



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

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No. NERPC/SE (O)/OCC/2018/4528-4565

Dated: October 31, 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, Dongtiah-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, Dongtiah, 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 149th OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 149th OCC Meeting held at Guwahati on the **11th October, 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 149th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 11/10/2018 (Thursday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 149th OCC Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 149th OCC meeting. He expressed satisfaction about large number of participation and hoped that the members would continue to contribute to the proceedings in a constructive manner. He informed that due to unforeseen circumstances the OCC meeting in Agartala could not be held as scheduled. Further, he intimated that the TCC & RPC meetings at Imphal have been postponed due to unavoidable circumstances and deeply regretted. Regarding PDMS, he informed that tender evaluation has been completed in all respects and expressed sincere thanks to NERLDC, NERTS and MePTCL for their efforts & stated that the LOA would be issued very soon. With respect to SAMAST, he thanked all the various SAMAST group members for finalising the tender and hoped that it would be published after approval of TCC/RPC. He also suggested that agendas might be regrouped viz. for discussion, for information, for bilateral etc. so that fruitful discussion could take place.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, Director (O&P) to take up the agenda for discussion. Director (O&P), NERPC requested all the member utilities of NERPC to ensure maximum participation from their respective organizations so that all the issues may be fruitfully resolved with the collective wisdom. He apprised the members that various government funded projects for eg. SAUBHAGYA, NERPSIP etc. are under close supervision and monitoring their progress is to be done at OCC level if necessary for the benefit of the region.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 148th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 148th meeting of Operation Sub-committee held on 14th September, 2018 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 28th September, 2018.

The Sub-committee confirmed the minutes of 148th OCCM of NERPC as no comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 149th OCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	10% fund requisition by Oct'18. Tender by Oct'18	Revised DPR submitted	-	DPR submitted for Techno-Economic Appraisal.
Nagaland	Pack-A: Completed Pack-B: Dec'18 Pack-C: Dec'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. 2nd installment of funds received. Quantity variation submitted 20.09.18. Erection complete by Dec'18.	Revised DPR submitted	Appraisal Committee is yet to approve	DPR submitted for Techno-Economic Appraisal
Manipur	LOAs issued. Completion by Oct'18.	Revised DPR submitted	Submitted to NERPC for Study before sending to NPC/NLDC.	DPR submitted for Techno-Economic Appraisal
Tripura	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 Sep'18.	Revised DPR submitted	-	DPR submitted for Techno-Economic Appraisal

Meghalaya	MePTCL Balance items LOA by Oct'18 MePGCL – Erection complete by Mar'19	Revised DPR submitted. Query referred to DISCOM	-	DPR submitted for Techno- Economic Appraisal
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Deliberation of the sub-Committee:

Director (O&P), NERPC informed that the following:-

- The delay in fund disbursement would be taken up especially with NLDC/NPC.
- For ADMS, NLDC & NPC after due evaluation has included some modifications and the same would be put up in Appraisal Committee for approval.
- Regarding Capacitor bank installation Manipur and Mizoram are on the verge of finalizing DPR while Nagaland and Tripura have to send the DPR to NERLDC/NERPC for verification purpose.

Sr. Manager, TSECL informed that capacitor bank study is being done by TSECL upto selected 33kV S/S and DPR once complete would be submitted.

DGM(AM), NERTS informed the forum that recently for R&U works at 132kV Srikona sub-station, the Line Differential Relay at Srikona for 132kV Silchar-Srikona was dismantled without prior intimation to NERTS. Presently LDP is not in service for the said line. After detailed deliberation, it was decided that for erection/commissioning works in the premises of any utility if the bay or bay equipments or equipments of any other utility/third party is to be dismantled/modified/upgraded/removed or any other works, the third party is to be informed and integration may be done after mutual discussion. Director (O&P), NERPC requested all the utilities executing various works especially R&U works to keep updated affected utilities viz. NERTS etc. about the various status of works.

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 149th OCC
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	7 th SCM MoM to be revised. MePTCL may initiate preparation of bid documents etc for the tendering process.

Repairing of R-ph bushing of 63MVAR L/R at Balipara for 400kV Balipara-Bongaigaon -II (out since 17.02.18)	NERTS	By Oct'18
Outage of 420kV 80MVAR L/R for 400kV Bongaigaon-NSLG-I at Bongaigaon - (out since 04.07.18)	NERTS	By Jan'19(Regional Spare will be utilized for restoration)
132kV Dimapur - Imphal (out since 25.07.18)	NERTS	Expected restoration by Oct'18**
63 MVAR B/R-4 at 400kV Biswanath-Chariali(out since 27.04.18)	NERTS	Internal failure. By Nov'18
132 kV, 20MVAR Bus Reactor at Roing out of service since 08:00 Hrs of 16.08.18 (Shutdown approved till 1600 Hrs of 31st August'18)	NERTS	By 15/11/2018
220/132kV, 50MVA ICT 1 at 400kV Balipara S/S out of service since 09:52 Hrs of 04.08.18 (Shutdown approved till 1600 Hrs of 21st August'18)	NERTS	Replaced by 160MVA ICT. To be deleted
63 MVAR Line Reactor of 400 kV Bongaigaon – Balipara IV at Balipara S/S out of service since 10:58 Hrs of 06.08.18 (Shutdown approved till 1600 Hrs of 15th August'18)	NERTS	Restored.

** DGM(AM), NERTS informed that dismantling of 35 towers for 4 laning of NH Dimapur-Imphal is to be done. Meanwhile MSPCL has not agreed for the shutdown or dismantling of 132kV Dimapur - Imphal due to loss of Imphal connectivity. Further NERTS has completed the foundation works and only one tower erection remains to be done before Oct'18. Meanwhile it is being monitored by the highest levels of the government of Nagaland that diversion works are to be done at the earliest for 132kV Dimapur - Imphal.

After detailed deliberation the forum decided that a Special meeting would convened by NERPC on 25.10.2018 at Guwahati with members from NHIDCL, Manipur, Nagaland, NERLDC and NERPC to resolve the issue. Till then Status Quo has to be maintained and NERTS shall maintain the same pace of restoration works. It was also decided to invite NHPC for the said meeting.

The Sub-Committee noted as above.

Action: All concerned utilities & NERPC.

3. Furnishing of various data for reliable grid operation:

Data regarding	Status as of 149th OCC	
DAS output for FRC calculation	No related event occurrence. DAS data not required.	
Operating Procedures	Items	Data submitted by
	OP of States	Submitted by AEGCL, MePTCL, TSECL, DoP Nagaland and P&E, Mizoram
	OP of Transmission System	Not submitted by any constituents
	OP of Generating Stations	Submitted by Doyang, Khandong and Kopili
	OP of GIS	NERTS to submit
	Agenda may be dropped for the time being. Review of the same will be taken up on quarterly basis.	
Data related to Power Map.	Items	Data submitted by
	Communication (PLCC/OPGW/GPRS/SAT/Satellite)	NERTS, Meghalaya, Assam & Mizoram provided the data.
	Agenda may be dropped for the time being. Review of the same will be taken up on quarterly basis.	
Patrolling report(s) for T/L**.	Patrolling report and vegetation clearance self-certification to be immediately submitted for 132kV Balipara-Khupi, 132kV Dimapur-Kohima & 132kV Aizawl - Kumarghat	
Submission of Capability Curve	It was decided that NERLDC would prepare the capability curve(based on available data) for each of the generating stations and get it ratified from owner of the respective station.	

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 149th OCC
132 kV Dimapur - Doyang 1 & 2 Lines	Installation of Numerical Relay at Doyang	NEEPCO	By Mar'19
AGTCCPP LFO	AVR Replacement	NEEPCO	By Mar'19
132kV PK Bari-Kumarghat	Installation of Line differential relay	NERTS	By Mar'19(subject to RPC approval)
132kV AGTCCPP-Agartala D/C.	Line differential relay to be installed	NERTS	By Mar'19(subject to RPC approval)
132kV PKBari	Installation of Numerical Relay under R&M (<i>high priority</i>). TSECL to divert NR to AGTCCPP.	TSECL	Completed
132kV Rokhia-79Tilla D/C	DPR to be installed	TSECL	Completed
400kV Silchar-Byrnihat and 400kV Silchar-Azara	Earthing through chemical treatment in the lightning prone areas with high tower footing resistance	NERTS	BE for 16 out of 329 towers completed as on 08.10.18. Completion Sch.: Apr'19
Repeated tripping of Doyang Machines	DPR to be installed for lines and units. CTs to be replaced.	NEEPCO	DPR lines-Mar'19, 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	May18 (actual)	May18 (LGBR)	Jun 18 (actual)	Jun18 (LGBR)	Jul 18 (actual)	Jul18 (LGBR)	Aug 18 (actual)	Aug 18 (LGBR)
Ar. Pradesh	71.77	70.26	70.76	65.89	72.49	66.28	76.34	77.02
Assam	738.04	778.29	913.96	864.22	998.64	952.10	1039.01	970.21
Manipur	68.18	67.46	67.74	64.86	72.38	65.08	70.53	76.98
Meghalaya	138.92	143.00	143.28	142.00	169.75	155.00	162.17	159.00
Mizoram	40.70	47.82	43.66	42.44	46.53	45.43	58.96	44.80
Nagaland	72.75	74.90	78.16	76.55	82.22	80.84	80.88	79.25
Tripura	101.52	98.38	121.77	123.16	144.97	123.51	179.61	127.98

Energy Availability:

Name of State	May18 (actual)	May18 (LGBR)	Jun18 (actual)	Jun18 (LGBR)	Jul18 (actual)	Jul18 (LGBR)	Aug 18 (actual)	Aug 18 (LGBR)
Ar. Pradesh	70.09	70.50	74.78	83.78	77.75	99.88	81.81	96.23
Assam	738.28	810.91	898.04	892.17	975.84	992.22	991.95	967.37
Manipur	95.07	86.53	101.66	102.23	111.82	129.88	109.25	126.69
Meghalaya	191.42	204.20	236.66	254.18	293.16	312.29	285.36	322.71
Mizoram	71.74	72.60	79.19	82.67	85.38	97.31	92.74	99.89
Nagaland	67.15	66.14	78.35	83.84	79.00	99.30	84.88	99.50
Tripura	252.31	281.99	255.49	242.47	294.08	308.19	312.05	294.40

Demand:

Name of State	May18 (actual)	May18 (LGBR)	Jun18 (actual)	Jun18 (LGBR)	Jul18 (actual)	Jul18 (LGBR)	Aug 18 (actual)	Aug 18 (LGBR)
Ar. Pradesh	128.33	145	138.12	131.00	130.38	136.00	135.88	148
Assam	1625.51	1665.49	1782.35	1761.14	1862.54	1761.36	1833.85	1752.66
Manipur	179.01	169.41	179.48	163.70	174.16	162.83	177.32	173.10
Meghalaya	370.59	334.40	325.51	298.94	333.95	308.22	325.43	314.92
Mizoram	95.98	94.60	102.57	85.16	100.77	92.62	99.09	92.62
Nagaland	147.06	140.94	129.40	152.90	132.89	153.75	134.32	139.63
Tripura	275.65	282.80	280.66	307.24	298.12	322.71	291.86	327.32

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 SEPTEMBER, 2018

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

NER PERFORMANCE DURING SEPTEMBER, 2018

States	Energy Met (MU)		w.r.t. Aug,18 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Aug,18 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Sep,18
	Sep-18	Aug-18		Sep-18	Aug-18		
Ar. Pradesh	69.06	70.18	-1.60	69.79	71.07	-1.80	-1.05
Assam	939.37	1023.54	-8.22	975.15	1059.85	-7.99	-3.67
Manipur	67.60	70.25	-3.77	68.31	71.13	-3.96	-1.04
Meghalaya	156.29	166.90	-6.36	156.32	166.90	-6.34	-0.02
Mizoram	49.85	49.56	0.59	50.51	50.20	0.62	-1.31
Nagaland	69.95	73.96	-5.42	78.29	82.30	-4.87	-10.65
Tripura	136.76	144.63	-5.44	137.94	146.10	-5.59	-0.86
Region	1488.88	1599.02	-6.89	1536.31	1647.55	-6.75	-3.09

States	Demand Met (MW)		w.r.t. Aug,18 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Aug,18 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Sep,18
	Sep-18	Aug-18		Sep-18	Aug-18		
Ar. Pradesh	130	133	-2.26	138	138	0.00	-5.80
Assam	1809	1795	0.78	1865	1834	1.69	-3.00
Manipur	182	175	4.00	184	177	3.95	-1.09
Meghalaya	317	326	-2.76	317	325	-2.46	0.00
Mizoram	93	97	-4.12	95	99	-4.04	-2.11
Nagaland	138	133	3.76	142	134	5.97	-2.82
Tripura	293	287	2.09	296	292	1.37	-1.01
Region	2850	2795	1.97	2921	2967	-1.55	-2.43

**REGIONAL GENERATION & INTER-REGIONAL
EXCHANGE IN MU**

AVERAGE FREQUENCY (Hz)

Month---->	Sep-18	Aug-18	Month---->	Sep-18	Aug-18
Total Generation in NER (Gross)	1662.196	1767.095		% of Time	% of Time
Total Central Sector Generation (Gross)	1219.719	1358.337	Below 49.9 Hz	13.21	8.92
Total State Sector Generation (Gross)	442.477	408.758	Between 49.9 to 50.05 Hz	80.23	80.43
Inter-Regional Energy Exchange			Above 50.05 Hz	6.05	10.64
(a) NER-ER	51.53	8.58	Average	49.97	49.98
(b) ER-NER	531.26	525.11	Maximum	50.20	50.22
(c) NER-NR	464.63	505.16	Minimum	49.57	49.62
(d) NR-NER	3.56	0.00			
© Net Import	18.66	-11.37			

Deliberation of the sub-Committee:

NERLDC gave a presentation on the grid performance for the month of September'18 (**Annexure-B.2-a**). NERLDC also highlighted that Daily, Weekly and Monthly Voltage Deviation Report, Frequency Deviation Report and System Reliability Report for September'18 was 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.

DGM (AM), NERTS opined that installation of 30% more reactive compensation than required is essential to take care of preventive / breakdown maintenance/restoration

of Reactors to avoid overvoltage issues of NER Grid. ED, NERLDC stated that operational feedback of NERLDC clearly states the reactive compensation required for the grid and may be perused for all purposes. The forum after detailed deliberation decided that a reactive compensation study needs to be done afresh for the entire grid particularly vulnerable nodes facing frequent high voltages and requested NERPC to conduct a meeting for the said purpose at the earliest.

The Sub-Committee noted as above.

ITEMS FOR DISCUSSION

C. OLD ITEMS

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

During 149th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 148th OCC Meeting		Status as given in 149th OCC Meeting	
		Timeline for completion	Furnishing of detail parameters	Timeline for completion	Furnishing of detail parameters
a. New Elements					
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	By Oct-Nov'18	To be submitted to NERLDC.	By 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.	To be reviewed	Already submitted.
3	400 kV D/C Silchar - Melriat line of PGCIL	Oct'18	To be submitted to NERLDC.	Oct'18	To be submitted to NERLDC.
4	132kV Monarchak – Surjamaninagar D/C of TSECL	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. DG set - by Aug'18	Not applicable.	Completed for all SLDC except Nagaland. Nagaland - DoCO By 15.01.2019.	Not applicable.
6	400/220 kV 315 MVA ICT-II at Bongaigaon	Ready for Test charging from HV. Ready for Load flow by Nov'18.	Already submitted for HV side.	Dec'18	Already submitted
7	220/132 kV, 160MVA ICT-II at Balipara	ICT#II despatch by Dec'18	To be submitted to NERLDC.	ICT#II - by Dec'18	To be submitted to NERLDC.
8	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Dec'18	To be submitted to NERLDC.	Dec'18	To be submitted to NERLDC.
9	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 : Jan'19 ICT-II : Mar'19 Delay due to Tertiary re-arrangement	To be submitted to NERLDC.
10	400 kV Silchar - Misa D/C	2019**	To be submitted to NERLDC.	2019**	To be submitted to NERLDC.
11	33kV bay at 220kV Mariani(AS) S/Sn	By Sep'18	Not applicable.	Demand note for CTPT unit pending from Assam. To be expedited by APDCL. Latest status to be submitted ASAP.	Not applicable.
12	33kV bay for 132kV Badarpur(PG) S/Sn	By Sep'18	Not applicable.	To be expedited by APDCL. Latest status to be submitted ASAP.	Not applicable.

13	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	CE could not be prepared in want of ROW Issue. MeECL to take up the matter.	Not applicable.	By Oct'18	Not applicable.
14	Construction of 132 kV Imphal (PG) - Yurembam III lines with high capacity conductor by MSPCL	RoW problem not resolved. Tentative Completion: Oct'18	To be submitted to NERLDC.	RoW problem not resolved. Tentative Completion: Oct'18. NERPC to take up with MD, MSPCL.	To be submitted to NERLDC.
15	LILO of 132kV Aizawl-Jiribam at Tipaimukh by MSPCL	LILO completed. Data by Oct'18. Voice communication to be put in place ASAP.	Already submitted.	NERPC to take up with MD, MSPCL.	To be submitted to NERLDC.
16	MW Vacation OPGW project	KEC Part: 236km out of 236 of CS,714km out of 714km of State sector completed. Total of 17links are made reported to RLDC & SLDC as per list attached. Rectification one link Sma-Mari is going on. Data via links Panchgram-Srikona-Pailapul is stopped due to tower failure as One Tower(AEGCL link) collapsed between Panchgram-Srikona-Pailapul. These links were originally commissioned and Equipment SAT is already done with	Not applicable.	KEC 1. All 17 links already commissioned. 2. 3 nos. of links down due to failure of AEGCL 132kV Srikona-Panchgram tower. AEGCL intimated that there is no place for erection of ERS and 2-3 pile foundation needs to be done. Forum requested AEGCL to communicate road map for restoration	Not applicable.

		<p>AEGCL. AEGCL is requested to issue TOC for the completed part earlier as part affected due to storm/tower failure may not be linked.</p> <p>Work suffered delay/ slow due to tough unfavorable natural conditions (recent monsoon Flood in south, Upper Assam, Lower Assam). Further works awarded to M/s Tendot viz. Ranganadi-Gohpur is under progress. Silchar-Srikona, Melriat-Aizawal is also completed. Nirjuli Ranaga is under halt due to LILO part modification by DoP. Other Target-Dec18.</p>		<p>of 132kV Srikona-Panchgram at the earliest.</p> <p>3.□4 nos. Link requires detail assessment for rectification and job is in progress. Expected completion of rectification by Dec'18.</p> <p>TENDOT</p> <p>4.□WIP in all 14 links</p> <p>5.□Progress affected due to ROW.</p> <p>6.□Expected completion March'19.</p> <p>NOTE</p> <p>1.□Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from</p>	
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				<p>receipt of new tower route schedule.</p> <p>2. <input type="checkbox"/> Railway diversion of POWERGR ID also suffering due to ROW in 3 locations to be resolved by Arunachal Pradesh.</p>	
17	NER FO Expansion/Add req of OPGW	<p>OPGW Part: Stringing Status: Central Sector: Part-1: 192.669/740Km (total 12 links) Part-2: 398/398km (5links) State Sector: Meghalaya: 0Km/63Km (total 04 links) Tripura: 200/316.484Km (total 12 links) Nagaland: 0/93Km (total 03 links) Manipur: 0/365Km (total 11links) Constraints: ROW at sites (e.g. Tripura & Nagaland-Assam border, Manipur-Assam border). Site/space readiness in areas like Kohima, Khandong, Kopili,</p>	Not applicable.	<p>TRIPURA</p> <ul style="list-style-type: none"> • <input type="checkbox"/> 263 of 328 Km Completed • <input type="checkbox"/> 65 km front not available due to construction of 2 lines by TSECL • <input type="checkbox"/> Completion: Mar 19 <p>MIZORAM & MANIPUR</p> <ul style="list-style-type: none"> • <input type="checkbox"/> 80% Material supplied. • <input type="checkbox"/> Target Completion June 19 <p>NOTE Silchar-Pallatana OPGW work under halt due to objection of NETC & OTPC for transient lightning related fault</p>	Not applicable.

		<p>Jadhima/New Kohima etc. Natural/weather constraints like road conditions/Flood etc. Work stopped by NETC lines with consensus from NERPC for Silchar-Pallatana due to non-issue of PTW by OTC due to grid constraints. Target: Dec18 to March19</p>		<p>in rainy season. P&ED Mizoram informed that for 132kV Aizawl-Zemabawk line fibre is being laid by NERTS, with terminal equipment supplied by NERTS. Compatibility to be confirmed by NERTS.</p>	
18	URTDSM project	<p>Total Scope: 1no. CC SPC-NERLDC, 3nos. PDC(Assam, Meghalaya, AP(The same proposed to be shifted to Back up RLDC) 51 PMUs in 14 stations</p> <p>Status: Work in control centre 3PDC(including one SPDC) & 31PMUs are reporting(commissioning completed-40) out of 51nos. 4stations left.</p> <p>For NERLDC, SAT planned-4th week-Sept18, UPS pending), Control centre i.e. PDC Assam, Meghalaya completed. PDC</p>	Not applicable	<p>1. <input type="checkbox"/> SAT in 2nos. PDC completed. SAT for NERLDC PDC started.</p> <p>2. <input type="checkbox"/> 39 out of 51 PMUs reporting. WIP for BNC. Target for completion -Jan2019</p> <p>NOTE:</p> <p>3. <input type="checkbox"/> OPGW installation for Ranaganadi connectivity is on halt due to water log (at loc of shift from 132kV GITL to 400kV Line).</p> <p>• <input type="checkbox"/> Further Splicing is delayed</p>	Not applicable

		of AP is proposed to be shifted to Back UP NERLDC as there is space constraint in AP SLDC. Further back up of SPDC, NERLDC is required keeping in view geographical conditions. Constraints: Difficult terrain/ tough road condition/ tough camping conditions		due to peddy & ROW Members from various SLDCs informed that important nodes have been excluded from PMU installation under Phase-I & II. The forum decided that those locations would be included under Phase-III. All SLDCs to prepare list and communicate the same to NERLDC.	
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b. Elements under breakdown/upgradation

19	Up-gradation of 132 kV Lumshnong-Panchgram line	MePTCL to submit DPR for Techno Economic Appraisal after concurrence of AEGCL.	Not applicable.	Consent of AEGCL received by MePTCL. Scheme renamed as Upgradation of 132kV Khliehriat-Panchgram line with HTLS conductor.	Not applicable.
20	Switchable line Reactors at 400kV Balipara & Bongaigoan Ckt # 1 & 2	Completed. Minor works remaining. By Sep'18	Not applicable	Completed except Bong#2 LR of Balipara which is under restoration	Not applicable
21	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.

22	Re-conductoring of 132kV Umiam Stg-III bus	Modified for upgradation of Umiam Stg#III bus. Admissible under PSDF. To be taken up in TCC/RPC	Not applicable.	Modified for upgradation of Umiam Stg#III bus. Admissible under PSDF. To be taken up in TCC/RPC	Not applicable.
23	Upgradation of ULDC FO node	SDH equipment node replacement started (Siemens SDH by ECI in 17locations). 14 locs completed. Fibre not ready at Umtru(MEPTCL is to provide). Natural constraints, non availability of fibers have delayed the project Target: Dec18.	Not applicable.	15 Location Completed Except Umtru. MeECL informed that there is space constraint in PLCC room. Separate room may be constructed and included in scope.	Not applicable.
24	Upgradation of 132kV Silchar-Imphal to 400kV	By Oct'18. Scope as per 6 th SCM.	To be submitted to NERLDC	Matching with schedule of MSPCL.	To be submitted to NERLDC
25	Integration of existing bays with C264 RTU at RHEP by NEEPCO	By Jan'19	Not applicable	By Jan'19	Not applicable
26	Replacement of CTs and installation of Bus Bar Protection at 220kV Misa	Under NERSS-VII. By Dec'18	Not applicable	By Dec'18	Not applicable

Deliberation of the sub-Committee:

Members unanimously voiced concern regarding the unsatisfactory execution of various transmission projects under construction. It was brought to notice that many lines under TBCB are not being terminated at the designated station. After detailed deliberation the forum decided that for monitoring of various transmission projects awarded under TBCB, NERPSIP the concerned utilities viz. M/s KPTCL(kalpataru),

M/s STERLITE and POWERGRID-NERPSIP are to be invited to OCC meetings henceforth.

The Sub-Committee noted as above.

Action: All state utilities/central utilities/NERPC.

ITEMS REG. SUBMISSION OF DATA/COMPLIANCE

C.1 Geospatial Energy Portal for NITI Aayog:

Latest status - MSPDCL, DoP Nagaland yet to submit.

Deliberation of the sub-Committee:

MSPDCL, DoP Nagaland yet to submit.

The Sub-Committee noted as above.

Action: MSPDCL/DoP Nagaland.

C.2 Flexibility in generation and scheduling of thermal power station to reduce the cost of power to consumer:

In 148th OCCM the final scheme was circulated. Director (O&P) (O&P), NERPC requested members to peruse the scheme and provide their valuable comments regarding its operationalization.

