profile of Tripura Power System:

	Demand Met	Generation
Tripura without Bangladesh	**190 MW**	**133 MW**
Bangladesh	**100 MW, 30 MVAR**	-

In addition To This: The nearby generators have to ***maintain high generation*** and ***shutdown of any element in the affected power systems is to be avoided***.

Other Remedial Measures:
Installation of Capacitor Banks by Tripura to be done at the earliest in order to relieve the low voltage situation at Tripura and nearby power systems.
Discussion of the issue of high MVAR drawal by Bangladesh.

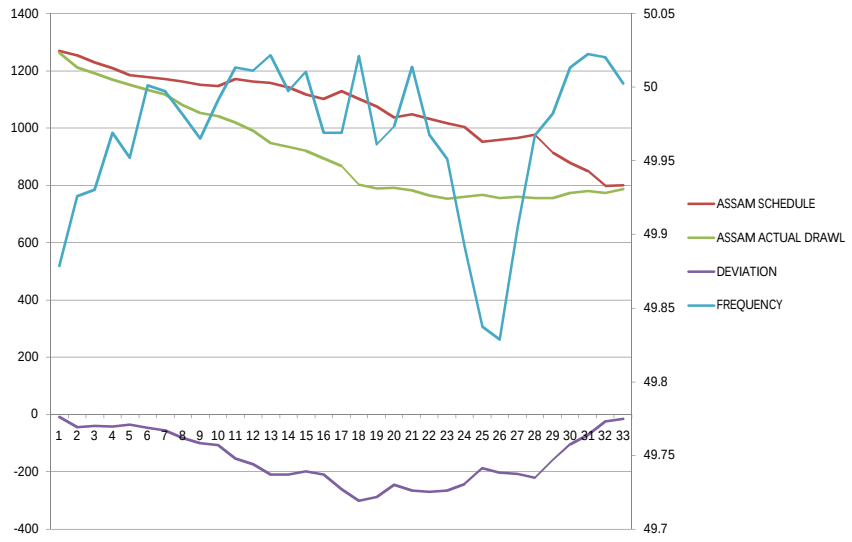
Case with Remedial Measures



Thank You

COMMERCIAL IMPLICATION OF ASSAM DUE TO NON SUBMISSION OF UNDER REQUISITION FROM BGTPP ON 08.08.2018

GRAPHICAL REPRESENTATION OF ASSAM POWER POSITION



On dated 08.08.2018 from 00:00 Hrs to 08:00 Hrs financial loss of Assam is summarised as below.

- Considering FULL schedule of Assam from BgTPP, Energy Charges payable by Assam is around 56 Lakhs .
- In case of under requisition given from BgTPP with 2 machines running at Technical Minimum , Energy Charges might be payable by Assam around 34 Lakhs .
- Commercial benefit of Assam would had been around 21 Lakhs

Thank you