Deliberation of the sub-Committee:

Director (O&P), NERPC requested members especially all LDCs to provide comments at the earliest. In case no comments are received by 31.10.2018 the scheme and procedure would be treated as final.

The Sub-Committee noted as above.

Action: All utilities.

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		21.93	717.4
Kopili-II	1			
Kopili	4		185.92	609.40
Ranganadi	2		Subject to inflow	

Doyang	2		11.8	314.60
Loktak	3		215	768.35
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:

ED, NERLDC informed the forum that water levels of Umrong Reservoir is low compared to historical levels. Hence, moderation while declaring for Kopili and (Khandong+Kop Stg2) is required. NEEPCO agreed to abide by such declarations agreed mutually. ED, NERLDC has also requested NEEPCO to provide a Water Level Vs MU chart for Pare HEP. NEEPCO has agreed to provide the same.

NTPC representative informed that Unit-II shutdown was approved till 10.10.2018 for overhauling works. However, defect in LP turbine has been found recently and hence shutdown needs to be extended till 15.10.2018. Members strongly objected to such extension in view of impending festive season and expected surge in load. After detailed deliberation, it was decided that NTPC would bring BgTPP Unit#II by 13.10.2018 positively.

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 (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.

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 deferred by NERLDC	Total S/D availed on D-3 basis	Total S/D not applied on D-3 basis
126	104	22	4	105	21

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	74:45	01:34	09:39
NETC	07:25	02:28	02:36
ENICL	-	-	-

NERLDC informed that an Outage module is being developed as part of Reporting Software in WBES project. ED, NERLDC stated that a hands-on training program has been scheduled on 12.10.2018 at Shillong. He requested all the members to kindly depute suitable personnel for the said program.

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

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

NETC and POWERGRID have submitted the outage data for the month of June, 2018 - August, 2018. So the attributability of outage of the said elements may please be finalized.

Deliberation in the Meeting:

The Sub-Committee ratified the attributability from June, 2018 - August, 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 01.10.18. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of November'18 using these cases and submit the study cases and results to NERLDC by 22.10.18.

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 22.10.18.

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 October'18:

States	Off Peak	Peak
Arunachal	214	211
Assam	1693	1700
Manipur	256	237
Meghalaya	160	160
Mizoram	116	116
Nagaland	166	164
Tripura (including Bangladesh)	97	73

NERLDC requested all the utilities to update the PSSE version.

The Sub-Committee noted as above.

Action: All SLDCs/STUs.

D.5. SPS mock testing & existing SPS scheme related:

The Committee visit and inspection/testing was successfully completed on 01.09.2018. The recommendations of the committee are as follows:

- SPS-3 may be turned on at Silchar end only and kept on monitoring. The period for monitoring may be decided by the forum.
- SPS-2 will work with breaker opening contacts at Palatana.
- DT send(on separate channel) to Silchar for 86LO operation at Byrnihat/Azara for 400kV Byrnihar-Silchar and 400kV Azara-Byrnihat respectively to be implemented. These would be used as part of SPS-3 logic at Silchar.

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. and submit report for taking further decision of implementing SPS 3 Scheme with existing asset. The committee visit date would be tentatively on 01.09.2018.
- SPS-3 is to activate w.e.f. 01.10.2018.
- DT send (on separate channel) to Silchar for 86LO operation at Byrnihat/Azara for 400kV Byrnihar-Silchar and 400kV Azara-Byrnihat respectively to be implemented. These would be used as part of SPS-3 logic at Silchar.

Deliberation in the meeting

Director (O&P), NERPC informed the forum that SPS-3 has been turned on at Palatana w.e.f. 01.10.2018. NERLDC informed that since SPS-3 has been taken into service there has been no correct operation or mal-trippings due to SPS-3. DGM, OTPC assured the forum that SPS-3 is in service and in working condition to utmost satisfaction of all concerned. Sr. Manager, TSECL requested that the report submitted by SPS Inspection team be published. The report is attached at **Annexure-D.5**.

The Sub-Committee noted as above.

Action: OTPC/NERTS/MePTCL/AEGCL.

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

In 148th OCCM Director (O&P) (O&P), NERPC informed that Public IP has been procured and intimated by NERLDC and pilot project at Azara is under implementation.

Following list of location for meters replacement / installation were submitted for the project -

Sl. No	Feeder Name	Status	Meter to be Replaced/Installed by PGCIL
1	Srikona End of 132kV Silchar FDR-I	Replace	1
2	Srikona End of 132kV Silchar FDR-	Replace	1
3	Deomali End of 220kV Kathaguri FDR	Replace	1
4	PK Bari -1 End of 132kV Silchar-1	Replace	1
5	PK Bari -1 End of 132kV Silchar-1	Replace	1
6	Pavoi End of 132kV BNC-1	Replace	1
7	Mokok (S) End of Doyang	Replace	1

8	Mokok (S) End of Mokok-Mokok-1	Replace	1
9	Mokok (S) End of Mokok-Mokok-2	Replace	1
10	Khupi End of 132kV Balipara	Install	1
11	Lekhi End of 132kV Pare	Install	1
12	Khupi End of 132kV kameng	Install	1
13	Zuangtuii End of Melriat	Install	1
14	Luangmual End of Aizawl	Install	1

The Sub-Committee noted as above.

Action: CDAC.

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

Status as updated in 148th OCCM: LOA has been placed and supply would be done by Oct'18.

Deliberation in the meeting

NERTS informed that LOA already placed. Supply by 1month. Details of LOA shared with NERLDC.

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:-

- Inspection for Mawphlang completed.
- Inspection for Baghjap, Sankardevnagar and Sipajhar under Assam would be tentatively done in the month of September, 2018.

Deliberation in the meeting

Director (O&P), NERPC informed for the Assam stations UFR inspection is envisaged to be done by 1st week of November,2018. He requested the support of AEGCL, NERTS and NLDC for the same.

The Sub-Committee noted as above.

Action: NERPC/NERTS/NERLDC/AEGCL.

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

Latest status

HVDC Biswanath Chariali :

All signals were integrated as per project approved list. The same was also jointly checked with RLDC end during commissioning. Thus, additionally SOE and other signals apart from approved list needs approval of competent authority.

POWERGRID requested NERLDC for forwarding copy of any communication vide LD & C / HVDC CC was intimated to implement the list as submitted now for further approval / implementation. In this reg, email from NERTS was given to RLDC on 14.8.18

Dimapur: Fire incident. By Nov'18.—present status/target: Dec'18

For RHEP RTU integration works complete by Dec'18.

Deliberation in the meeting

DGM(SL), NERLDC stated that involving LD&C for signal list and SOE updation is not practical. DGM (AM), NERTS informed that if any communication of LD&C in this regard is available with POSOCO the same may be provided to NERTS, otherwise POSOCO may confirm non-availability of any documents to NERTS.

The Sub-Committee noted as above.

Action: NERTS/NERLDC/NEEPCO.

D.10. 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

In 148th OCCM NERTS submitted that two main reasons for tripping of its said lines- i)Acute RoW constraints/obstructions , (ii)Vegetation from uphill falling on lines drawn through hilly terrain. The forum had decided that RoW issues would be referred to TCC/RPC for resolution.

DoP Nagaland, NEEPCO and NERTS may please submit a detailed maintenance schedule.

Deliberation in the meeting

The forum decided that the matter may be discussed in TCC/RPC and then reviewed later on in OCCM.

The Sub-Committee noted as above.

Action: NERPC.

D.11. 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.

In 147th OCCM 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.

In 148th OCC meeting, NERTS informed that they have received quotation from AIRTEL as per which financial implication will be around Rs. 60368800.00 in which

recurring cost is Rs. 59944000.00 per annum. The recovery mechanism may be deliberated before placing the agenda to 19th TCC / NERPC Meeting.

Meanwhile POWERGRID is exploring High Bandwith Lease Line connectivity (MPLS from Airtel).

GM, NERLDC opined that VSAT option for entire NER should be explored in line with the scheme operational under KPTCL

Deliberation in the meeting

DGM(AM), NERTS informed that Leased Line Connectivity has been explored for Roing, Tezu & Namsai with recurring expenditure amounting to INR 28 lakhs. DGM(SL), NERLDC through a presentation(attached at **Annexure-D.11**) highlighted the VSAT scheme for NER whose main advantages are as follows:

- Direct communication link from Control Centre avoiding repeater stations and last mile problems.
- Reliable Communication System with more than 99.9% network uptime.
- Proven Technology.
- Quick to deploy remote stations. Typically a remote station can be added to the existing network within a week.
- With proper installation and link engineering the network can withstand adverse rain and wind conditions(Extn C Band Techlogy with Apdative Modulation).

The approximate financial involvement for the project considering 150 stations:

Capital Expenditure: INR 17 Cr

Operational Expenditure: Royalty: 61.85 lakhs, AMC: 1.13Cr Total: 2Cr(approx.)

DGM(SL), NERLDC opined that the OPGW network planned for NER does not encompass redundant connectivity for tail-end stations. The VSAT network would not only provide alternate path for all stations but would ensure reporting of data even in case of terrestrial exigencies.

MePTCL representative opined that since already so much emphasis has been given to OPGW connectivity for transmission of power sector data, the additional cost is not justified unless deemed to be of the utmost necessity.

Members from various utilities expressed apprehension regarding time delays in transmission of data and dependability of the system on weather conditions.

After detailed deliberation the forum decided that (subject to MePTCL concurrence):

- Pilot project to be executed at Byrnihat station. The data would be transmitted from Byrnihat to KPTCL(via satellite) to SRLDC to NLDC to NERLDC. This would be kept in monitoring mode in the interim.
- NERPC to take up with proper authorities for funding from suitable sources.

The Sub-Committee noted as above.

Action: NERTS/NERLDC/NERPC.

D.12. Procurement of spare Transformer and Reactors for States:

As per discussion in the previous meeting:

- Spare transformers/reactors would be provided from PSDF only against ISTS assets.
- In case any state wants any asset from Regional spare same may be provided (on a chargeable basis) after all necessary formalities are completed.
- In case any ISTS asset owned by any STU does not have regional spare same may be procured from PSDF.

Deliberation in the meeting

Director (O&P), NERPC stated that as informed by NPC/NLDC the procurement of spares for states is not permissible for funding from PSDF.

The Sub-Committee noted as above.

D.13. DIMAPUR PG Voice communication and telemetry out since Feb'18.

In 148th OCCM DGM(AM), NERTS informed that Dimapur substation phone is working OK since March'18 (VOIP number 23640213). The same was restored along with power system restoration. Under urgency in March'18, NERTS had collected one telephone from SLDC end and same was later replenished. For data, he informed that the same would be corrected by Nov'18.

Deliberation in the meeting

NERTS informed that Dimapur communication would be restored by Dec'18.

The Sub-Committee noted as above.

Action: NERTS

D.14 Shifting of 50 MVA, 220/132kV Transformer of NEEPCO from Balipara (PG) SS by NEEPCO

The 50 MVA, 220/132kV transformer (Bharat Bijlee make) of NEEPCO at 400kV Balipara (PG) SS is being replaced by a new 160 MVA, 220/132kV Transformer by

POWERGRID under NERSS – III project. Dismantling of the transformer has already been taken up by POWERGRID.

In 148th OCCM Sr. Manager, NEEPCO informed that upon upgradation with 220/132kV 160MVA ICT at Balipara the old 50MVA ICT has become spare and they do not have space for storage of the same. NEEPCO requested POWERGRID for storage of the transformer and they are ready to bear the cost for development of storage facility at Balipara by POWERGRID. Accordingly, POWERGRID with submit the cost estimate to NEEPCO for development of required storage facility at Balipara.

Director (O&P), NERPC suggested that the ICT may be declared as regional spare against 220/132kV 50MVA ICT at Agia. The forum welcomed the suggestion and requested NEEPCO to initiate necessary process in this regard.

Deliberation in the meeting

After detailed deliberation it was decided that:

- □ Tentative cost for storage (borne by NEEPCO) to be worked out by NERTS.
- □ Tariff to be booked by NEEPCO.
- □ Health checkup during storage to be done by NERTS

The Sub-Committee noted as above.

Action: NERTS/NEEPCO

D.15 Update on PDMS:

The tender for "Web based Protection Database Management System and Protection Setting Calculation Tool" was published on 31.07.2018. After due bid evaluation the LOI was issued to successful bidder i.e. M/s PRDC vide letter dated.01.10.2018. M/s PRDC will present the action plan and high level design document.

Members from all the utilities are requested to nominate the nodal officer for PDMS. The forum may also finalise the Project Monitoring Group.

Deliberation in the meeting

M/s PRDC presented the high level design document, broadly divided into the following:

- □ Vol I: High Level Plan and Design
- □ Vol II: Network Modelling and Power System Studies
- □ Vol III: Hardware and Software Infrastructure
- □ Vol IV: Mi-PDMS and Mi-PSCT
- □ Vol V: On-site service after Go Live.

AEGCL enquired about the telemetry status affecting the studies and hardware at SLDC required for the project. EE,SLDC, MeECL enquired how 33kV data is to be collected.

M/s PRDC gave the following clarifications:

- Telemetry status will not affect the studies, wherever SCADA data is inaccurate/absent log sheet of respective stations would be referred.
- No hardware is required at SLDC premises. Server, storage and other associated hardware would be installed at NERPC.
- For 33kV stations respective utility has to furnish the data. If required M/s PRDC would visit the central offices of the utilities.

The forum also decided that Assam would be the pilot state. Network development, data collection and modeling would start with Assam.

The Sub-Committee noted as above.

Action: PRDC.

D.16 Early Completion of OPGW based communication system in Intra-state grid of Manipur in the interest of NER grid security and smooth power supply management in Manipur

SLDC Manipur located at Yurembam was established by Power Grid with 11 nos. of RTUs in 132 kV sub-stations – nine for State sector and 2 for Central sector. Even long after the starting of commercial operation of the SLDC on 9/11/2016 it is currently operating with data acquired from few sub-stations through PLCC links only. It is not serving the purpose of the establishment of SLDC for real time scheduling and dispatch of electricity in the intra-state system for ensuring grid security.

Currently, the main control center at Yurembam is unable to acquire voice connectivity and SCADA from the nodes at the 11 nos. of 132 kV sub-stations because of the absence of OPGW connectivity and installation of communication equipment.

During the 15th TCC & 15th NERPC Meeting held on the 20th and 21st of August, 2015 at Guwahati, the TCC recommended the revision of OPGW connectivity for Manipur from 149 Km to 365 Km. RPC noted and approved it. The investment is to be recovered as per tariff determined by CERC.

Altogether PGCIL is implementing the work for the installation of 385 Km. of OPGW including 20 Km for LI-LO on Kongba – Kakching at Thoubal under Quantity Variation Clause as deliberated in the 17th TCC Meeting held on the 4th of October, 2016 at Imphal and noted by RPC.

MSPCL has taken up integration of 400 kV sub-station and the remaining 132 kV sub-stations into SLDC Manipur with 5 nos of RTUs and 206 km of OPGW under PSDF funding. This has been incorporated in the scope of "Reliable Communication & Data Acquisition System upto 132 kV Sub-Stations in Manipur (NER)" initiated by the Government of India.

During the 18th TCC Meeting held on the 10th of October at Shillong, POWERGRID informed that materials have been inspected at China and would be delivered by end of Nov'17. GM, NERTS informed that the target for completion as per 6th NETeST meeting of NERPC is November, 2018. However, not much progress has been made till date.

Deliberation in the meeting

MSPCL informed that the work is in progress and the status may be reviewed in TCC/RPC.

The Sub-Committee noted as above.

Action: NERTS/MSPCL/NERPC

D.17 Shifting PDC system from SLDC Arunachal Pradesh to Back Up NERLDC at Guwahati due to space constraint at SLDC AP at Chimpu SS

Due to space constraints in present SLDC of Arunachal Pradesh at Chimpu Substation, PDC installation could not be done under URTDSM Phase1. Accordingly, during 144th OCCM, members decided for shifting the PDC to Back up NERLDC at Guwahati for backing up main NERLDC at Shillong under central sector.

Deliberation in the meeting

After detailed deliberation the forum decided that the URTDSM SLDC hardware viz. PDC etc., would be shifted from SLDC Ar. Pradesh to SLDC Agartala.

The Sub-Committee noted as above.

Action: NERTS/TSECL

D.18 Re-engineering of existing 132 kV bus bar from ACSR panther to ACSR zebra conductor and providing terminal equipment at 132 kV switchyard bay for Upper Khri feeders at Stage-III power station

The loading of the existing 132 KV Switchyard Bus Bar of Stage-III Umiam Power Station, Kyrdemkulai with Panther conductor has exceeded the permissible loading capacity. Presently Upper Khri Stage-I and Stage-II will be connected to 132kV Bus at Umiam Stg-III. For this the following is required:-

- □ Terminal equipments for connection of these Feeders at Stage-III Power Station

- Replacement of ACSR Panther conductor of 132kV Bus at Stg-III with ACSR Zebra.

Deliberation in the meeting

Director (O&P), NERPC informed that the project comes under the categories for PSDF funding. He requested MeECL to send the proposal to NLDC/NPC at the earliest.

The Sub-Committee noted as above.

Action: MeECL

D.19 Laying of OPGW from Sonapani Mini Hydel power house to 33 kV Mawprem sub-station and thereafter integration with SLDC

Proposal: Laying of OPGW from Sonapani Mini Hydel Power Station for integration with SLDC, Shillong.

Laying of OPGW from Sonapani Power Station to 33 KV Mawprem Sub-Station including Optical Accessories, RTU, Data Base Integration, software and hardware equipments, 48 V DC Battery Bank and Charger.

Deliberation in the meeting

Director (O&P), NERPC informed that the project does not come under the categories for PSDF funding. The forum decided to drop the agenda item.

The Sub-Committee noted as above.

D.20 Checking of RTU at RHEP:

In spite of being healthy RTU in RHEP end, there is a repetitive communication from NERLDC for checking of RTU in our side. The problem may lie in the communication link.

Deliberation in the meeting

DGM(SL), NERLDC clarified that S900 RTU has intermittent data transmission. The same was confirmed when team from NERLDC, NERTS visited RHEP. The bays have to be transferred to the existing C264 RTUs for 132kV RHEP-Chimpu D/C. For this MFTs are to be procured by NEEPCO. This has to be accelerated.

Director (O&P), NERPC requested NEEPCO to extend data upto the nearest wideband location through PLCC. Sr.Manager, NEEPCO informed that if ABB person is present with help of NERTS PLCC issue may be resolved. DGM(AM), NERTS agreed to extend all possible support.

The Sub-Committee noted as above.

Action: NEEPCO

D.21 Termination of OPGW in RHEP:

Termination of OPGW link in the Ranganadi HE Plant at the earliest. The equipment for OPGW is laying in the Power House site since several months awaiting for Termination of OPGW for reliable communication for both Voice and data. at present ULDC Phone in RHEP is not working since two to three years due to failure in PLCC media and also our plant is operating in web based scheduling system which require uninterupted internet facility. This can also be achieve by commissioning of OPGW.

Deliberation in the meeting

DGM(AM) NERTS requested that Arunachal Pradesh may please provide new tower route schedule & readiness for LILO part (Lekhi connectivity from existing Nirjuli-Ranganadi line). The schedule completion 2 months from receipt of new tower route schedule. He further informed that Railway diversion of POWERGRID also suffering due to ROW in 4 locations to be resolved by Arunachal Pradesh. The forum requested DoP Ar. Pradesh to expedite. NEEPCO also requested that alternate path for OPGW may be laid using 400kV lines from RHEP.

The Sub-Committee noted as above.

Action: NERTS/DoP Ar.Pradesh.

D.22 Waiving of outstanding surcharge against arrear of electricity charges of M/S APDCL pertaining to Balipara and Misa Sub Station:

POWERGRID, Misa & Balipara Sub Station started drawing Auxiliary Power through 1000kVA, 33/0.4kV Tertiary Transformer installed in Jun-2000. ASEB raised first bill against the above connection on 06/06/2002 including Arrear Bill for the period from Sept'2000.

POWERGRID could not pay the bills due to pending decision of NEREB regarding billing of tertiary connection and the same was communicated to ASEB (Comm) Guwahati accordingly. Subsequently, the Matter was taken up at NEREB Commercial Committee Meeting by POWERGRID and in 38th Commercial Committee Meeting of NEREB held on 30/07/2002 it was decided that drawal of power from tertiary of Autotransformer to be incorporated in REA as deemed drawal by ASEB, who in turn will raise energy bill for such drawal to POWERGRID separately for bilateral settlement. REA was started from Aug-2002.

Thus, since REA was not available prior to Aug-2002 POWERGRID requested ASEB to raise bills for the period from Sep-2000 to Jul-2002 only after receipt of modified REA from NEREB for which ASEB seemingly agreed to withdraw bills for the period prior to

Aug-2002 onwards vide their letter dtd. 24/10/2002. However, ASEB continued raising bill from initial period i.e. Sep-2000.

ASEB applied to NEREB for revision of REA for the period from Sep-2000 to Jul-2002 vide letter dtd. 27/10/2003. Further, ASEB raised revised bifurcated bill for the period from Sep-2000 to Jul-2002 & Aug-00 to Jul-2004 on 05/08/2004. POWERGRID started paying tariff against this connection regularly from Feb-2005 onwards and cleared Arrear payments for the period from Aug-2002 vide letter dtd. on 26/10/2006. REA for the period from Sep-2000 to Jul-2002 was revised by NERPC vide 110/1/NERPC/REA/2008/ 176-77 dtd. 15/04/2008. ASEB raised revised supplementary bill for the period from Sep-2000 to Jul-2002, ignoring Surcharge on 22/08/2008. However, ASEB raised surcharge bill for the period from Sep-2000 to Jul-2002 on 15/10/2008.

Thus, the settlement of outstanding surcharge against arrear electricity charges pertaining to Balipara & Misa Sub Station, claimed by M/s APDCL, the period from September 2000 to July 2002 remained long outstanding issue. POWERGRID is not willing to pay the surcharge amount as it was on account of delay in issuing of REA which is not the fault of POWERGRID. However, APDCL has compounded the outstanding surcharge amount every month (@1.5% per month) and loaded in every subsequent monthly energy bill. The current outstanding surcharge amount as per APDCL is:

1. □ Balipara Sub Station : Rs. 52, 73,528.00.
2. □ Misa Sub Station : Rs. 50, 19,859.00.

The issue was discussed and deliberated in several meetings / forums, including 19th Commercial Meeting on 26.02.2013 (Item No. 6.5 of MOM Enclosed in Annexure – I) where it was decided that Assam and POWERGRID will explore the possibility of waiving the surcharges and settle the issue bi-laterally without further delay. However, no solution was arrived at despite several correspondences made with M/s APDCL and finally, APDCL vide letter dated 24.08.2018 (Enclosed in Annexure – II), explicitly stated that no surcharge waive can be allowed at their end.

Now, according to POWERGRID, the surcharge is not payable as the principal amount including arrear has already been paid to APDCL in schedule timeframe, the issue requires further deliberation under NERPC forum for waiving surcharge by Assam.

Deliberation in the meeting

After detailed deliberation it was decided that the matter would be discussed in the Special Meeting to be held on 24.10.2018 with members from NERLDC, NERTS, APDCL and NERPC.

The Sub-Committee noted as above.

Action: NERPC.

D.23 Furnishing Technical and Commercial data for computation of PoC Charges and Losses for Q4 of 2018-19 (Jan 2019 – Mar 2019):

All the power utilities are requested to furnish Technical and Commercial data for computation of PoC Charges and Losses for Q4 of 2018-19 (Jan 2019 – Mar 2019) by 22nd Oct'18.

Utilities are requested to submit the technical and commercial data.

Deliberation in the meeting

NERLDC requested all the utilities to submit the data for the period Jan-Mar'19 latest by 31.10.2018.

The Sub-Committee noted as above.

Action: All utilities.

D.24 Grid Disturbance in Tripura Power System on 20th Sep'18 and 27th Sep'18

Grid disturbance of CEA category GD-I occurred in Tripura Power System affecting capital area at 01:37 Hrs, 13:57 Hrs and 19:26 Hrs on 20th Sep'18 (3 times). At 14:17 Hrs on 27th Sep'18, grid disturbance of category GD-I occurred in Tripura Power System affecting Surajmaninagar area and Bangladesh (South Comilla).

In this regard, following points may be discussed:

- a. □ TSECL may please intimate the root cause of each disturbance for further analysis
- b. □ Reason for delayed clearance of faulty section which is resulting in tripping of healthy feeders
- c. □ Review of over current and earth fault relay settings of 132 kV lines emanating from Agartala, Rokhia, Monarchak and Udaipur since DPR is commissioned in all 132 kV lines from these substations as per email from TSECL dated 28.09.18.
- d. □ Status of CT connection issue of DPR at Agartala substation

- e. □ Mismatch in relay flag submitted by SLDC and actual relay operation observed in DR output.
- f. □ Submission of Patrolling reports and self-certification of vegetation clearance of lines connected to Agartala, P K Bari & Surajmani Nagar substations and Monarchak power station by the concerned utilities.
- g. □ Z-II operation of 132 kV Palatana – S M Nagar line at Palatana (as per primary analysis, fault was in 132 kV Agartala – Budhjungnagar line)

Deliberation in the meeting

Director (O&P), NERPC informed that the disturbance(s) have been analyzed in the Sub-group and the following are the recommendations as per the draft MoM:

- i. □ Tower top patrolling to be done, lightning location to be identified and tower footing resistance to be measured for 132kV AGTCCPP-Agartala D/C if required.
- ii. □ Relay settings and CT connection to be reviewed for 132kV Agartala - SMNagar D/C at Agartala.
- iii. □ Carrier inter-trip to be implemented for 132kV Agartala-Budhjungnagar immediately.
- iv. □ DPR Settings to be reviewed for 132kV Palatana-SMNagar line at Palatana.
- v. □ Patrolling report to be submitted for 132kV Agartala-Budhjungnagar line.

The Sub-Committee noted as above.

Action: TSECL/NERTS.

D.25 Preparation for catering load to Tripura during Puja 2018:

It had been observed that demand of Tripura was highest during the period of Durga Puja of previous years. It is expected that similar trend will continue during the period of Durga Puja of 2018.

For facilitating reliable and secure power supply to Tripura during the Durga Puja 2018, NERLDC conducted system studies based on the data furnished by SLDC Tripura. The study results are attached in **Annexure-D.25(I)**.

SLDC Tripura has projected a demand of 470 MW (including Bangladesh) during Durga Puja 2018. While conducting the studies, NERLDC observed that there will be Low Voltage in Tripura Power System while catering a load of 470 MW.

The following issues are identified for reliable and secure power supply to Tripura during Durga Puja 2018:-

- a. Ensure reliable gas supply & supply of enhanced quantum of gas may be explored by coordinating with gas supply agencies.
- b. Exploring possibilities to maximize the generation of Rokhia and Baramura Gas Based Power Plants
- c. Checking and rectification of protection settings of all 132 kV transmission elements and downstream elements owned by TSECL.
- d. Patrolling and vegetation clearance of all the lines owned by TSECL before Durga Puja 2018.
- e. Identify 190 MW Load for immediate disconnection in case of tripping of 132 kV Surajmaninagar (TSECL)- Palatana (OTPC) S/C line.

NERLDC has already given communication to TSECL vide letter No. NERLDC/ED/SO-II/1506 dated 01.10.18. A copy of the letter is attached in **Annexure-D.25 (II)**.

Deliberation in the meeting

NERLDC presented the study results attached in Annexure-D.25. Sr. Manager, TSECL informed that SLDC has conducted an internal study on projected Puja Peak Demand. Further, he stated that since the projected peak demand for Puja is 470MW, a demand of 473MW was recorded on 18.09.2018. The observed voltages at various nodes were as follows:

1. □RC Nagar – 129kV
2. □Surjamaninagar – 130kV
3. □Agartala – 128.7 kV

The forum also requested P&ED Mizoram to extend support to TSECL during the period.

The Sub-Committee noted as above.

Action: TSECL/NERLDC/P&ED Mizoram.

D.26 Telemetry Availability Status at NERLDC from Constituents (as on 01-10-2018):

Sl. No.	Name of the Constituents	Total Analogue Data points	Total Digital Data points	Total Data Points	Analogue Data Points Reporting	Digital Data Points Reporting	Total Reporting	Total Percentage of data Availability
1	Ar Pradesh	104	149	253	6	4	10	3.95%
2	Assam	1217	1731	2948	536	547	1083	36.64%
3	Manipur*	180	255	435	97	159	256	56.09%
4	Meghalaya	409	388	797	207	86	293	36.76%
5	Mizoram	71	50	121	9	9	18	14.87%
6	Nagaland	237	270	507	0	0	0	0%

7	Tripura	524	715	1239	149	189	338	27.28%
8	PGCIL	628	1082	1710	421	724	1145	66.95%
9	NEEPCO	202	286	488	143	190	333	68.23%
10	NTPC	31	49	80	23	43	66	90%
11	OTPC	41	85	126	41	85	126	100%
12	NHPC	18	29	47	17	28	44	95.74%
	NER	3662	5089	8751	1563	1911	3473	42.49%

*Note: Manipur Telemetry Re-Checked at 1200 Hrs. 03/10/2018.

Deliberation in the meeting

NERTS informed the status of data verified as on 05.10.18 is as below:

SN	Name of the Constituents	Total Analog	Total Digital	Total Data Points	Analog Reporting	Digital Reporting	Total Reporting	Total Percentage of data Availability
1	PGCIL	532	1021	1553	429	686	1116	72%

Analog : 80.1%

Digital Data : 67%

Note:

2. □ For BNC, Subansiri Line 374, associated tie bays are not charged and so to be excluded.
3. □ For BNC Fire angle etc. was not available as per approved List of LD&C and so not configured. Regarding Filter Bank, NERLDC have been communicated over email Dtd.14.8.18 to incorporate only 3 banks (Z1-8498, Z2-8499, Z3-8450; as individual sub bank configuration not done at site. Further ICT MW is done in HV side, the same may be acc mapped.
4. □ Haflong data is intermittently disturbed due to issue at Umranghsu. We have requested AEGCL for needful. POWERGRID representative reached Site but there is some high drop because during LILO of Umrangshu, coaxial connection was done. Solution: Back to back connection at card level by shifting PLCC is to be done by ASSAM.
5. □ Digital data of Isolator & CB is subjected to high moisture level in NER due to heavy rain fall. There is rusting which caused multiple problems which are rectified time to time.

NERLDC is requested to share final signal list of all stations in a folder containing excel format of IO list with IEC address, SLD of each station as per RLDC SCADA having equipment ID, various setting viz. gateway / RTU, eng. Low high, scan rate &

others etc. required for RLDC SCADA integration. This is required for prompt troubleshooting.

DGM(SL), NERLDC stated that data availability is very poor for all constituents in general. However, for Arunachal Pradesh and Nagaland the availability is glaring and needs immediate rectification. AGM, SLDC, AEGCL opined that after completion of SAS projects under AEGCL the improvements would be visible.

Director (O&P), NERPC stated that there are multiple issues pertaining to communication viz. determination of alternate path/redundant links, CSGS/ISTS nodes data non-receipt status and status of various communication projects including states, which require immediate attention. The forum requested NERPC to convene a separate meeting before the next NETeST meeting.

The Sub-Committee noted as above.

Action: All utilities, NERPC.

D.27 Maintaining Healthiness of +/- 800 kV Multi-Terminal HVDC BNC-Alipurduar-Agra

During the last three months it has been observed that frequent tripping of HVDC poles are taking place for +/- 800 kV Multi-Terminal HVDC BNC-Alipurduar-Agra. List of trippings are attached in **Annexure-D.27**.

400 kV Kishenganj-Patna D/C and 400 kV Purnea- Biharshariff D/C lines are on prolonged outage due to tower collapse and there is high hydro power generation in Sikkim and North Eastern Region. An account of the above, reliability of +/- 800 kV Multi-Terminal HVDC BNC-Alipurduar-Agra is very important. Any incident involving further tripping in the corridor may become a cause for major grid disturbance and system separation affecting Cross- Border transaction of power.

It is requested to share a copy of Frequency Controller settings adopted at Biswanath Chariali.

Deliberation in the meeting:

DGM(AM), NERTS stated that since May 2018 there are 17 nos. of tripping of which 14 nos. are because of vegetation in ROW area where POWERGRID is not able to approach sites. The situation is beyond the control of POWERGRID and hence, it is pleaded that the forum may raise the issue at higher administrative level for creating a conducive situation for regular maintenance of the line.

NERTS agreed to submit the Frequency Controller Settings to NERLDC.

The Sub-Committee noted as above.

Action: NERTS.

D.28 STOA Revision by OTPC, Palatana

OTPC has merchant power share of approximately 13.49 % of DC, out of that OTPC is selling nearly 65 MW to Assam as STOA bilateral transaction. Now in real time, if one unit goes under forced outage, the merchant quantum also gets reduced. If Palatana does not revise their STOA and keep it as 65 MW only, then PALATANA schedule becomes more than DC. So PALATANA needs to revise their STOA to maintain their schedule as per DC.

In IEGC, the generating plant can revise their STOA if it goes under forced outage. Similar to in case of tripping, in case of Emergency shutdown also, the STOA schedule has to be revised by Palatana once the unit goes under outage. The schedule will be revised in the fourth time block considering the time block in which request has been received as the first time block as per Cl.6.5.19 of IEGC.

Deliberation in the meeting

After detailed deliberation OTPC agreed to do the STOA revision as and when required.

The Sub-Committee noted as above.

Action: OTPC.

D.29 Intimation of readiness for availing approved OCC shutdown on D-3 basis:

As deliberated during 138th OCC Meeting, all the indenting agency has to inform about the readiness of all the OCC approved shutdowns on D-3 basis (D is date of availing Shutdown) to NERLDC via mail.

It has been observed that SLDC Assam is not sending the intimation of readiness for availing OCC approved Shutdown on D-3 basis. It is requested to kindly send the intimation of readiness for availing OCC approved Shutdown on D-3 basis for proper system study before the shutdown.

Deliberation in the meeting

NERLDC informed that presently all the utilities are more or less availing shutdown on D-3 basis except SLDC Assam. The forum requested SLDC Assam to comply.

NERLDC also stated that in the upcoming new Outage Software there is no provision for intimation of outage after D-3 and hence those outages cannot be availed for the OCC approved shutdowns.

The Sub-Committee noted as above.

Action: AEGCL.

D.30. Procurement of additional 70 Laptops:

NERTS intimated the following in 148th. OCC meeting:

•□ Laptop received at the following Locations:-

Misa (Assam - 30 Nos.), Nirjuli (Arunachal Pradesh - 08 Nos), Kumarghat (Tripura - 08 Nos), Khliehriat (Meghalaya - 06 Nos), Aizawl(Mizoram - 04 Nos), Dimapur (Nagaland - 06 Nos).

•□ Pending Receipt at :

Imphal (Manipur - 08 Nos.)

Status of paper License:

•□ Cost estimate put up for Approval.

•□ Tendering Expected by September-2018.

•□ Delivery By: October-2018

It was intimated that on receipt of Software by Oct'18, these would be installed in Laptops and same can be delivered to all utilities as per list agreed in OCC by Nov'18.

Deliberation in the meeting

NERTS informed the following:

(a) Laptop:

Laptop received at all the Locations (as detailed below):-

- Misa (Assam - 30 Nos.),
- Nirjuli (Arunachal Pradesh - 08 Nos),
- Kumarghat (Tripura - 08 Nos),
- Khliehriat (Meghalaya - 06 Nos),
- Aizawl(Mizoram - 04 Nos),
- Dimapur (Nagaland - 06 Nos),
- Imphal (Manipur - 08 Nos.)

(b) Paper License:

- Under Tendering:
- Completion in all respect by December 2018

The Sub-Committee noted as above.

Action: NERTS.

D.31. Installation of new L&T SEMs in NER:

Khandong (05 SEMs): Installation in halt.

After discussion in 147th OCC meeting, NEEPCO representative agreed for installation of SEM at Khandong without availing shutdown.

As per discussion with Khandong (NEEPCO) 4 SEMs were pending out of which 01 No. already installed. Balance could not be installed as NEEPCO needed shut down to install the SEM prior to agreeing without Shut Down.

For Installation of check meters there is no need of any feeder shutdown, energy accounting concerns if any will be taken care of by NERLDC.

It was agreed that a date would be confirmed from NEEPCO and same would be intimated by NERLDC to NERTS for needful.

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

Two SEMs are to be installed. One at LUANGMUAL end and the other at ZUANGTUI 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.

Mizoram representative stated that meters cannot be installed in the current panel and installation would be possible only after new panels are put in place in both substations which are expected within a month time.

Loktak:

As per MOM NHPC agreed to install 4 nos. of SEM and accordingly, POWERGRID has handed over the SEMs to NHPC on 16.07.2018. NHPC representative intimated that they would install meters shortly.

NTPC-BgTPP:

Check Meters were already installed at NTPC-BgTPP long back as confirmed by NTPC and further checked by POWERGRID. It was clarified by NERLDC that the check meters would have to be replaced by new L&T meters and for this communication has already been sent to NERTS.

Deliberation in the meeting

NERTS informed the following:

- **Khandong:** Completed
- **Mizoram:** Installation after replacement of existing C&R Panels by Mizoram as discussed in last OCCM.
- **Loktak:** Status to be updated by NHPC Loktak.
- **NTPC-BgTPP:** As per the communication of NERLDC on 24.09.18, six nos. of SEM is under diversion for replacement by October 2018.

The Sub-Committee noted as above.

Action: NERTS.

D.32. Procurement of DCD:

As per deliberation in 148th OCC meeting confirmation about GST declaration not yet received from M/s L&T after several follow ups. In this respect NERTS proposed that the procurement may be taken up directly from the supplier instead of procurement through M/s L&T.

OCC agreed to the proposal and NERTS was advised to expedite.

Deliberation in the meeting

NERTS informed the following:

Schedule for procurement:

- **Placement of Award: 25.11.2018**
- **Tentative Delivery : 31.12.2018**

NERLDC has already provided state-wise (location specific) distribution as below:

SN	State	Storage Location	Qty.	Stations to be covered
1	Assam	Misa (PG) SS	5	BNC (PG), SONABIL (S), SILCHAR (PG), GOHPUR (S), NTPC-BgTPP (U)
2	Assam	Misa (PG) SS	9	To be kept as Spares
3	Meghalaya	AM (PG), Shilling	1	Byrnihut (S)
4	Manipur	Imphal (PG) SS	2	Imphal (PG) & Thoubal (S) SS
5	Mizoram	Aizawl (PG) SS	1	Aizawl (PG)
6	Tripura	Kumarghat (PG) SS	2	AGTPP-NEEPCO & Agartala T/L Office
7	Nagaland	Dimapur (PG) SS	2	Kohima S/S & Mokokchang S/S
8	Arunachal	Nirjuli (PG) SS	3	KAMENG-NEEPCO, PARE-NEEPCO & CHIMPU S/S

The Sub-Committee noted as above.

Action: NERTS.

D.33. Time drift in SEMs.

NTPC reported vide e-mail dated 30/08/18 that time drift correction at BgTPP end could not be done due to DCD issue. Since all 3 main meters have drifted by more than 5 minutes new L&T make meters may be installed.

It was intimated by NERTS in 148th OCC meeting that Communication in regard to replacement of SEM received from NERLDC on 06.09.2018/12.09.2018 through mail.

Same has been taken up. Replacement planned by 25-09-2018(SEM meter to be diverted from Misa to Bongaigaon S/S).

Deliberation in the meeting

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

The Sub-Committee noted as above.

Action: NERTS.

D.34 Replacement of SEMs.

SL.NO	LOCATION	FEEDER NAME
1	BNC	BNC END OF PAVOI-I
2	BNC	BNC END OF PAVOI-II
3	BNC	PAVOI END OF BNC-I
4	BNC	33 KV BNC-1
5	BNC	33 KV BNC-2
6	PK BARI	PK'BARI end of 132 kV Silchar I
7	PK BARI	PK'BARI end of 132 kV Silchar II
8	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-I (M)
9	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-II (M)
10	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-I (C)
11	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-II (C)
12	GOHPUR	GOHPUR END OF 132 NIRJULI FEEDER

Deliberation in the meeting

NERTS informed the status:

SN	LOCATION	FEEDER NAME	STATUS
1	BNC	BNC END OF PAVOI-I	Meters already made available at site. Replacement by 15.10.18
2	BNC	BNC END OF PAVOI-II	
3	BNC	PAVOI END OF BNC-I	
4	BNC	33 KV BNC-1	
5	BNC	33 KV BNC-2	
6	PK BARI	PK'BARI end of 132 kV Silchar I	Replacement by October'18
7	PK BARI	PK'BARI end of 132 kV Silchar II	
8	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-I (M)	Already discussed in Item No. D.32
9	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-II (M)	
10	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-I (C)	
11	NTPC	NTPC END OF 400 KV NTPC(B'GAON)-B'GAON(PG)-II (C)	

SN	LOCATION	FEEDER NAME	STATUS
12	GOHPUR	GOHPUR END OF 132 NIRJULI FEEDER	Meter under diversion. Replacement by 31.10.18

The Sub-Committee noted as above.

Action: NERTS.

D.35 Utilization of Laptop for Metering

TSECL intimated that the problem of Laptop has been resolved and they would start sending data using Laptop.

Deliberation in the meeting

TSECL informed that laptop has to be collected from Agartala(PG).

The Sub-Committee noted as above.

Action: TSECL.

D.36 Non-receipt of SEM data:

SL.NO	LOCATION	FEEDER NAME
	ASSAM	
1	TINSHUKIA	TINSUKIA END OF 220KV KTG FDR-I
2	TINSHUKIA	TINSUKIA END OF 220KV KTG FDR-II
4	SONABIL	SONABIL END OF 220 KV BALIPARA-1 FDR
5	SONABIL	SONABIL END OF 132KV BALIPARA FDR
6	KAHILIPARA	KAHELIPARA END OF UMTRU-1 FDR
7	KAHILIPARA	KAHELIPARA END OF UMTRU-2 FDR
8	BTPS (AS)	220 BTPS(ASSAM) - NTPC LINE
9	UMRANGSOO	UMRANGSOO END OF 132 KV KHANDONG
10	UMRANGSOO	UMRANGSOO END OF 132 KV HAFONG
	ARUNACHAL PRADESH	
11	DEOMALI	DEOMALI END OF 220KV KATHALGURI FDR
	TRIPURA	
12	UDAIPUR	UDAIPUR END OF PALATANA
	NAGALAND	
13	KOHIMA	KOHIMA END DIMAPUR (PG)
14	KOHIMA	KOHIMA END OF KARONG
15	SANIS	SANIS END OF DOYANG
16	MOKUKCHANG	MOKUKCHANG END OF DOYANG
	MANIPUR	
17	RENGPANG	RENGPANG END OF LOKTAK

WEEKLY SEM data from above locations not sent to NERLDC.

Deliberation in the meeting

Status as informed by various utilities:

S.NO	LOCATION	FEEDER NAME	Status
	ASSAM		
1	TINSUKIA	TINSUKIA END OF 220KV KTG FDR-I	Tinsukia visited on 09.10.18, DCD display problem
2	TINSUKIA	TINSUKIA END OF 220KV KTG FDR-II	
4	SONABIL	SONABIL END OF 220 KV BALIPARA-1 FDR	DCD defective
5	SONABIL	SONABIL END OF 132KV BALIPARA FDR	
6	KAHILIPARA	KAHELIPARA END OF UMTRU-1 FDR	No display in DCD. Already intimate to NERLDC.
7	KAHILIPARA	KAHELIPARA END OF UMTRU-2 FDR	
8	BTPS (AS)	220 BTPS(ASSAM) - NTPC LINE	Old CMRI defective
9	UMRANGSOO	UMRANGSOO END OF 132 KV KHANDONG	CMRI not available. Also NERTS does not collect data from Umrangso
10	UMRANGSOO	UMRANGSOO END OF 132 KV HAFONG	
	ARUNACHAL PRADESH		
11	DEOMALI	DEOMALI END OF 220KV KATHALGURI FDR	DCD not available
	TRIPURA		
12	UDAIPUR	UDAIPUR END OF PALATANA	Software issue. After laptop is received.
	NAGALAND		
13	KOHIMA	KOHIMA END DIMAPUR (PG)	No representative
14	KOHIMA	KOHIMA END OF KARONG	
15	SANIS	SANIS END OF DOYANG	
16	MOKUKCHANG	MOKUKCHANG END OF DOYANG	
	MANIPUR		
17	RENGPANG	RENGPANG END OF LOKTAK	ICT put in service one week back. Start tto SEND data after receipt of laptop

The Sub-Committee noted as above.

Action: All utilities.

ADDITIONAL AGENDA ITEMS:

AGENDA FROM DoP AR.PRADESH:

D.37 PROTECTION RELAY COORDINATION IN THE 132 KV ZIRO-DAPORIJO-AALO-PASIGHAT-ROING-Tezu-NAMSAI RADIAL SYSTEM

On 2nd September 2018, the 132Kv Ziro-Daporijo-Aalo-Pasighat-Roing-Tezu-Namsai Radial System tripped three times from Ziro SS (PGCIL) at 1845 Hrs, 1950 Hrs and 2116 Hrs. Fault recorded/indicated at Ziro on distance protection was "BROKEN CONDUCTOR". The System could be normalized only after 3rd attempt by isolating the 132 kV Pasighat-Roing TL. Later, it was discovered that a jumper had broken on the 132 Kv Roing-Tezu TL which lies further downstream of the above system.

It may be noted that no relay/s at any of the intervening SS viz. Roing, Pasighat, Aalo or Daporijo picked up the fault thereby causing the system to trip from Ziro SS.

In similar instances of relay malfunction, fault on the 132 KvPasighat-Roing TL caused the line to trip from the main incomer breaker of the Pasighat SS causing outage of Pasighat as well. This was reported to have occurred on 14th and 15th September 2018.

In view of the above, it is pertinent that in the interest of Grid security and stability and to minimize needless outages, relay coordination of the whole system is checked and reset as required.

Since the above system is under multiple ownership & control and since DoP (A.P) does not have necessary resources, technical expertise and jurisdiction for such activity, the forum is requested to kindly take cognizance of the matter and constitute a team comprising of representatives from all concerned constituents to carry out the same.

Deliberation in the meeting

After detailed deliberation, the forum referred the matter to the next PCC meeting.

The Sub-Committee noted as above.

AGENDA ITEMS FROM OTPC:

D.38 Tripping of 400kV Palatana-Silchar-I:

DGM, OTPC stated that 400kV Palatana – Silchar-I tripped on 06.10.2018. There was A/R operation at Silchar end while no operation of A/R happened at Palatana end. This was due to failure of PLCC for the said line. Forum may please discuss the RCA.

Deliberation in the meeting

NERPC informed that the matter was discussed in the Sub-group meeting on 09.10.18 and the following were agreed there on:

- Carrier status to be delinked from A/R operation in PSL at Palatana for 400kV Silchar.
- Vegetation clearance to be done and patrolling report to be submitted by NETC/POWERGRID.
- POWERGRID is requested to check the DR of M-2 relay at Silchar for carrier status.

The forum requested OTPC and NERTS to comply with the recommendations of the Sub-group (MoM to be circulated shortly). It was also decided that henceforth all affected parties would also be invited to attend the Sub-group meeting(s).

The Sub-Committee noted as above.

Action: NERTS, OTPC, NERPC.

D.39 Poor response of various Equipment Manufacturer (OEM)/Service agencies in N.E. Region:

During 149th OCC Meeting DGM (AM), POWERGRID expressed concerned on poor / delayed response of various Equipment Manufacturers / service agencies in N.E. Region for supply and service which is often causing in delay in Project Execution, Breakdown Restoration etc. and the system suffers lot.

He requested NERPC as to whether the issue can be pushed to higher level of central ministry to impress upon various Equipment Manufacturers / service agencies to provide better and prompt response to the utilities of NER considering the remoteness and difficulties of the Region.

Deliberation in the meeting

During deliberation Member Secretary, NERPC stated that so far as Govt. sector OEMs are concerned attempt will be made by NERPC to place the issue at central ministry level to take special care for NER. However, for private sector OEMs, as of now, it seems difficult to impress upon them.

The Sub-Committee noted as above.

Date & Venue of next OCC meeting

It is proposed to hold the 150th OCC meeting of NERPC on second week of November, 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 149th OCC Meeting held on 11th October, 2018

SN	Name & Designation	Organization	Contact No.
1.	Sh. Sange Phuntso, EE (E), SLDC	Ar. Pradesh	09436041217
2.	Sh. K. Gogoi, DGM,SLDC	Assam	09435301799
3.	Sh. Dipesh Ch. Das, AGM (LDC)	Assam	09954110254
4.	Sh. Bimal Ch. Borah, AGM, SLDC	Assam	09475119248
5.	Sh. P.D. Raju, AGM (Comm), TRC	Assam	09401516094
6.	Sh. N. Hazarika, AGM (HQ), AEGCL	Assam	09435386310
7.	Sh. P. Kalita, DM, O/o CGM (Com)	Assam	09706979183
8.	Sh. S. Biswas, DM (HQ), AEGCL	Assam	08473894987
9.	Sh. Roshan Oinam, Manager	Manipur	09863895218
10.	Sh. Th. Sushanta Singh, Dy. Manager,	Manipur	09862448363
11.	Sh. T. Gidon, EE, SLDC	Meghalaya	09774479956
12.	Sh. Y. Iakai, AE, MePTCL	Meghalaya	09402133552
13.	Sh. Wanbor Khyriem, EE, GSPD	Meghalaya	09856007107
14.	Sh. B. Narry, AEE, MePTCL	Meghalaya	09089000911
15.	Sh. Benjamin L. Tlumtea, Sr. EE, SLDC	Mizoram	09436151424
16.	Sh. Lalduhawma, Sr. EE (Distn.)	Mizoram	09436144113
	No Representative	Nagaland	-
17.	Sh. Anil Debbarma, DGM, SOD, SLDC	Tripura	09612589150
18.	Sh. Mrinal Paul, Manager, SOD	Tripura	09436137022
19.	Sh. Joypal Roy, Sr. Manager (E/M)	NEEPCO	09435577726
20.	Sh. B.K.Chakraborty, DGM (E)	NEEPCO	09436309730
21.	Sh. T. Taji, Sr. Manager (KHEP)	NEEPCO	09436042053
22.	Sh. T. S. Singh, ED	NERLDC	-
23.	Sh. M. K. Ramesh , DGM	NERLDC	09449599174
24.	Sh. S.C. De, AGM	NERLDC	09436325369
25.	Sh. Ankit Jain, Sr. Engineer	NERLDC	09436335381
26.	Sh. Bornali Nath, Asst. Engineer	NERLDC	08414927752
27.	Sh. P. Kanungo, DGM	PGCIL	09436302823
28.	Sh. U. Kataki, AGM	PGCIL	09435505418
29.	Sh. K. Madhu, Engineer (T)	NHPC	09435505418
30.	Sh. Subhajit Ganguly, Sr. Executive	OTPC	07980010258

31.	Sh. Bibek Roy, DGM (O&M)	OTPC	08334966111
32.	Sh. Kangkan Paul, Dy. Manager	NTPC	09435029230
33.	Sh. H.R. Venkatesh, GM	PRDC	09845009162
34.	Smt. D. Basu, Head ER	PRDC	09903010743
35.	Sh. Debabrata Paul, Sr. Engineer	PRDC	09903957283
36.	Sh. P.K. Mishra, Member secretary	NERPC	09968380242
37.	Sh. B. Lyngkhai, Director (O&P)	NERPC	09436163419
38.	Sh. S. Mukherjee, AD	NERPC	08794277306
39.	Sh. S. Ranjan, AD	NERPC	07739437669



उ.पू.क्षे गिड प्रदर्शन

NER GRID PERFORMANCE

For Month: September 2018

NORTH EASTERN REGIONAL LOAD DESPATCH CENTRE

POSOCO, SHILLONG

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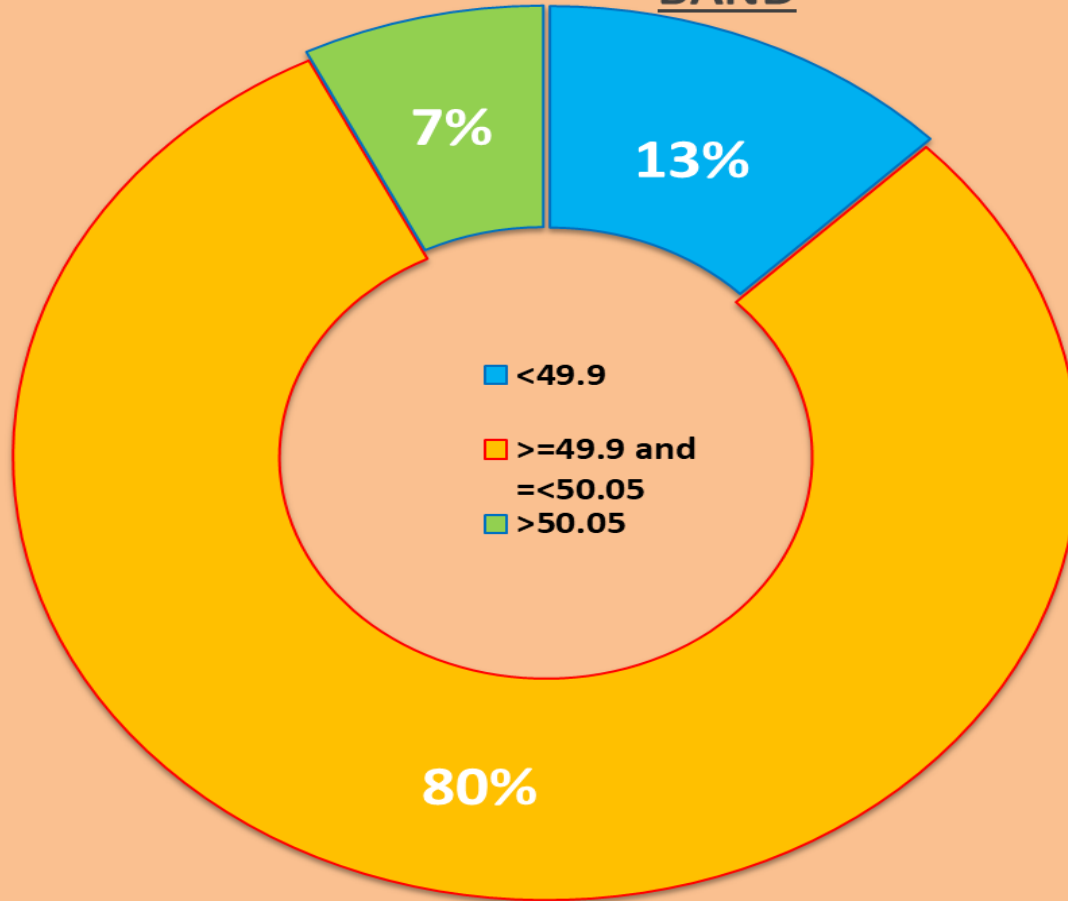
Telemetry
Issues

Highlights for the month of September'18:

1. NER Maximum Demand 2850 MW has been met on 18.09.2018(18:36hrs).
- 2.400/220kV, 315MVA ICT-2 Bongaigaon first time charging om 21:55hrs of 12.09.2018.
- 3.Reporting Software of NERLDC is made live from 07.10.2018 and Outage Module is going to be live soon.

Frequency Profile for the month of September'18:

% OF FREQUENCY WITHIN & OUT SIDE THE IEGC BAND



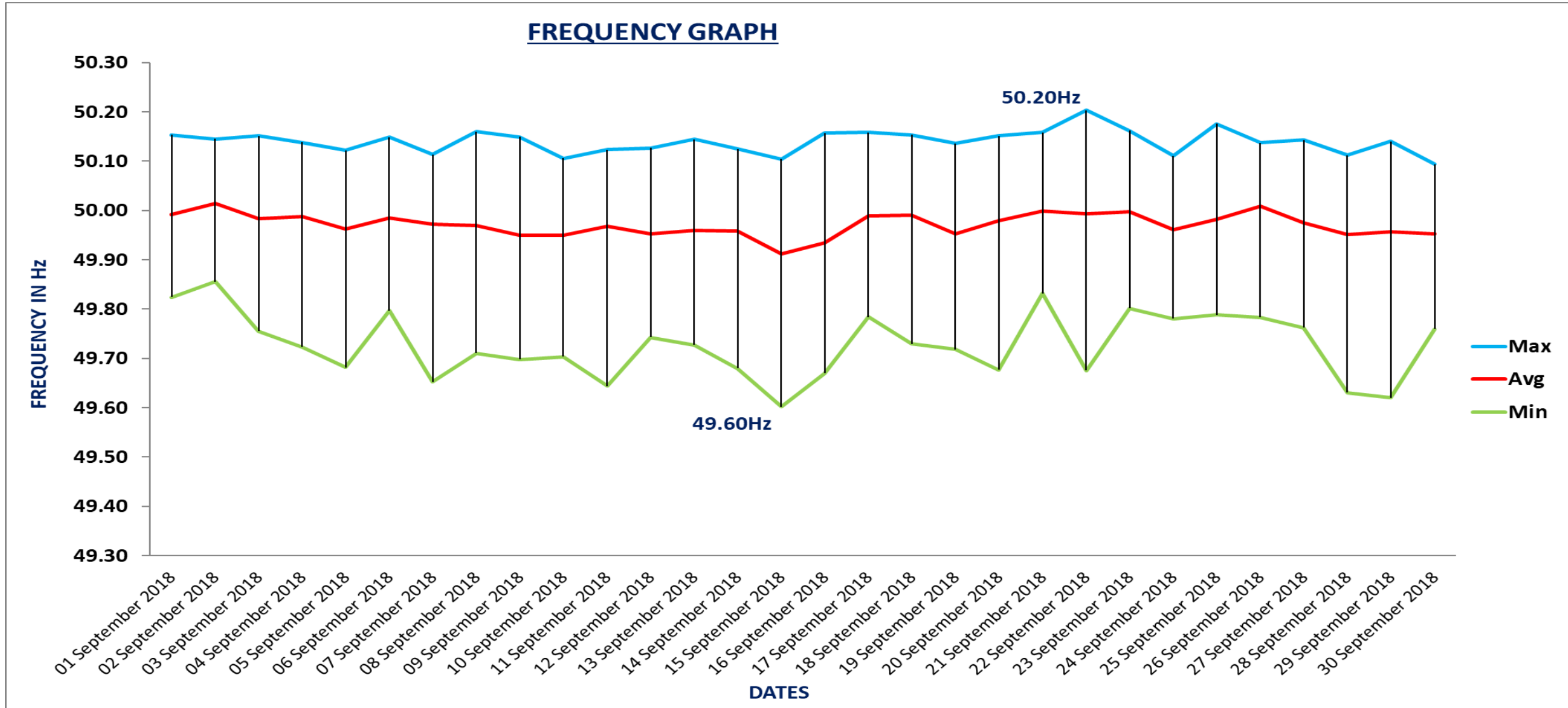
FDI for the month of September

Sep'17	Sep'18
0.215	0.194

Frequency Violation Messages

Constituents	Frequency Violation Message		
	Alert	Emergency	Total
AP	8	0	8
Assam	38	5	43
Manipur	25	7	32
Meghalaya	28	3	31
Mizoram	17	3	20
Nagaland	11	1	12
Tripura	40	7	47
AGBPP	1	0	1
AGTCCPP	0	0	0
RHEP	0	0	0
KOPILI	0	0	0
KHANDONG	0	0	0
KOPILI –II	0	0	0
DHEP	0	0	0
LOKTAK	0	0	0
BgTPP	0	0	0
PALATANA	0	0	0
PARE	0	0	0

Daily Frequency Profile

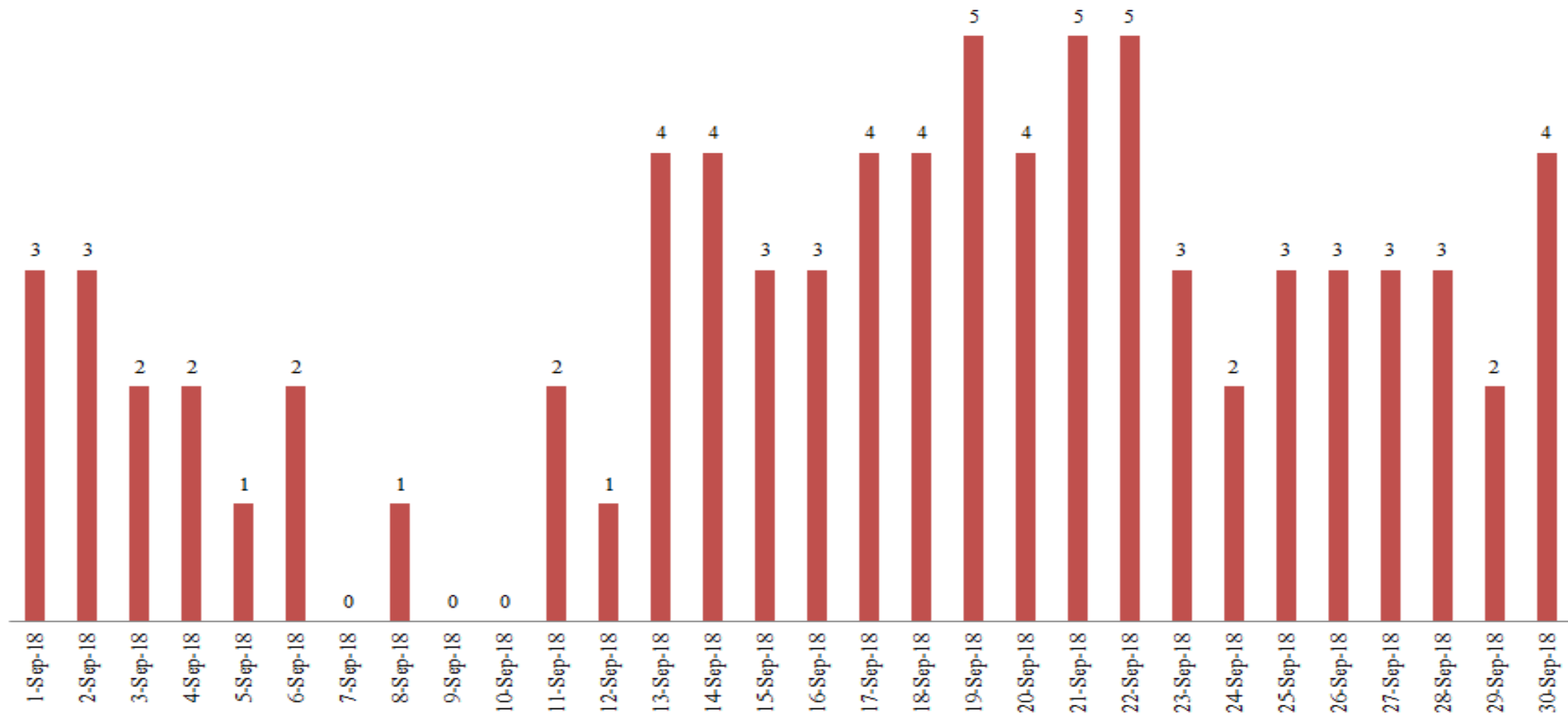


Voltage Deviation Index (outside IEGC range) in %

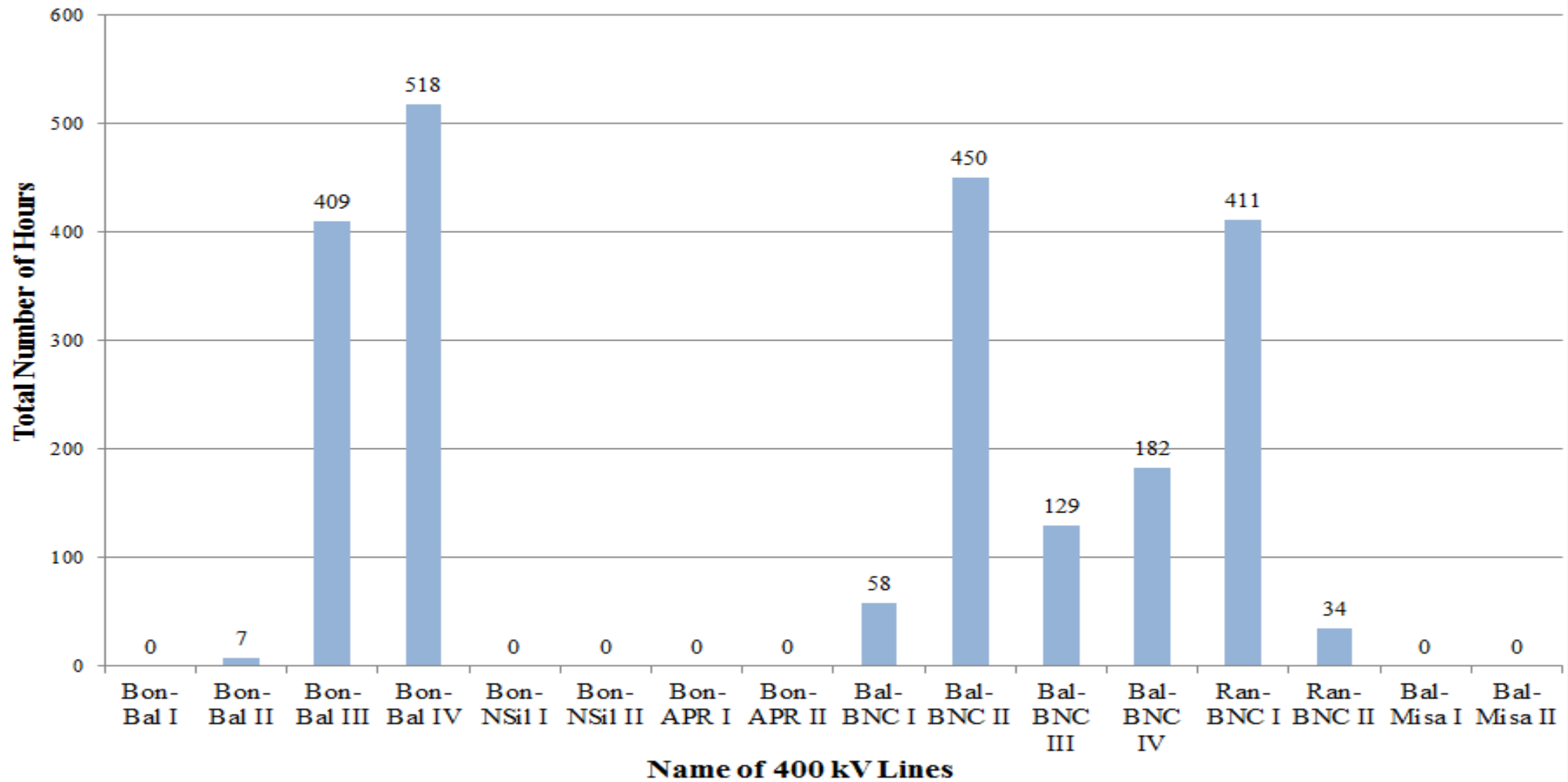
Sl. No.	Name of 400 kV Node	Sep'17	Sep'18
1	Azara (AEGCL)	0.00 %	0.00 %
2	Balipara (PG)	0.00 %	0.38 %
3	BgTPP (NTPC)	0.17 %	0.00 %
4	Biswanath Chariali (PG)	0.07 %	0.41 %
5	Bongaigaon (PG)	0.00 %	0.00 %
6	Byrnihat (MePTCL)	0.15 %	0.00 %
7	Misa (PG)	1.14 %	3.42 %
8	Palatana (OTPC)	12.89 %	0.00 %
9	Ranganadi (NEEPCO)	3.13 %	7.27 %
10	Silchar (PG)	0.36 %	0.00 %

Number of 400 kV Lines opened on Overvoltage for Sep'18

■ Number of 400 kV Lines opened on Overvoltage

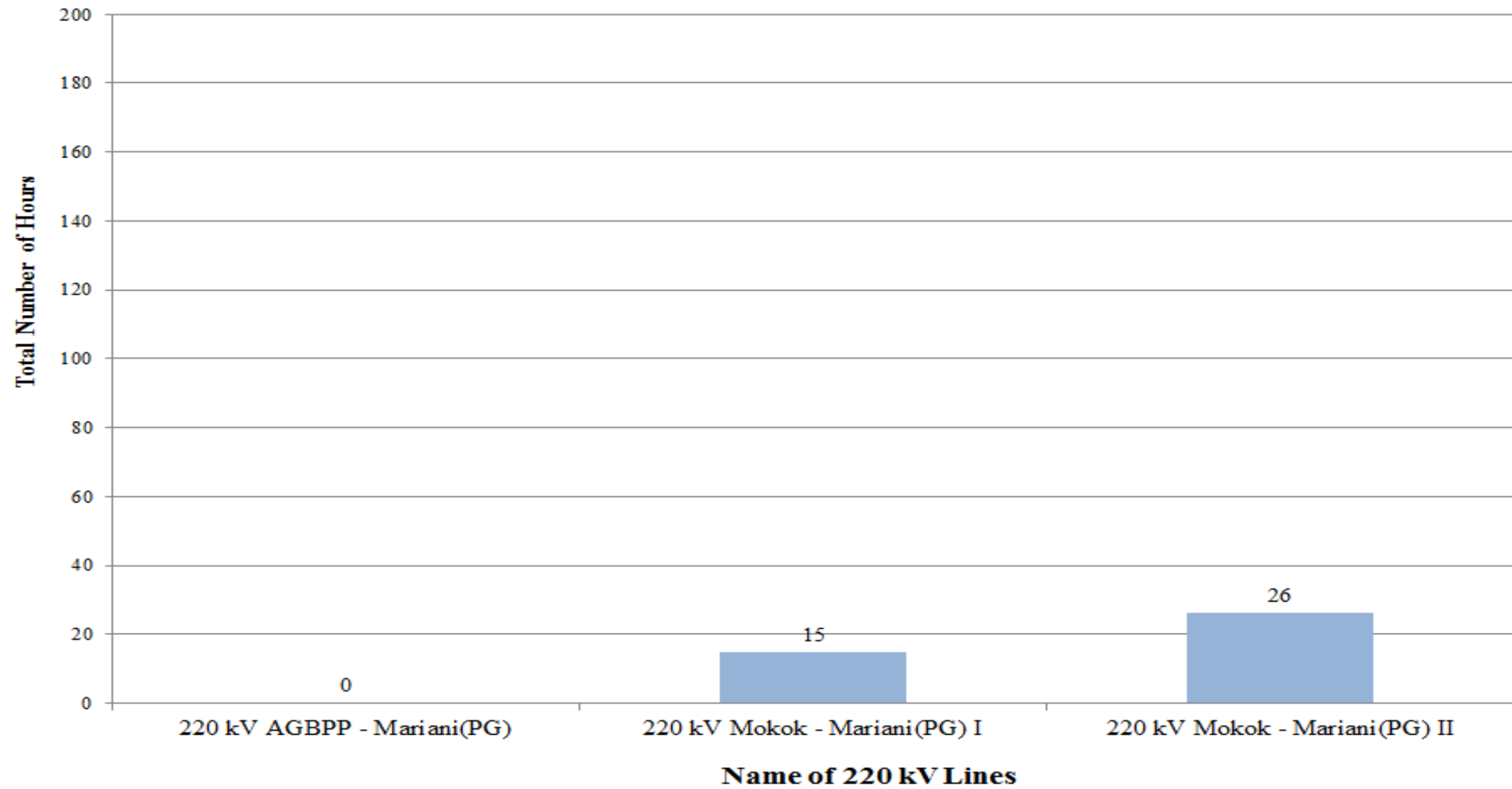


Number of Hours 400 kV Lines kept opened due to Over Voltage during Jul'18 to Sep'18



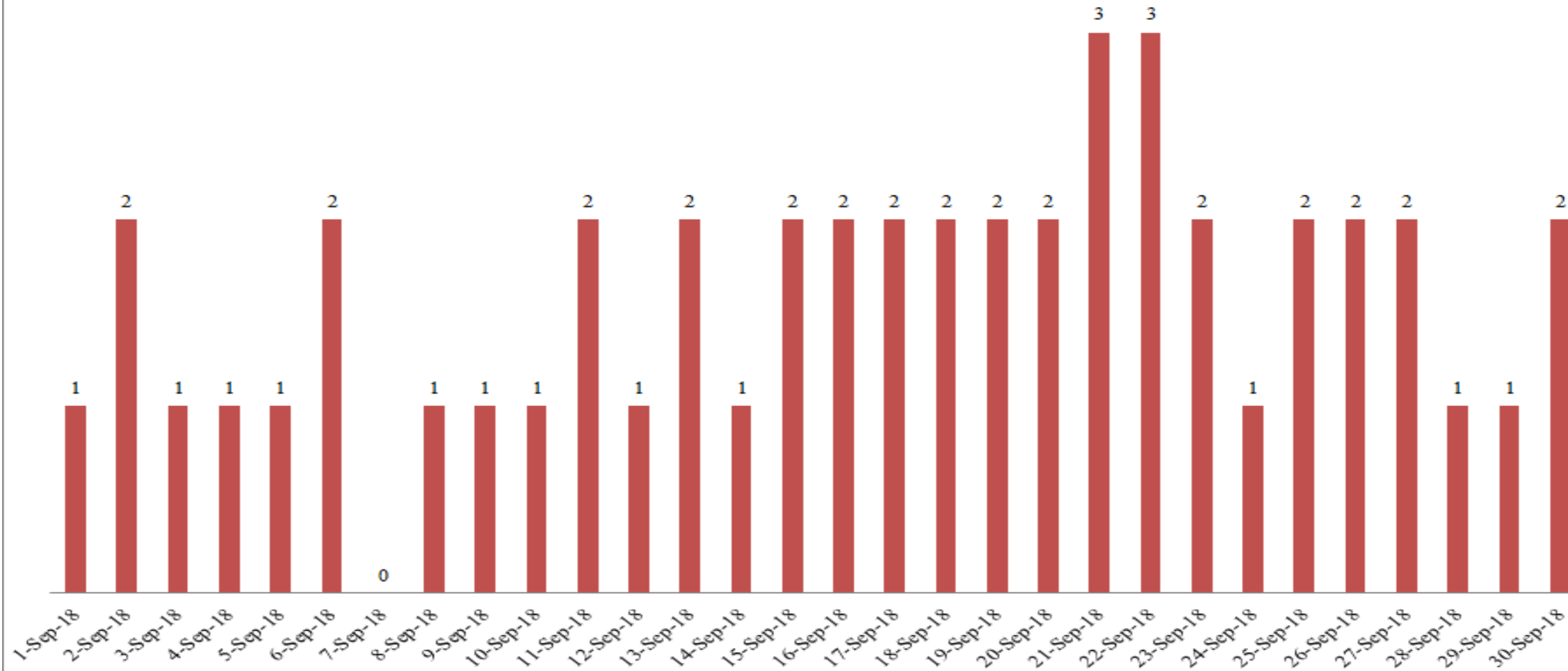
Bon-Bongaigaon, Bal-Balipara, Ran-Ranganadi, BNC-Biswanath Charali, APR-Alipurduar, NSil- NewSilliguri

Number of Hours 220 kV Lines kept opened due to Over Voltage



Mar(PG)-Mariani(PG), Mokok-Mokokchung

■ **Maximum No. Lines Opened in a Day due to Over Voltage**

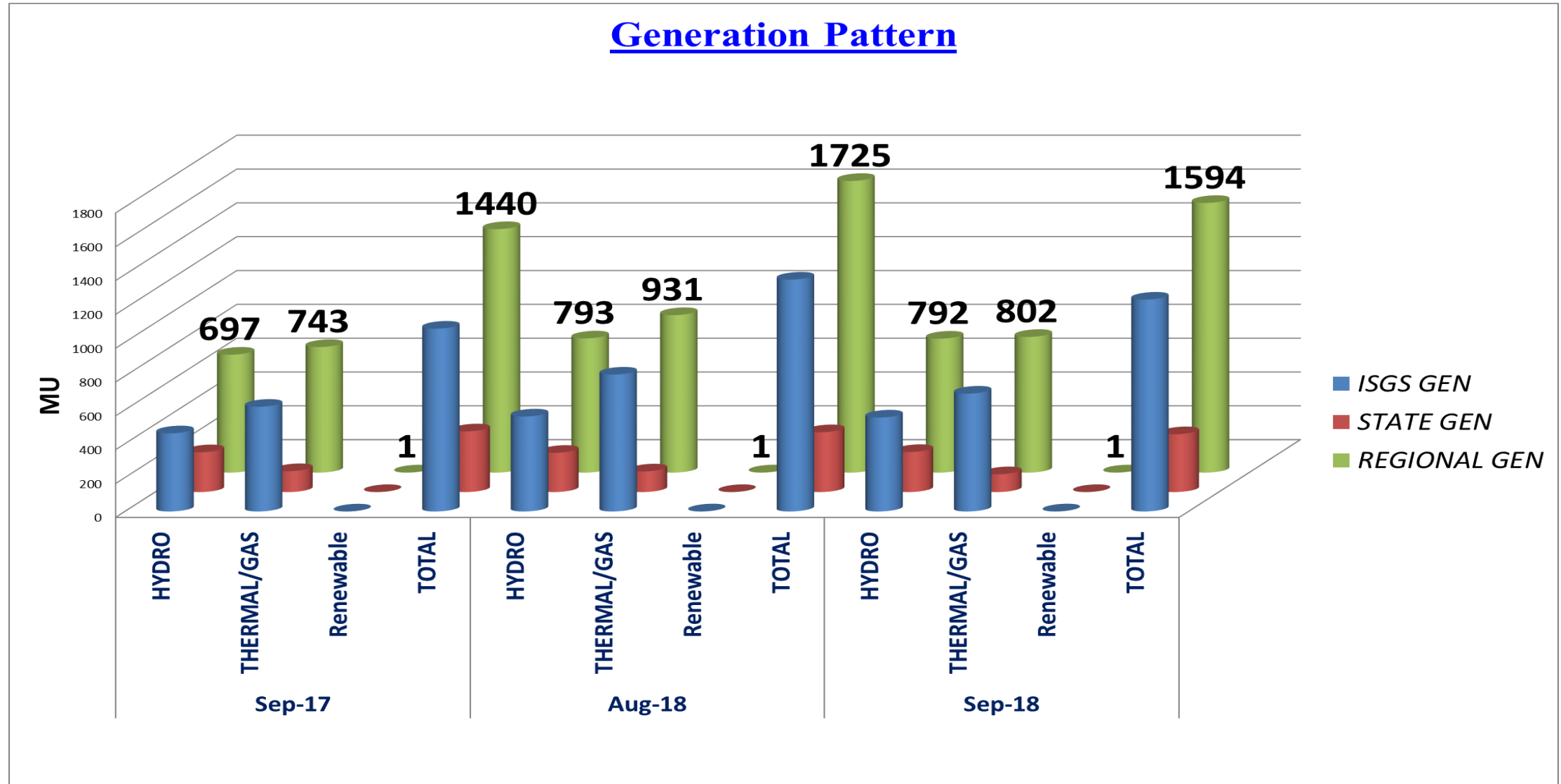


Cross Border Transactions (in MU)

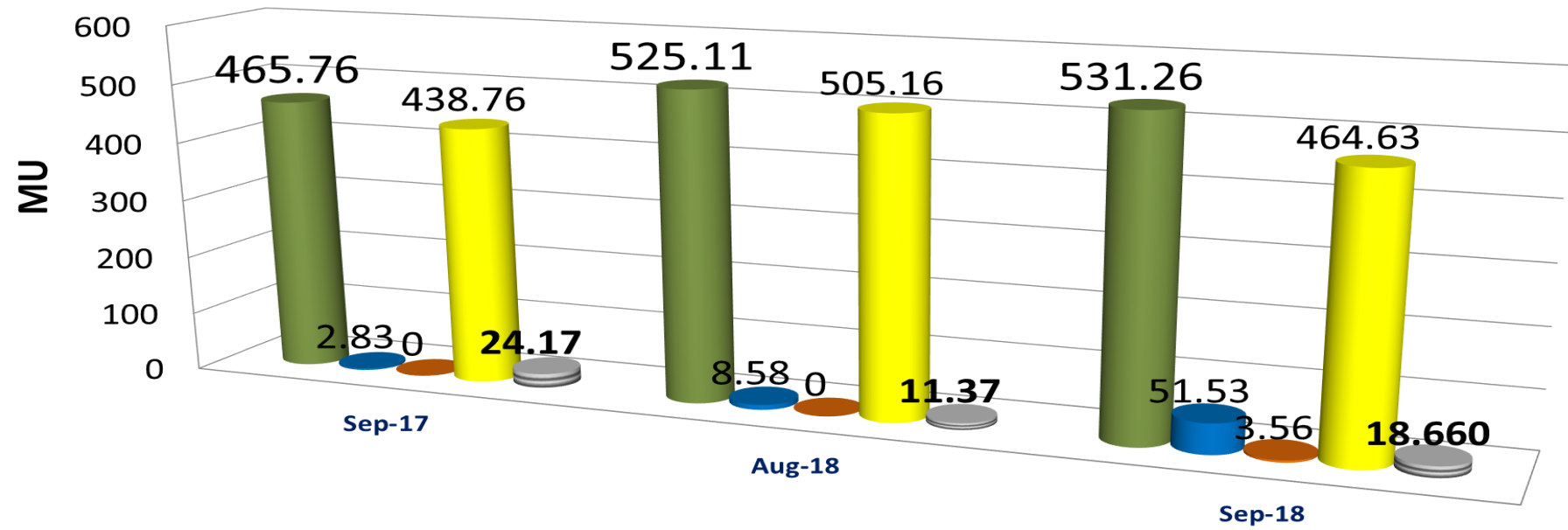
Inter-Country Power Exchange (in MU)	
Import(+) / Export(-) by Bhutan	1.984
Drawal by Bangladesh	90.56
Drawal by Myanmar	0.467

Comparison of Generation Pattern (MU)

Generation Pattern



Comparison of Inter – Regional Exchange in MU



	Sep-17	Aug-18	Sep-18
ER-NER	465.76	525.11	531.26
NER-ER	2.83	8.58	51.53
NR-NER	0	0	3.56
NER-NR	438.76	505.16	464.63
Net Import(+)/Export(-)	24.17	11.37	18.660

System Reliability Report for the month of September

Sl. No.		Sep'17	Sep'18
1	ER-NER Import TTC Violation	0 %	0 %
	NER-ER Export TTC Violation	0 %	0 %
2	ER-NER Import ATC Violation	0 %	0 %
	NER-ER Export ATC Violation	0 %	0 %
3	400 kV Bongaigaon wrt Balipara (Max angular diff between buses)	8.2	14.1
	400 kV Balipara wrt Misa (Max angular diff between buses)	4.5	7.9
	400 kV Binaguri wrt Bongaigaon (Max angular diff between buses)	8.2	10.5

Comparison of Energy Availability (in MU)

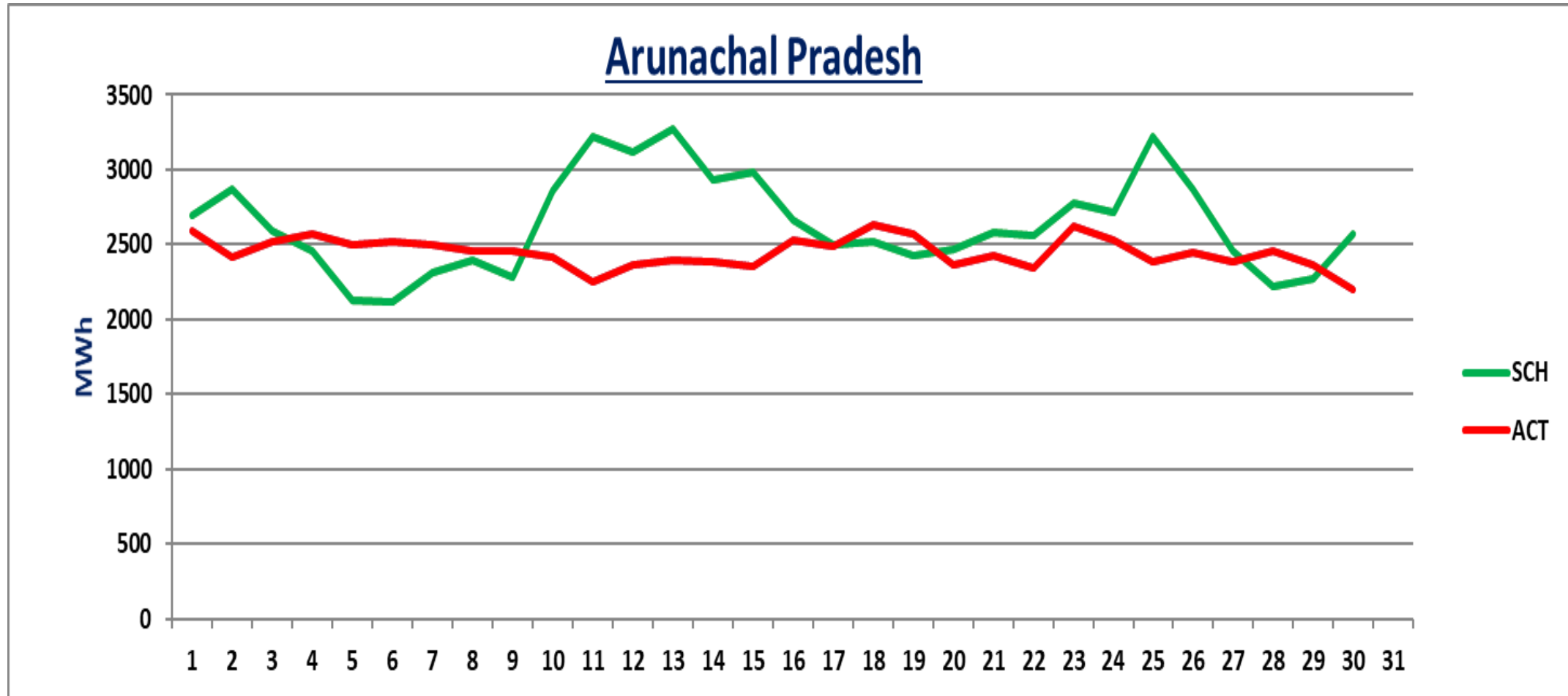
Constituents	Energy Met (MU)		Difference	% Difference	Energy Met (MU) per Day	
	Sep-17	Sep-18			Sep-17	Sep-18
Arunachal	64.90	69.06	4.16	6.41	2.16	2.30
Assam	876.70	939.37	62.67	7.15	29.22	31.31
Manipur	65.39	67.60	2.21	3.38	2.18	2.25
Meghalaya	116.62	156.29	39.68	34.03	3.89	5.21
Mizoram	36.05	49.85	13.80	38.29	1.20	1.66
Nagaland	69.26	69.95	0.69	0.99	2.31	2.33
Tripura (Excluding Bangladesh)	127.55	136.76	9.21	7.22	4.25	4.56
Region (Excluding Bangladesh)	1356.47	1488.88	132.41	9.76	45.22	49.63

Maximum Demand Met of states for September'18

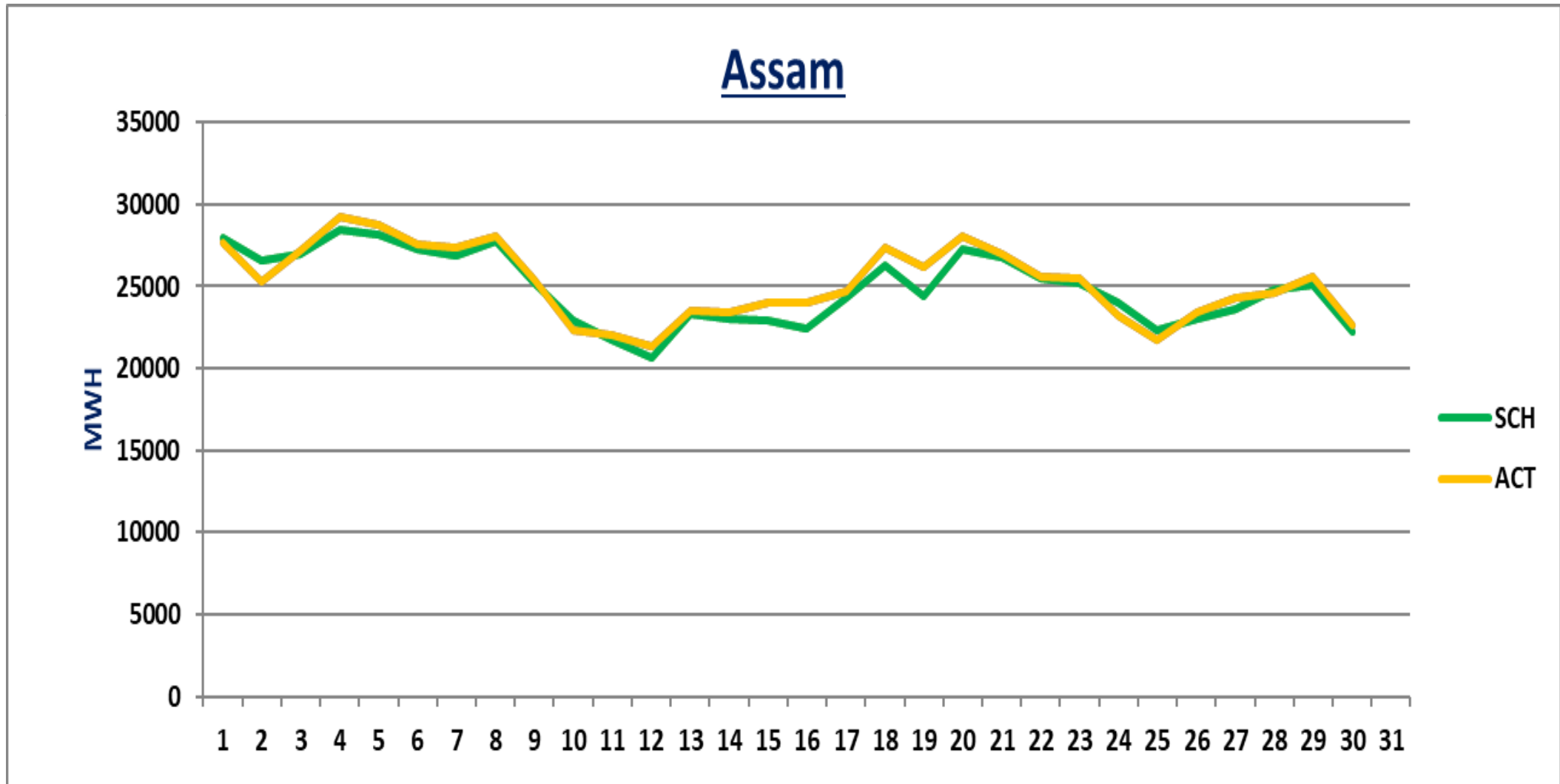


Name of Constituents	Maximum Demand Met (MW) in September'18	Maximum Demand Met (MW) in August'18	Maximum Demand Met (MW) in September'17
Ar Pradesh	130.0	133.0	128.0
Assam	1809.0	1795.0	1717.7
Manipur	182.0	175.0	165.1
Meghalaya	333.6	326.0	326.0
Mizoram	93.3	97.0	84.6
Nagaland	137.5	133.0	141.4
Tripura(Excluding Bangladesh)	293.0	287.0	306.2
Region(Excluding Bangladesh)	2850.0	2795.0	2519.8
Max Drawal by Bangladesh	189.3	195.9	172.2
Max Drawal by Myanmar	1.7	3.1	1.3

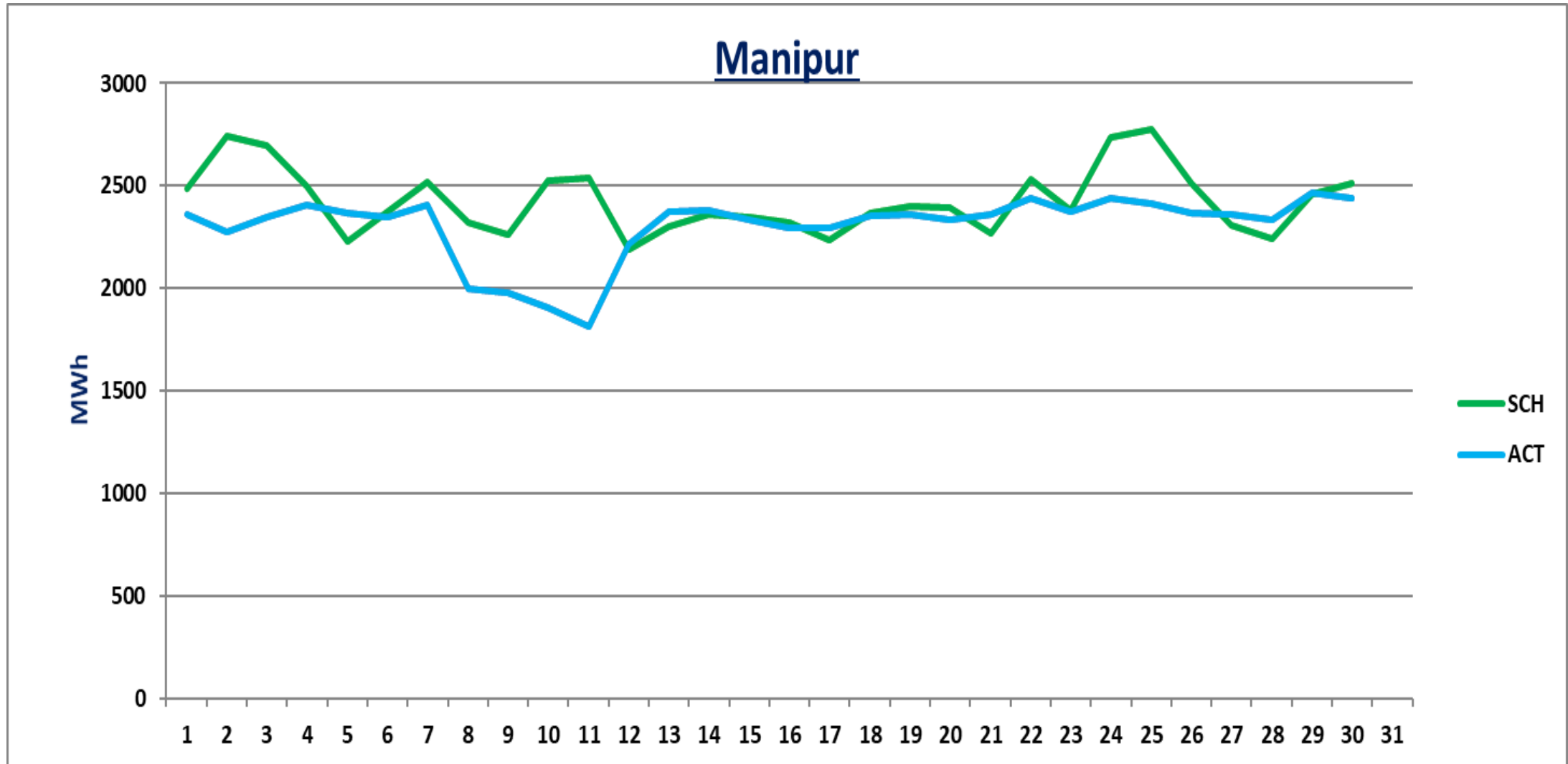
Actual drawl against Schedule in MWH



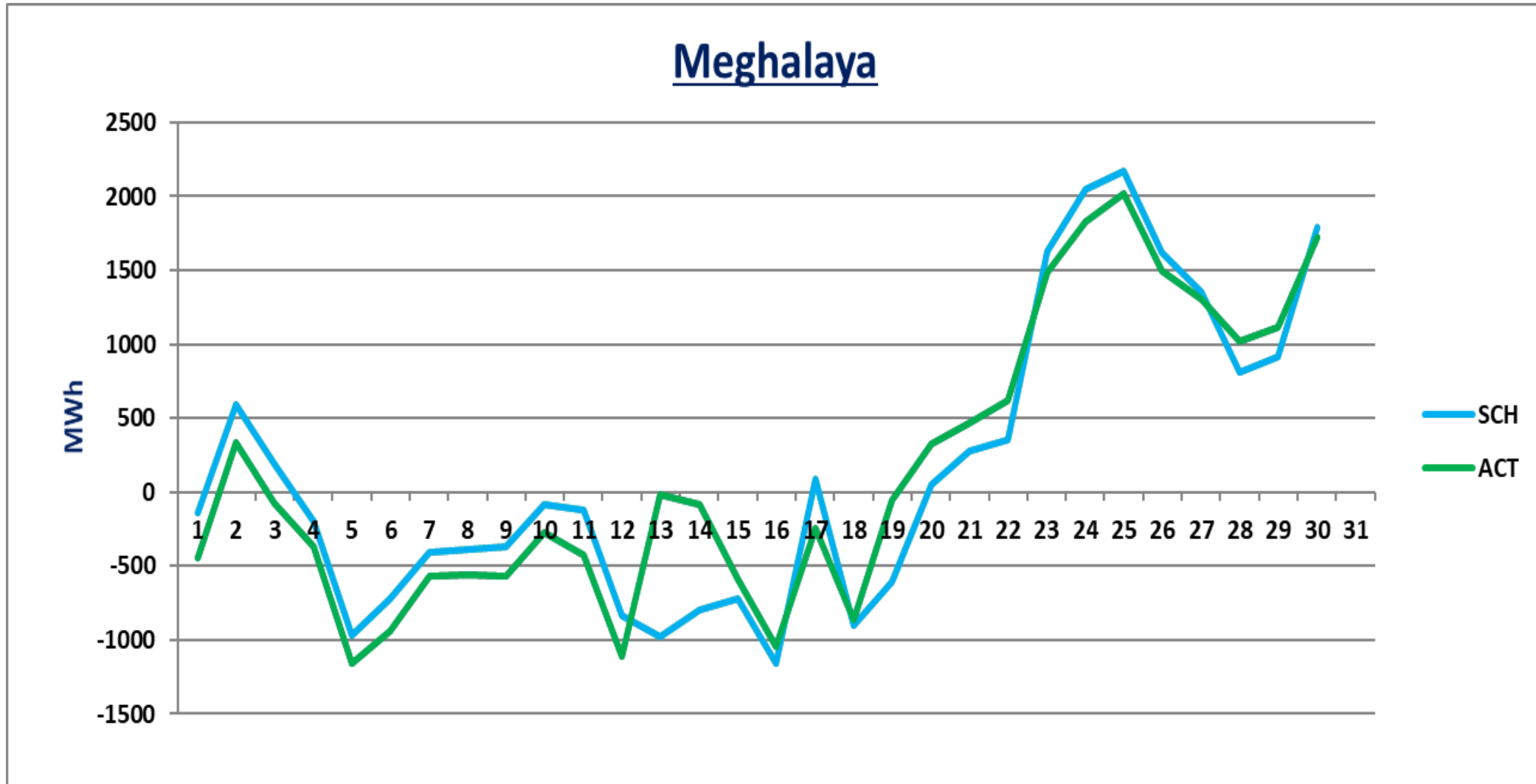
Actual drawl against Schedule in MWH



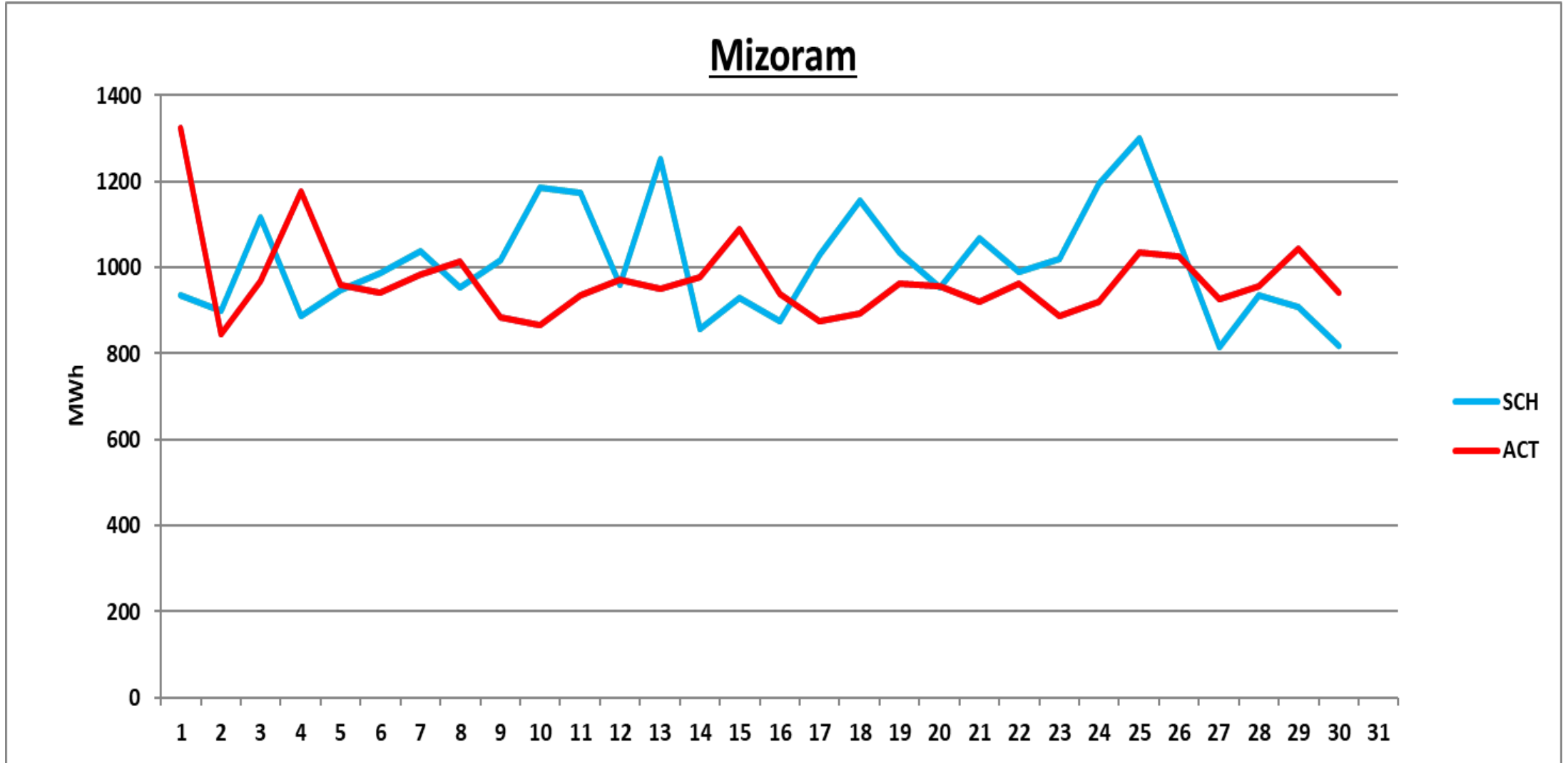
Actual drawl against Schedule in MWh



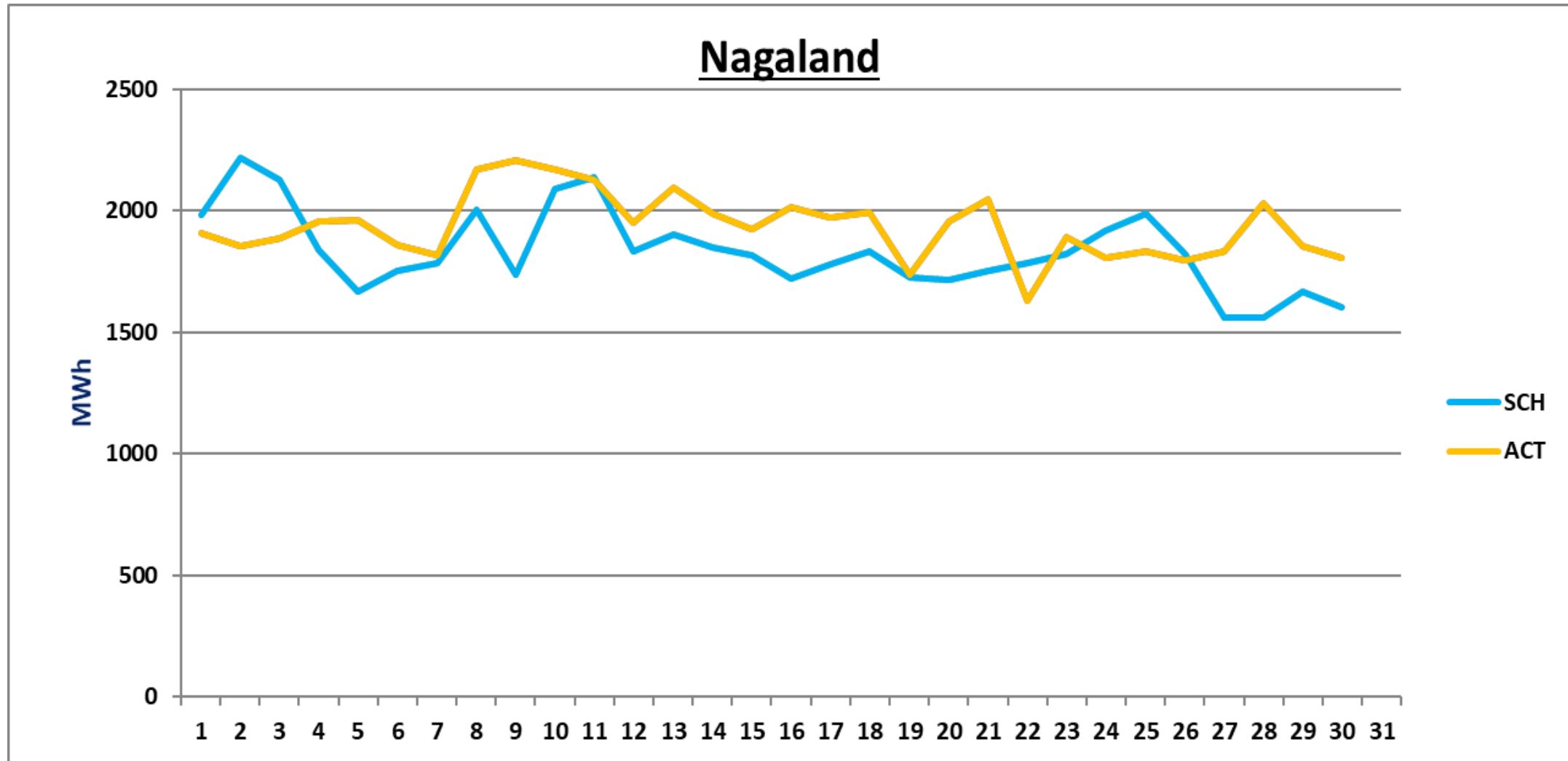
Actual drawl against Schedule in MWh



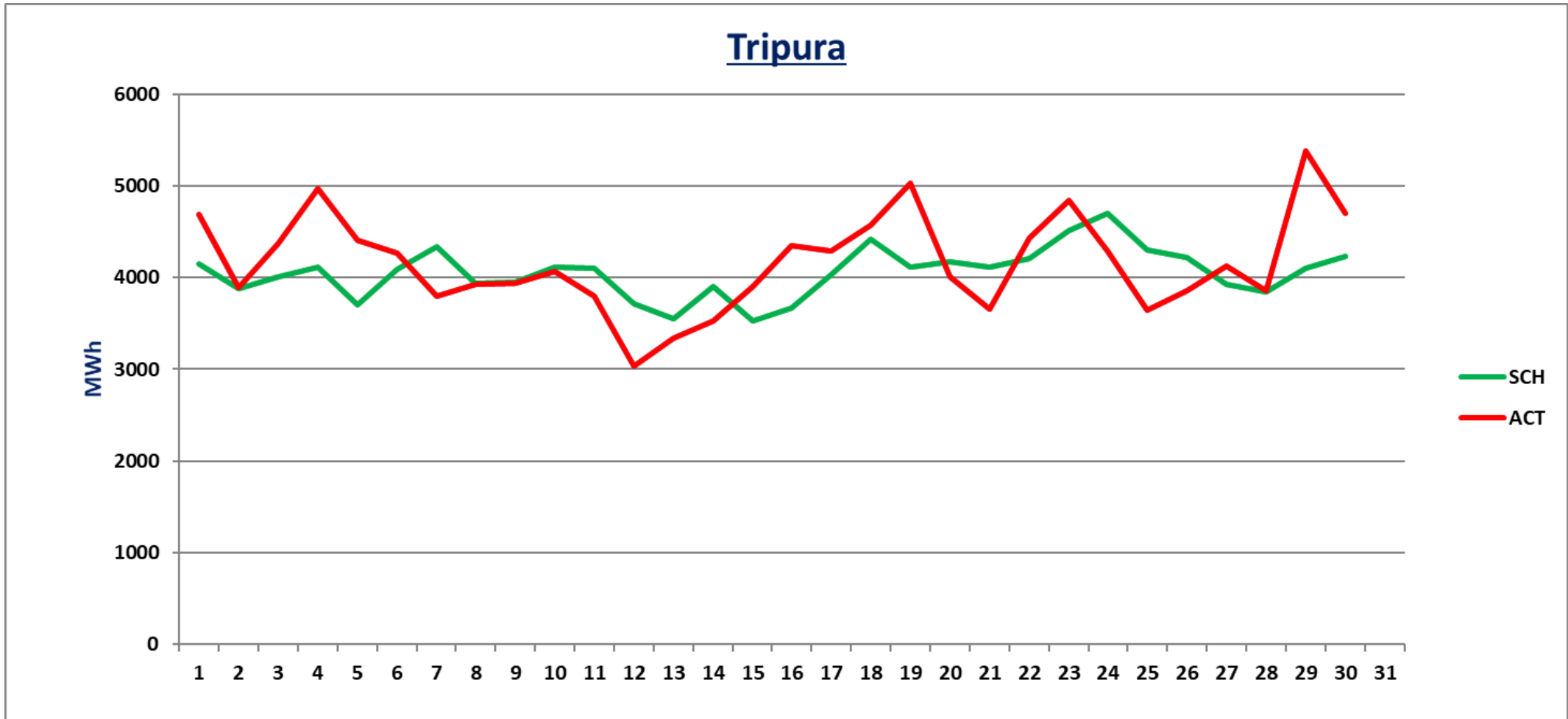
Actual drawl against Schedule in MWH



Actual drawl against Schedule in MWh



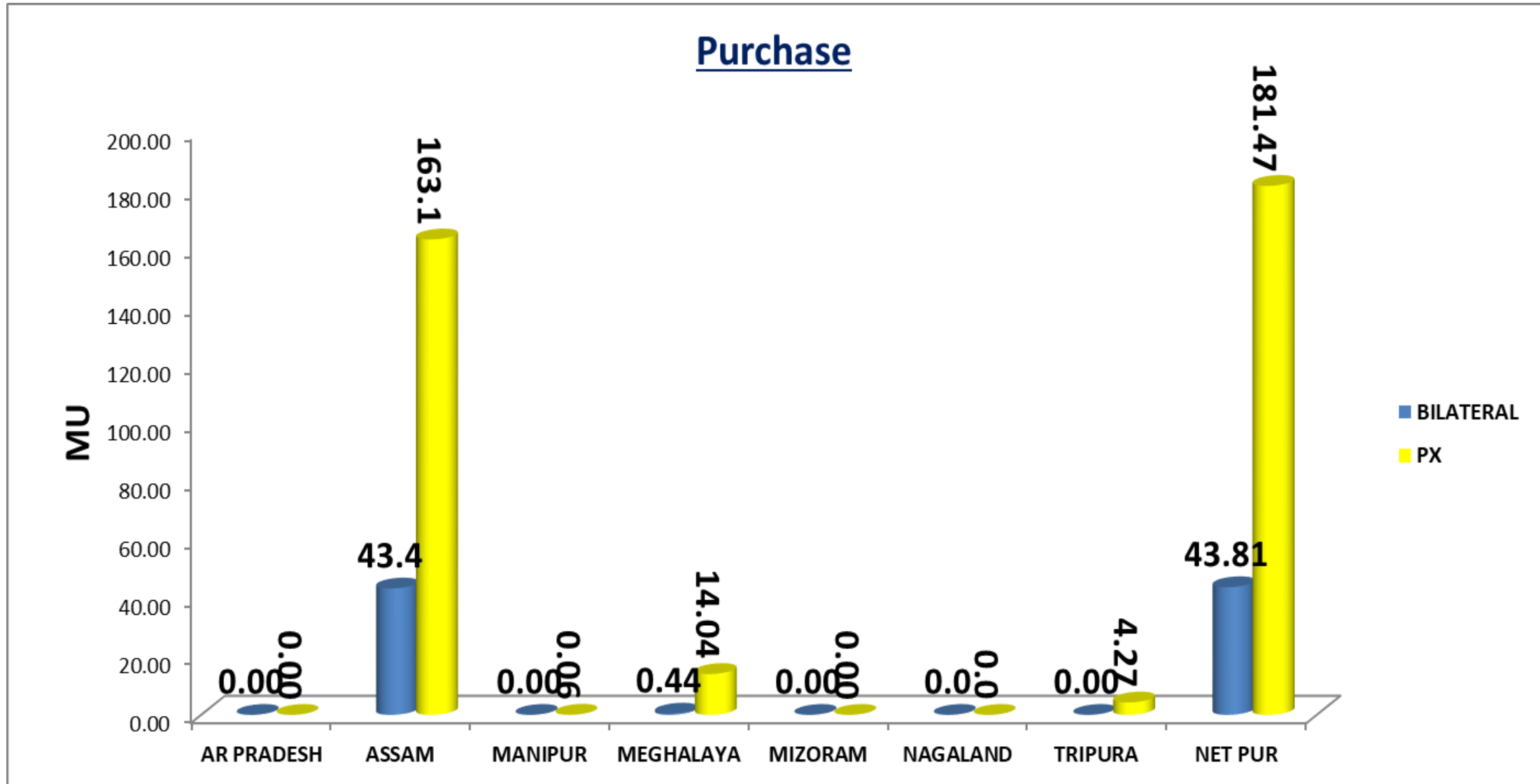
Actual drawl against Schedule in MWh



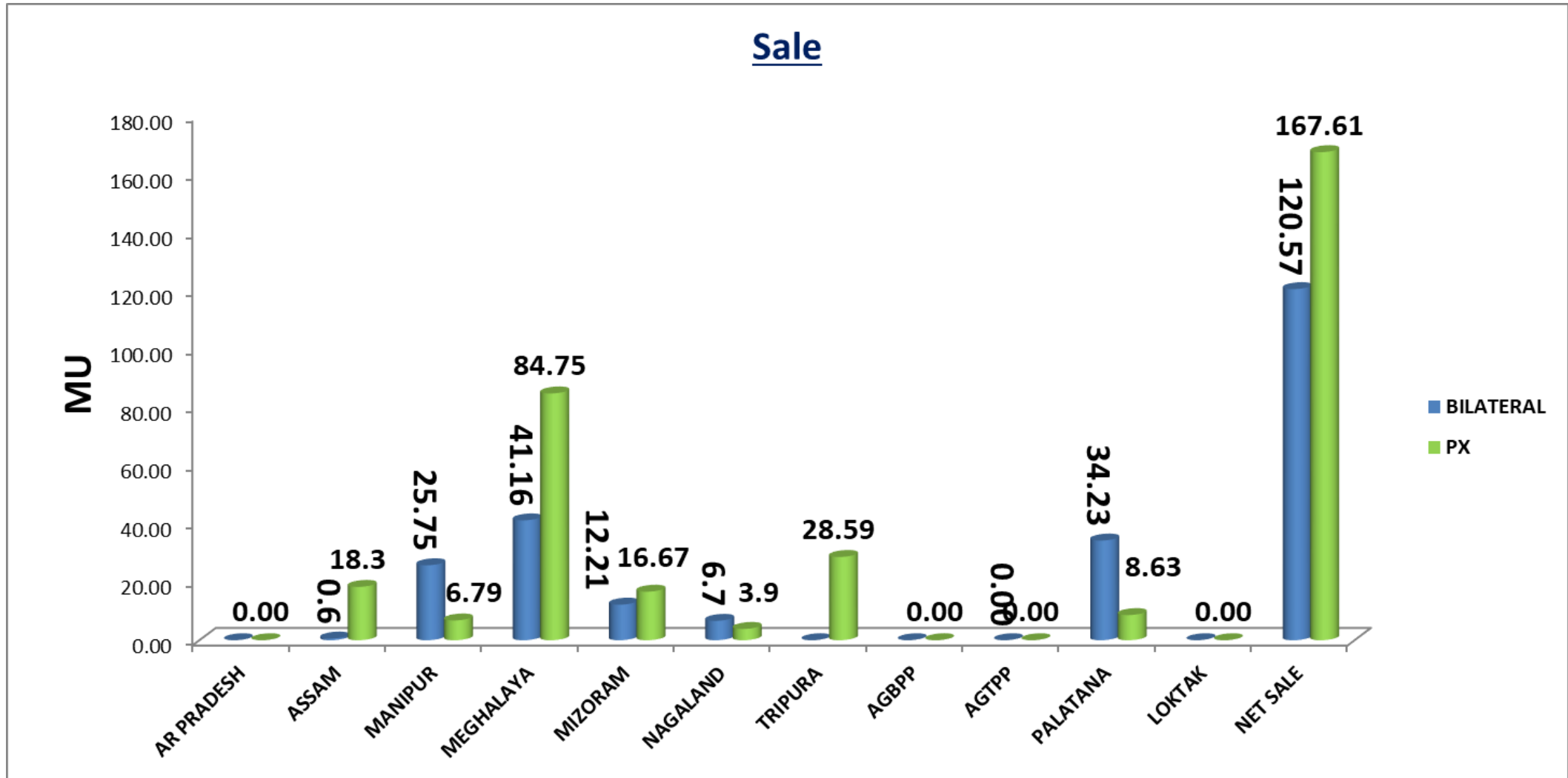
Violation Message Summary of September 2018

Constituents	Deviation Violation Message			Zero crossing Violation Message		
	Alert	Emergency	Total	Alert	Emergency	Total
AP	0	0	0	1	10	11
Assam	23	4	27	4	2	6
Manipur	4	1	5	5	4	9
Meghalaya	10	0	10	7	3	10
Mizoram	0	0	0	2	8	10
Nagaland	0	0	0	5	8	13
Tripura	15	14	29	4	14	18
AGBPP	0	0	0	0	0	0
AGTCCPP	0	0	0	0	0	0
RHEP	0	0	0	0	0	0
KOPII	0	0	0	0	0	0
KHANDONG	0	0	0	0	0	0
KOPII –II	0	0	0	0	0	0
DHEP	0	0	0	0	0	0
LOKTAK	0	0	0	0	0	0
BgTPP	0	0	0	0	0	0
PALATANA	0	0	0	0	0	0
PARE	0	0	0	0	0	0

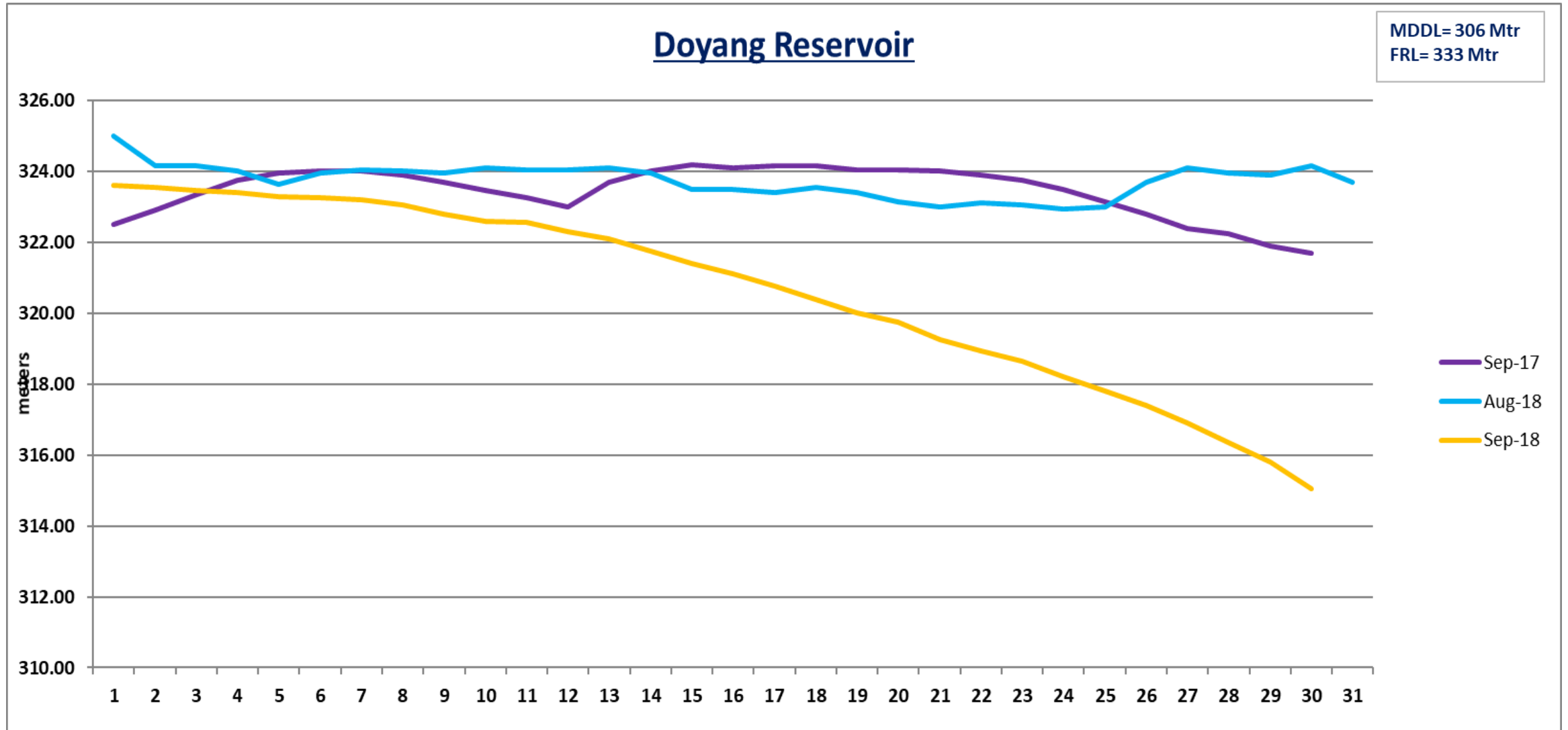
STOA Transactions by the States



STOA Transactions by the States



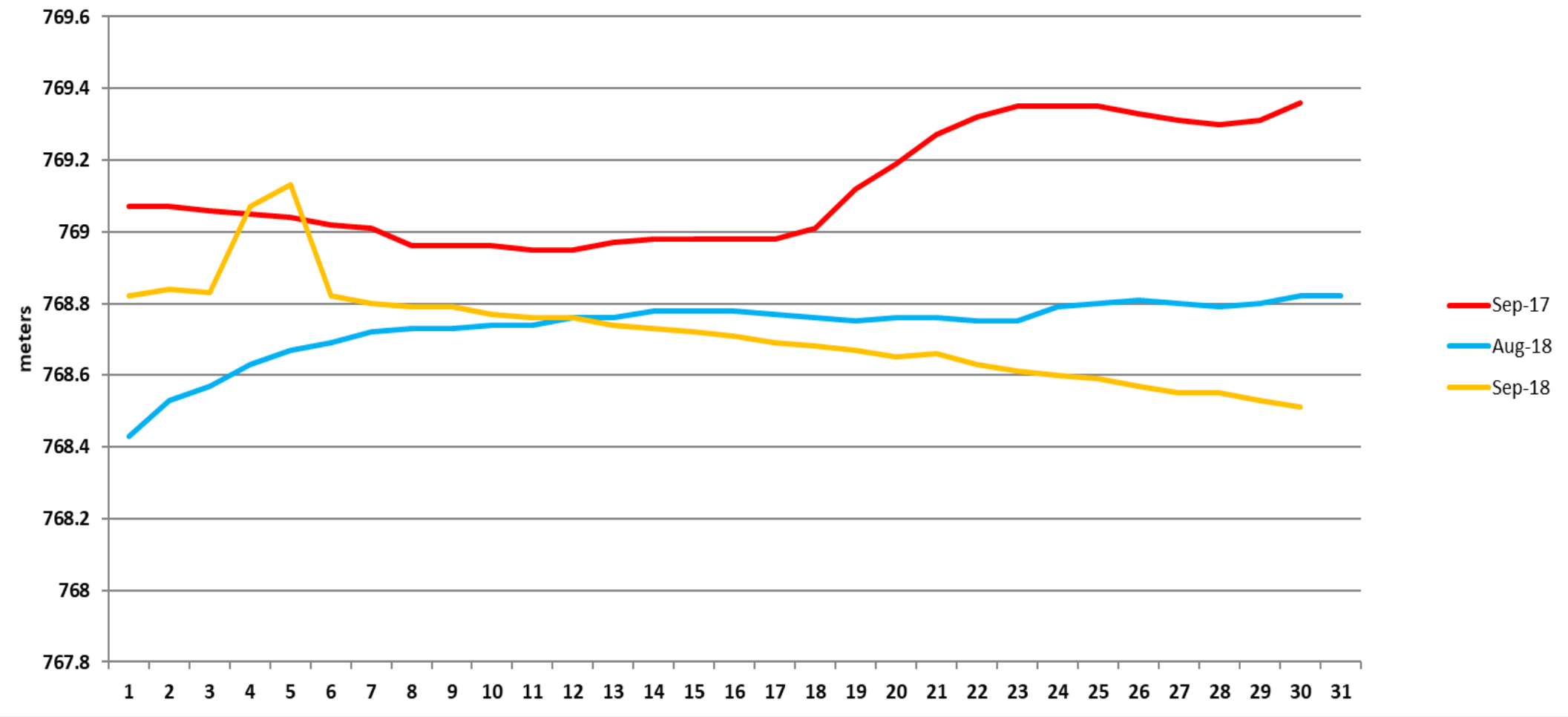
Water Level of Reservoirs in NER



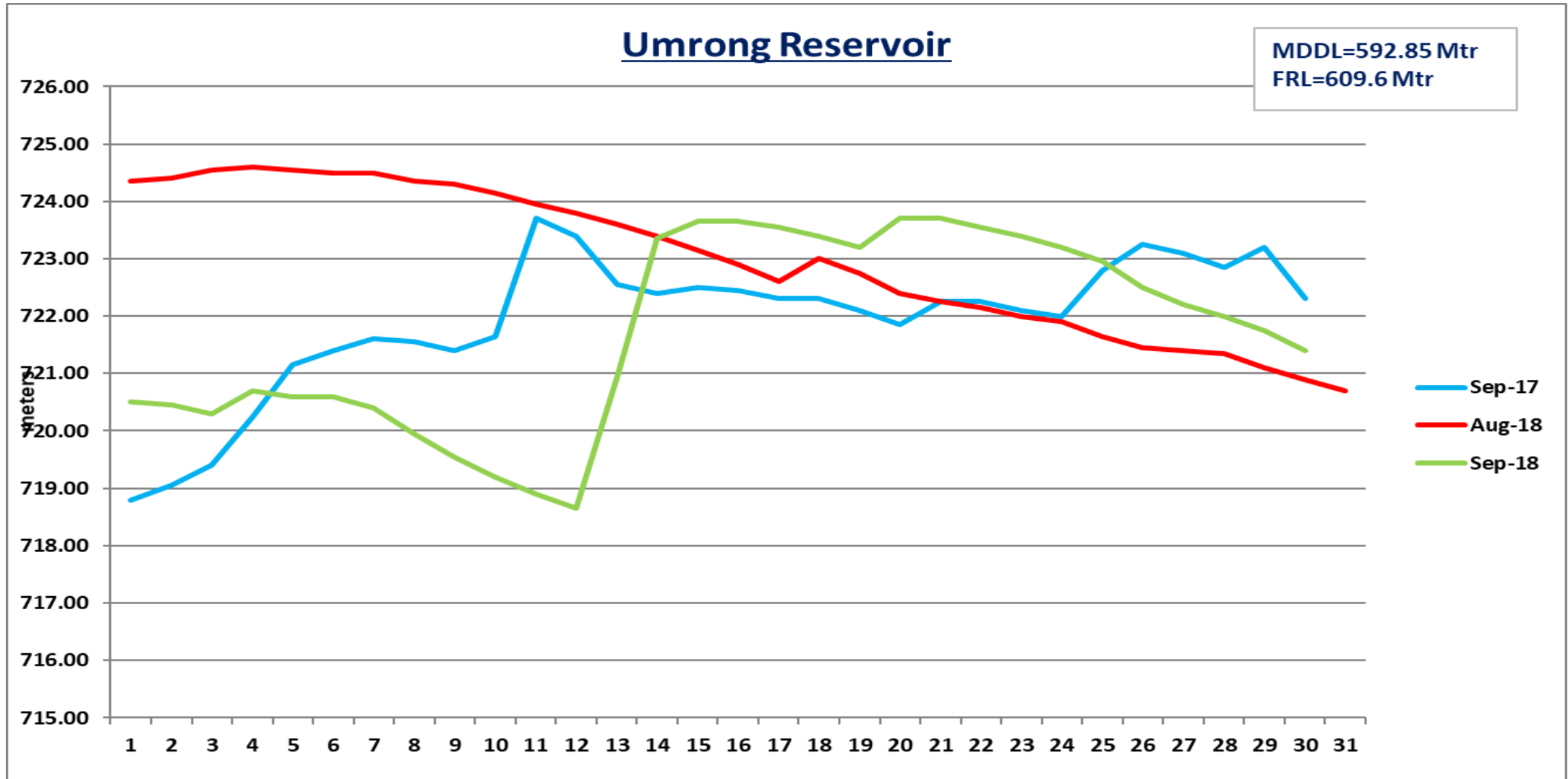
Water Level of Reservoirs in NER

MDDL= 766.2 Mtr
FRL= 769 Mtr

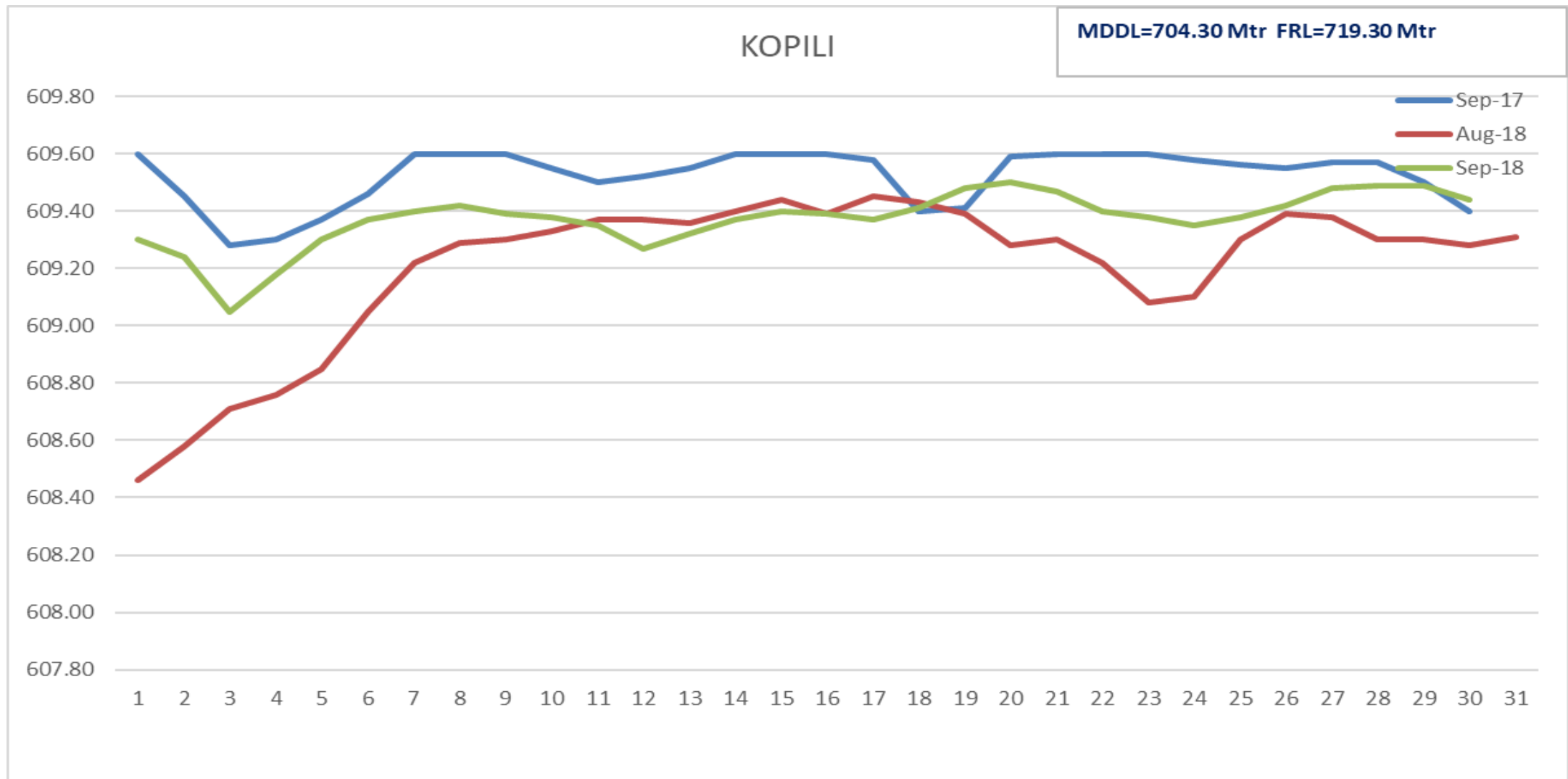
Loktak Reservoir



Water Level of Reservoirs in NER



Water Level of Reservoirs in NER



Energy Content of Hydro Plants

	Reservoir Level in meters (as on 10/10/18)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	717.4	21.93	.960+0.50400	15
			1.464	
Kopili	609.4	(98.2+ 4x21.93)	4.584	41
		185.92		
Doyang	314.6	11.8	0.2515	47
Loktak	768.35	215	2.457	88

Details of Grid Disturbance / Grid Incidents

GD & GI Count for September'18

Sl. No.	Category of GD	Total Counts
1	GI 1	3
2	GI 2	10
3	GD 1	20
4	GD 2	0
5	GD 3	0
6	GD 4	0
7	GD 5	0

Details of Shutdowns availed and not-availed

148th OCCM approved and w.e.f. 14.09.18 to 10.10.18

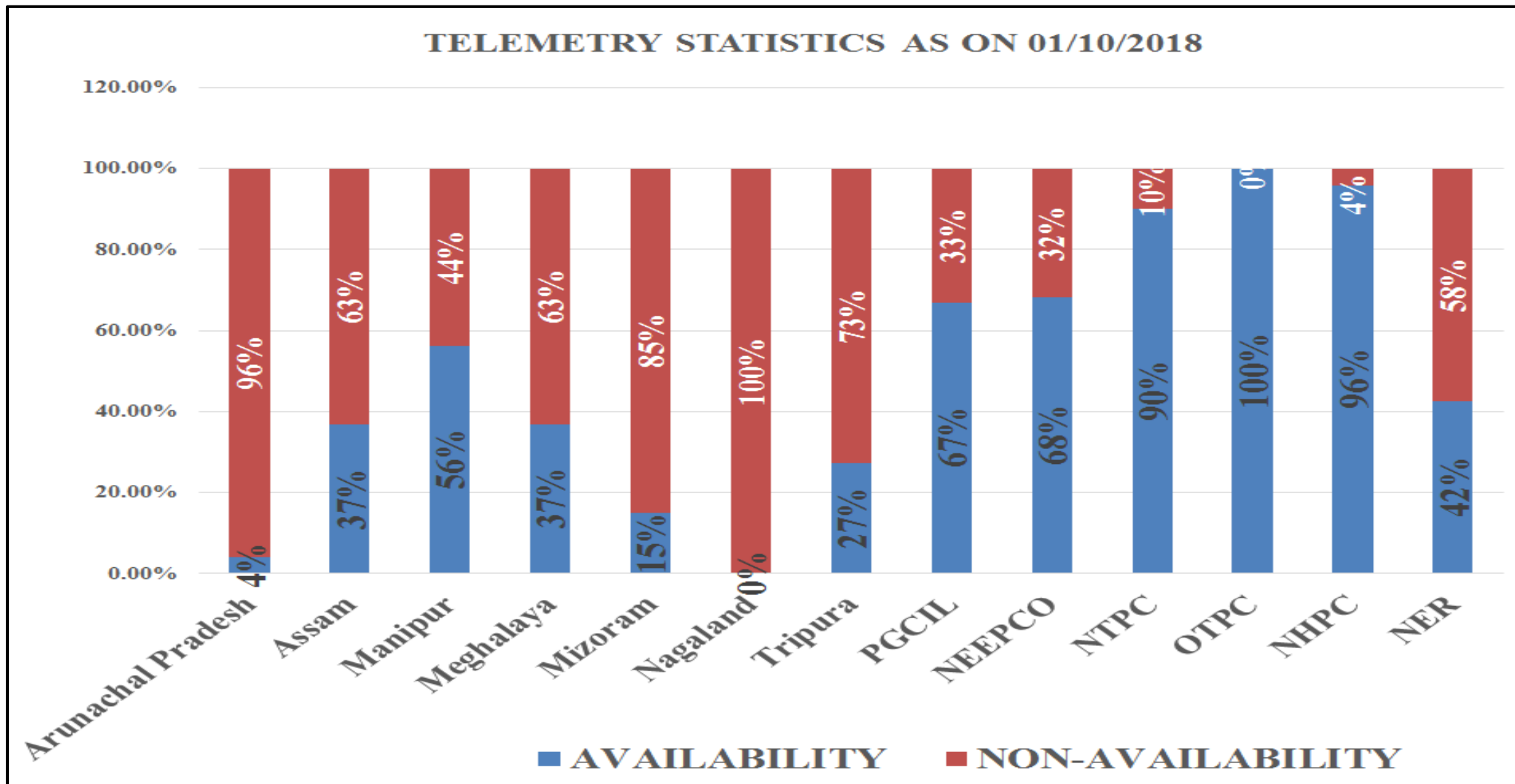
Total no. of SD approved	Nos. of SDs availed	Nos. of SDs not availed	Nos. of shutdown not given consent	Nos. of SD availed on D-3 basis	Nos. of SD not availed on D-3 basis
100			4	84	16

Inordinate delay for Shutdowns

Transmission Licensee	Total Delay (in Hrs)	Avg. Delay (in Hrs)	Max. Delay (in Hrs)
POWERGRID	74:45	01:34	09:39
NETC	07:25	02:28	02:36
ENICL	-	-	-

Telemetry Issues

TELEMETRY STATISTICS AS ON 01/10/2018



THANK YOU

VSAT COMMUNICATION SYSTEM IN NER.

By.

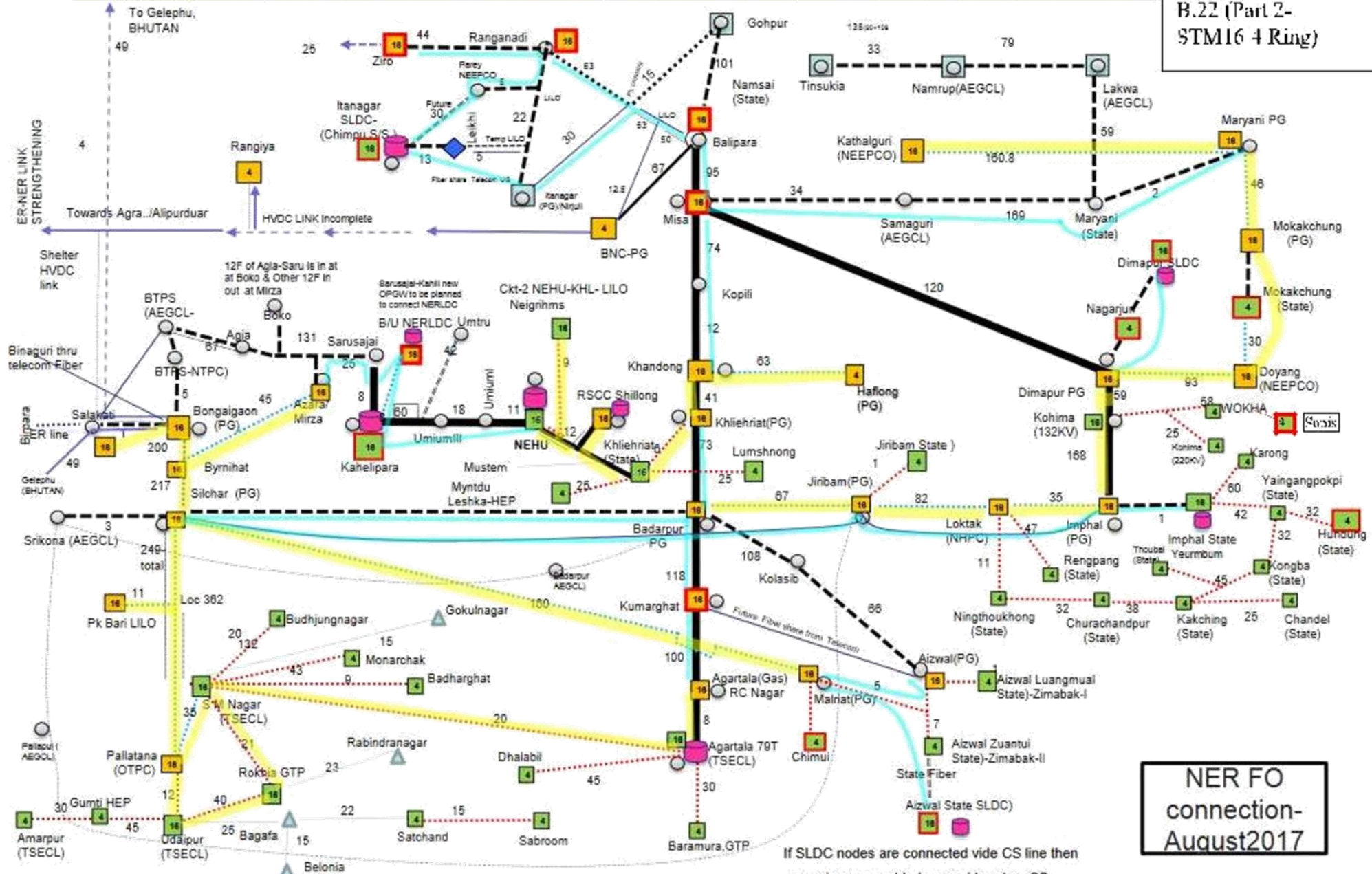
MK RAMESH

DGM (System Logistics)

NERLDC(MAIN)(11-10-2018)

Fibre Optic Expansion Project of NER – FO Network—Considered with ULDC, MW Vacation & NER FO EX

**ANNEX-FO EXP
B.22 (Part 2-
STM16 4 Ring)**



**NER FO
connection-
August 2017**

ARUNACHAL PRADESH

SL NO	STATION NAME	OWNER OF STATION	FUTURE LINK	CURRENT COMMUNICATION LINK
1	DAPORIZO	AP	NOT COVERED	NOT CONNECTED
2	ALONG	AP	NOT COVERED	NOT CONNECTED
3	PASIGHAT	AP	NOT COVERED	NOT CONNECTED
4	ROING	PG	NOT COVERED	NOT CONNECTED
5	TEZU	PG	NOT COVERED	NOT CONNECTED
6	NAMSAI	PG	NOT COVERED	NOT CONNECTED
7	DEOMALI	AP	NOT COVERED	NOT CONNECTED
8	BHALUKPONG	AP	NOT COVERED	NOT CONNECTED

MIZORAM

SL NO	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	BAIRABI	NOT COVERED	NOT CONNECTED
2	LUNGMUAL	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
3	SHHIMUI	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
4	ZUANGTUI	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED

NAGALAND

SL NO	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	DIMAPUR	PROPOSED UNDER NER MW REPLACEMENT	NOT CONNECTED
2	KIPHIRE	NOT COVERED	NOT CONNECTED
3	LHEP	NOT COVERED	NOT CONNECTED
4	MELURI	NOT COVERED	NOT CONNECTED
5	MOKOKCHUNG	PROPOSED UNDER NER MW REPLACEMENT & NER FO EXPANSION	NOT CONNECTED
6	SANIS	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
7	WOKHA	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED

MANIPUR

SL NO	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	CHANDEL	PROPOSED UNDER NER FO EXPANSION	GPRS
2	CHURACHANDPUR	PROPOSED UNDER NER FO EXPANSION	GPRS
3	HUNDUNG	PROPOSED UNDER NER FO EXPANSION	GPRS
4	JIRIBUM	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
5	KAKCHING	PROPOSED UNDER NER FO EXPANSION	PLCC
6	KARONG	PROPOSED UNDER NER FO EXPANSION	PLCC
7	KONGBA	PROPOSED UNDER NER FO EXPANSION	GPRS
8	NINGTHOUKONG	PROPOSED UNDER NER FO EXPANSION	PLCC
9	RENGPANG	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
10	TIPAIMUKH	NOT COVERED	NOT CONNECTED
11	YIANGANGPOKPI	PROPOSED UNDER NER FO EXPANSION	PLCC

MEGHALAYA

SL NO	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	Cherrapunji	NOT COVERED	NOT CONNECTED
5	LESHKA	PROPOSED UNDER NER FO EXPANSION	ON PLCC
6	LUMSHNONG	PROPOSED UNDER NER FO EXPANSION	ON PLCC AND STATE OPTICAL FIBRE
7	MAWLAI	NOT COVERED	ON PLCC
8	MAWNGAP	NOT COVERED	ON PLCC
9	MENDIPATHAR	NOT COVERED	ON OPTICAL FIBRE IN ASSAM NETWORK
10	MUSTEM	PROPOSED UNDER NER FO EXPANSION	ON PLCC AND STATE OPTICAL FIBRE
11	NANGALBIBRA	NOT COVERED	ON STATE OPTICAL FIBRE
12	NEIGRIHMS	PROPOSED UNDER NER FO EXPANSION	ON PLCC AND STATE OPTICAL FIBRE
13	NONGSTOIN	NOT COVERED	ON PLCC
14	NEW UMTRU	NOT COVERED	ON PLCC
15	RONGKHON	NOT COVERED	ON PLCC
16	UMIAM 2	NOT COVERED	ON PLCC
17	UMIAM 4	NOT COVERED	ON PLCC
18	UMIAM	NOT COVERED	ON STATE OPTICAL FIBRE
19	UMTRU	PROPOSED UNDER NER FO EXPANSION	ON PLCC AND STATE OPTICAL FIBRE

TRIPURA

SL NO	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	AMBASSA	NOT COVERD	NOT CONNECTED
2	BADHARGHAT	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
3	BARMURA	PROPOSED UNDER NER FO EXPANSION	PLCC
4	BUDHJUNGNAGAR	PROPOSED UNDER NER FO EXPANSION	PLCC
5	DHALABILL	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
6	DHARMANAGAR	NOT COVERD	NOT CONNECTED(MODEM ISSUE)
7	GAMAITILLA	NOT COVERD	NOT CONNECTED
8	GOURNAGAR	NOT COVERD	NOT CONNECTED
9	RABINDRANAGAR	NOT COVERD	NOT CONNECTED
10	ROKHIA	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
11	SABROOM	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
12	SATCHAND	PROPOSED UNDER NER FO EXPANSION	NOT CONNECTED
13	SURJAMANINAGAR	PROPOSED UNDER NER FO EXPANSION	PLCC
14	UDAIPUR	PROPOSED UNDER NER FO EXPANSION	PLCC

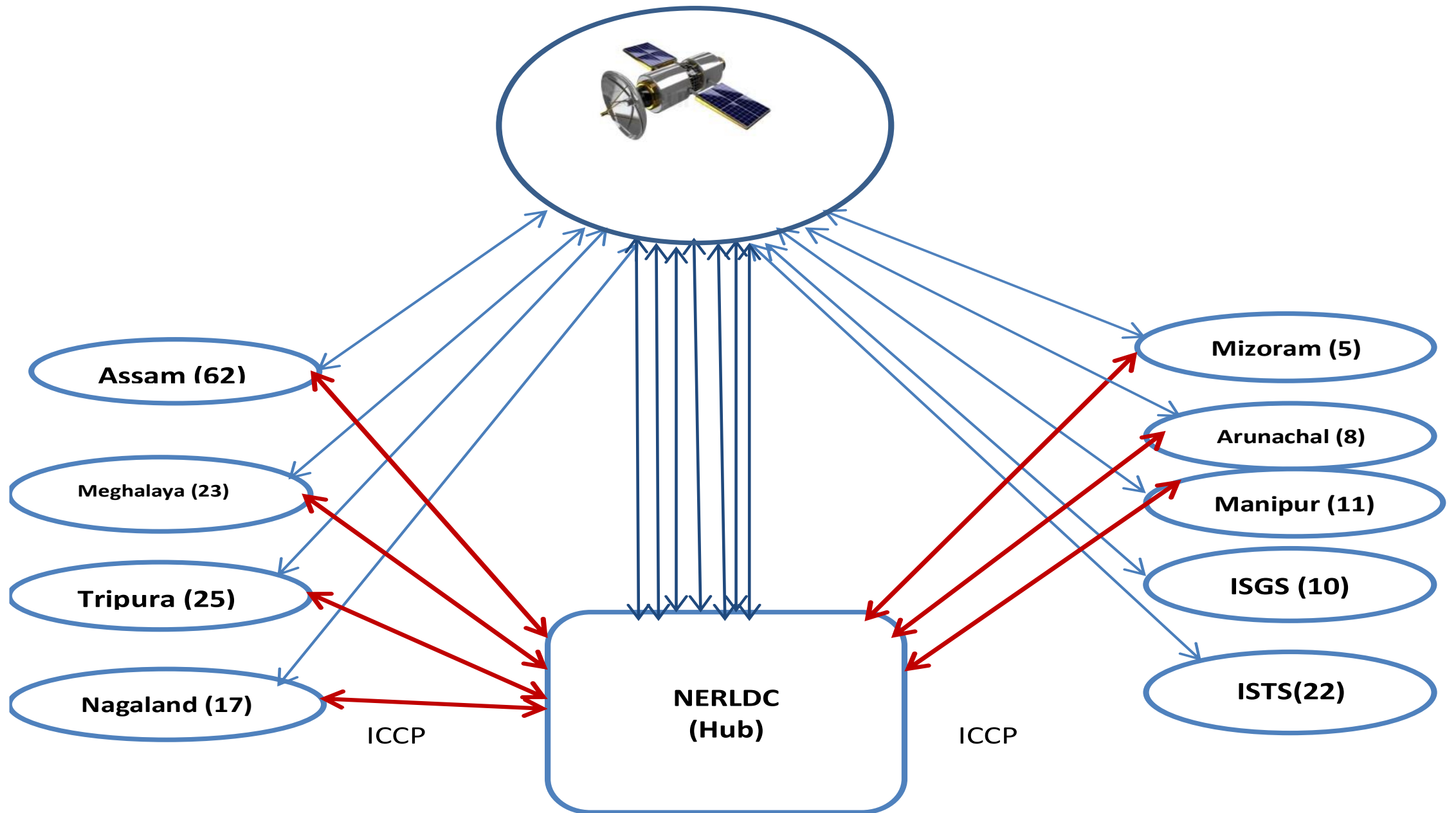
ASSAM

SL NO.	STATION NAME	FUTURE LINK	CURRENT COMMUNICATION LINK
1	AGIA	PROPOSED UNDER NER MW REPLACEMENT	UNDER FO
2	APM(JOGIGHOPA)	NOT COVERED	PLCC NETWORK
3	AZARA		UNDER FO
4	PANCHGRAM	ONE PLCC HOP	UNDER FO
5	BEHIATING	NOT COVERED	PLCC NETWORK
6	BILASIPARA	NOT COVERED	NOT CONNECTED
7	BNC (AS)	ONE PLCC HOP	PLCC NETWORK
8	BOKAKHAT	NOT COVERED	PLCC NETWORK
9	BOKAJAN	NOT COVERED	PLCC NETWORK
10	BOKO	PROPOSED UNDER NER MW REPLACEMENT	UNDER FO
11	BONGAIGAON (ASSAM)	PROPOSED UNDER NER MW REPLACEMENT	UNDER FO
12	BORDUBI	NOT COVERED	PLCC NETWORK
13	BORNAGAR	NOT COVERED	NOT CONNECTED
14	CHANDRAPUR	NOT COVERED	PLCC NETWORK
15	DEPOTA	NOT COVERED	PLCC NETWORK
16	DHALIGAON	NOT COVERED	UNDER FO
17	DHEKIAJULI	NOT COVERED	PLCC NETWORK
18	DHEMAJI	NOT COVERED	PLCC NETWORK
19	DIBRUGARH	NOT COVERED	UNDER FO
20	DIPHU	NOT COVERED	UNDER FO
21	DISPUR	NOT COVERED	PLCC NETWORK
22	DULLAVCHERA	NOT COVERED	PLCC NETWORK
23	GAURIPUR	NOT COVERED	PLCC NETWORK
24	GOHPUR	PROPOSED UNDER NER MW REPLACEMENT	PLCC NETWORK
25	GOLANGHAT	NOT COVERED	PLCC NETWORK
26	GOSSAIGAON	NOT COVERED	NOT CONNECTED
27	HAFLONG (AS)	NOT COVERED	GPRS
28	HAILAKANDI	NOT COVERED	PLCC NETWORK
29	JAGIROAD	NOT COVERED	NOT CONNECTED
30	JAWHARNAGAR	NOT COVERED	NOT CONNECTED
31	JORHAT(GARMUR)	NOT COVERED	PLCC NETWORK
32	JORHAT (WEST)	NOT COVERED	PLCC NETWORK

List of Grid Connected Station in NER

SL.No	Constituent	Number of Grid Connected Stations
01	Arunachal Pradesh	08 - Stations
02	Assam	62 - Stations
03	Mizoram	05 - Stations
04	Manipur	11 - Stations
05	Meghalaya	23 - Stations
06	Tripura	25 - Stations
07	Nagaland	17 - Stations
08	ISGS	10 - Stations
09	ISTS	22 - Stations
	Total	183 Stations

Proposed V-SAT Communication for NER



Setting up of own VSAT network

- Setting up of 9 Meter antenna Hub station at LDC Control Centre.
- Setting up of 150 Nos (Tentatively) of 1.8 Meter antenna VSATs at Substations.
- Getting all the regulatory licenses from DOT, WPC for setting up the VSAT Network.
- Supply and Installation of VSAT network.
- Maintenance of the network on 24X7 basis.

Major advantages of the VSATs in SCADA Network

- Direct communication link from Control Centre avoiding repeater stations and last mile problems.
- Reliable Communication System with more than 99.9% network uptime.
- Proven Technology.
- Quick to deploy remote stations. Typically a remote station can be added to the existing network within a week.
- With proper installation and link engineering the network can withstand adverse rain and wind conditions(Extn C Band Techlogy with Apdative Modulation)

Onetime Investments (CAPEX)

SL. NO	Details	Main Hub	VSATs	Total Project Cost
1.	Initial Regulatory charges			
1.1	CUG application	10,000		10,000
1.2	License fee	1,00,000		1,00,000
1.3	Transponder allocation	-		
1.4	Earth station approvals	25,000		25,000
1.5	SACFA approvals	5,000	1,50,000	1,55,000
1.6	Operating license	-		
1.7	Nocc fees	85,000		85,000
	Total regulatory fee	2,25,000	1,50,000	3,75,000

Equipment Costs(CAPEX)

SL. NO	Details	Main Hub	VSATs	Total Project Cost
1.	Eqpt costs	10,88,14,588	3,23,74,327	14,11,88,915
2.	DG, UPS	53,90,000	55,12,500	1,09,02,500
3.	Hubstn building (existing)			-
4.	I&C (including NOCC tests)	92,12,500	18,15,000	1,10,27,500
5.	Test instruments	35,00,000		35,00,000
	Total capex	12,69,17,088	3,97,01,827	16,66,18,915

YEARLY OPERATIONAL COSTS (OPEX)

SL. NO	Details	Main Hub	VSATs	Total Project Cost
1.	Regulatory costs			
1.1	Transponder cost	42,00,000		42,00,000
1.2	License fee	5,000	75,000	80,000
1.3	Royalty	18,20,000		18,20,000
1.4	NOCC fee	85,000		85,000
	Total Regulatory	61,10,000	75,000	61,85,000

AMC COSTS

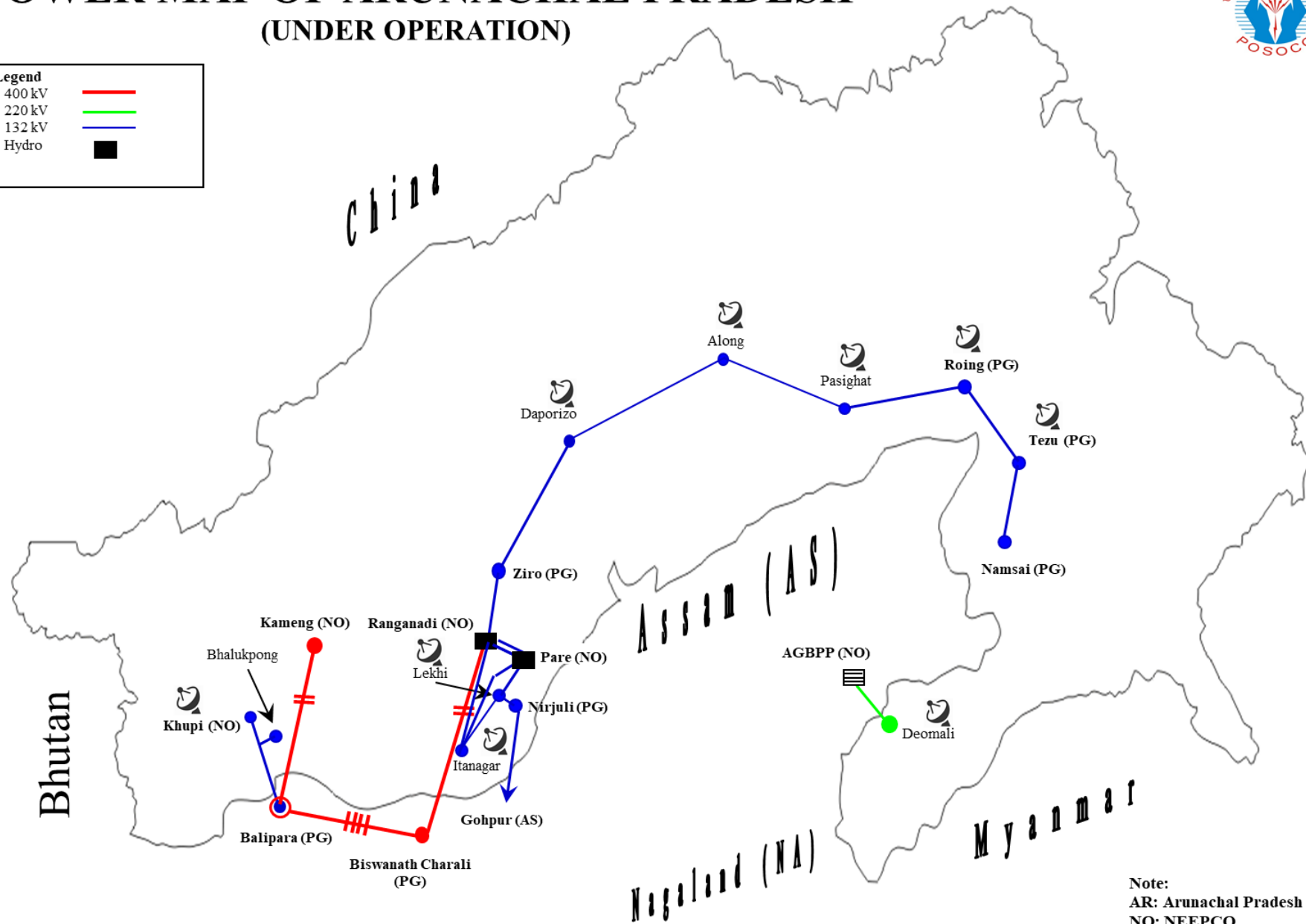
SL. NO	Details	Main Hub	VSATs	Total Project Cost
1.	AMC support	22,84,092	7,57,737	30,41,828
2.	SW support	24,50,000		24,50,000
3.	24 x 7 Maintenance	39,00,000	16,20,000	55,20,000
	Total OPEX	86,34,092	23,77,737	1,13,11,828

POWER MAP OF ARUNACHAL PRADESH

(UNDER OPERATION)



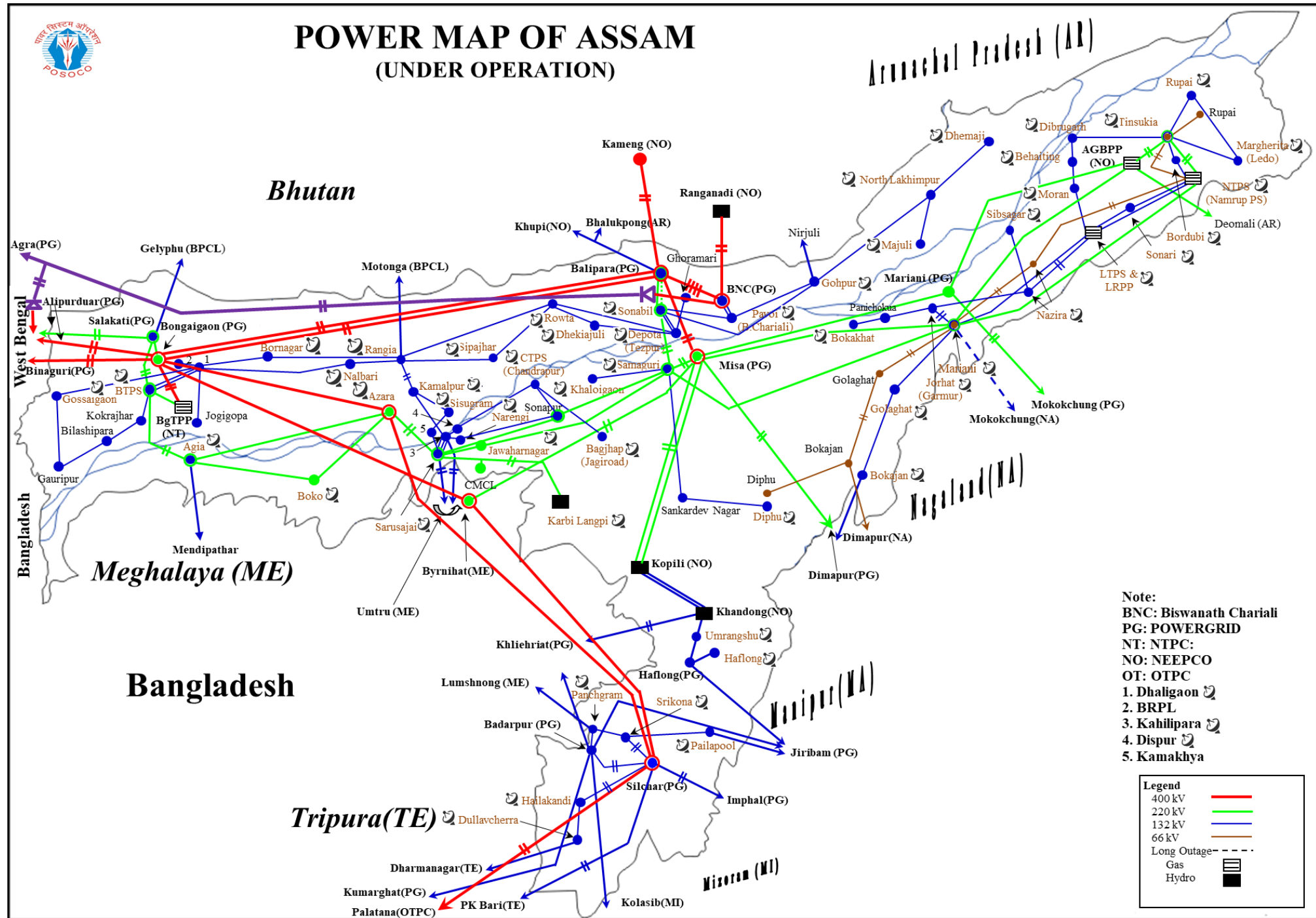
Legend	
400 kV	Red line
220 kV	Green line
132 kV	Blue line
Hydro	Black square



Note:
AR: Arunachal Pradesh
NO: NEEPCO
PG: POWERGRID



POWER MAP OF ASSAM (UNDER OPERATION)

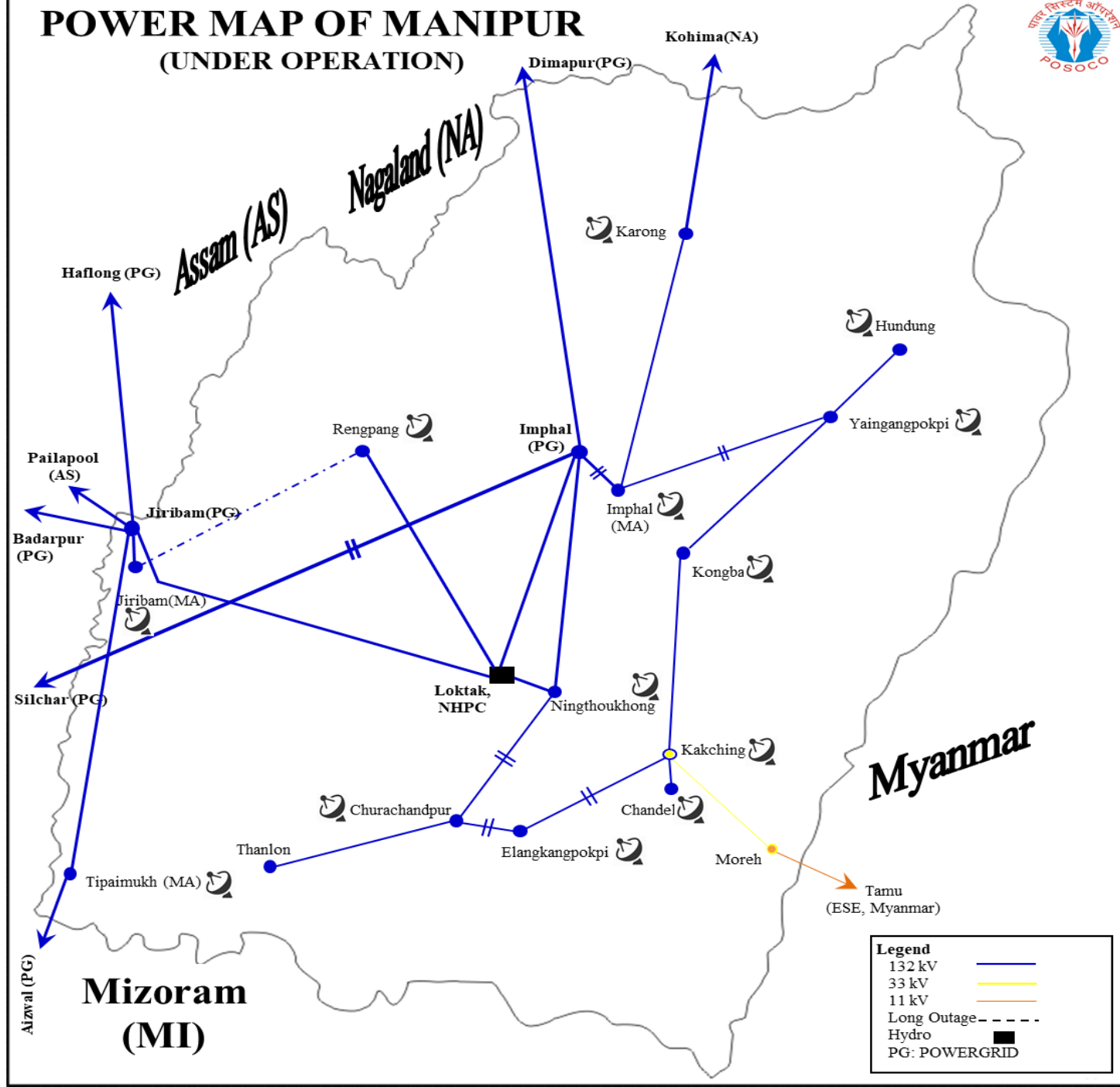


Note:
 BNC: Biswanath Chariali
 PG: POWERGRID
 NT: NTPC
 NO: NEEPCO
 OT: OTPC
 1. Dhaligaon
 2. BRPL
 3. Kahilipara
 4. Dispur
 5. Kamakhya

Legend	
400 kV	—
220 kV	—
132 kV	—
66 kV	—
Long Outage	- - - - -
Gas	
Hydro	

POWER MAP OF MANIPUR

(UNDER OPERATION)



Myanmar

Mizoram (MI)

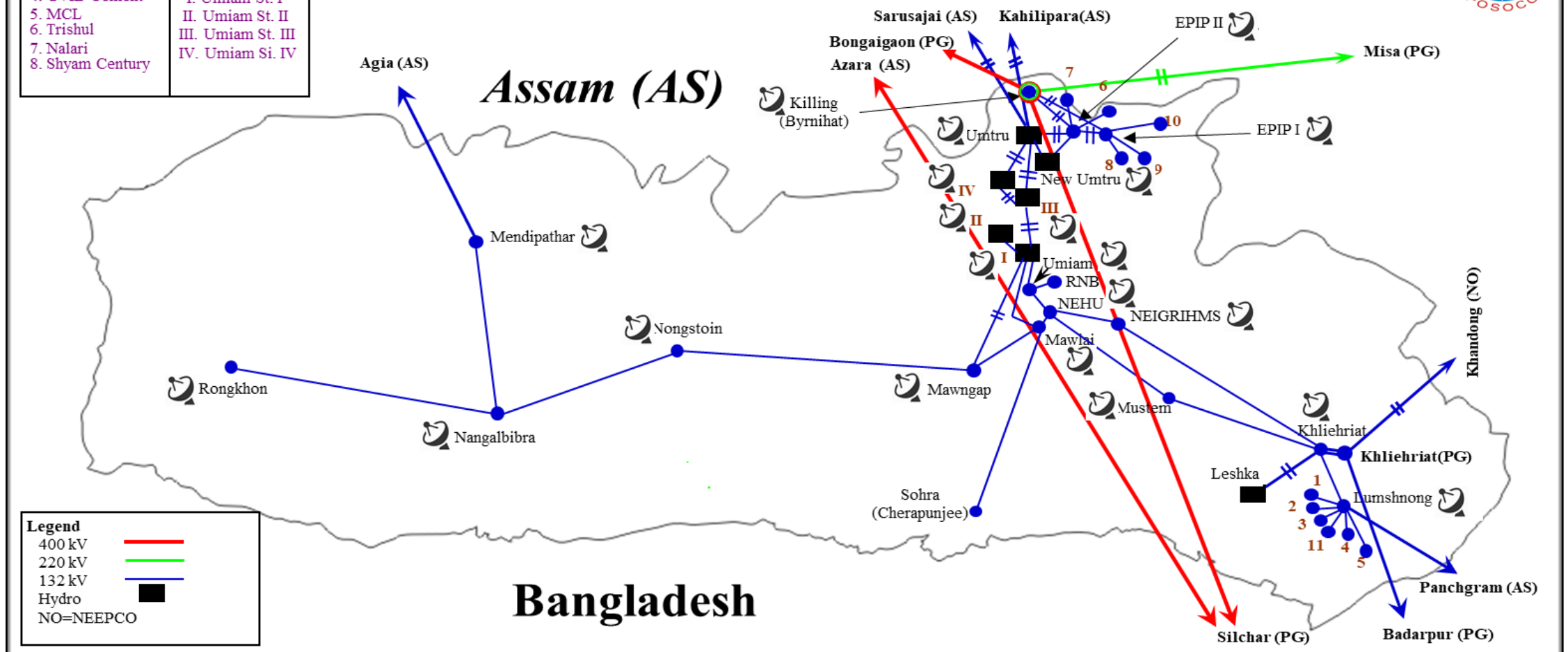
Legend

- 132 kV ————
- 33 kV ————
- 11 kV ————
- Long Outage - - - -
- Hydro (circle with turbine)
- PG: POWERGRID (black square)

POWER MAP OF MEGHALAYA (UNDER OPERATION)



- | | |
|-------------------|--------------------|
| 1. Adhunik Cement | 9. Maithan |
| 2. Hill Cement | 10. Sai prakash |
| 3. JUD Cement | 11. CMCL |
| 4. GVIL Cement | I. Umiam St. I |
| 5. MCL | II. Umiam St. II |
| 6. Trishul | III. Umiam St. III |
| 7. Nalari | IV. Umiam Si. IV |
| 8. Shyam Century | |



Assam (AS)

Bangladesh

Khandong (NO)

Panchgram (AS)

Badarpur (PG)

Silchar (PG)

Misa (PG)

Agia (AS)

Sarusajai (AS) Kahilipara(AS)

Bongaigaon (PG) Azara (AS)

EPIP II

EPIP I

Killing (Byrnihat)

Umtru

New Umtru

Umiam

RNB

NEHU

NEIGRIHMS

Rongkhon

Nangalbibra

Nongstoin

Mawngap

Mawlai

Mustem

Sohra (Cherapunjee)

Leshka

Khliehriat

Khliehriat(PG)

Dumshnong

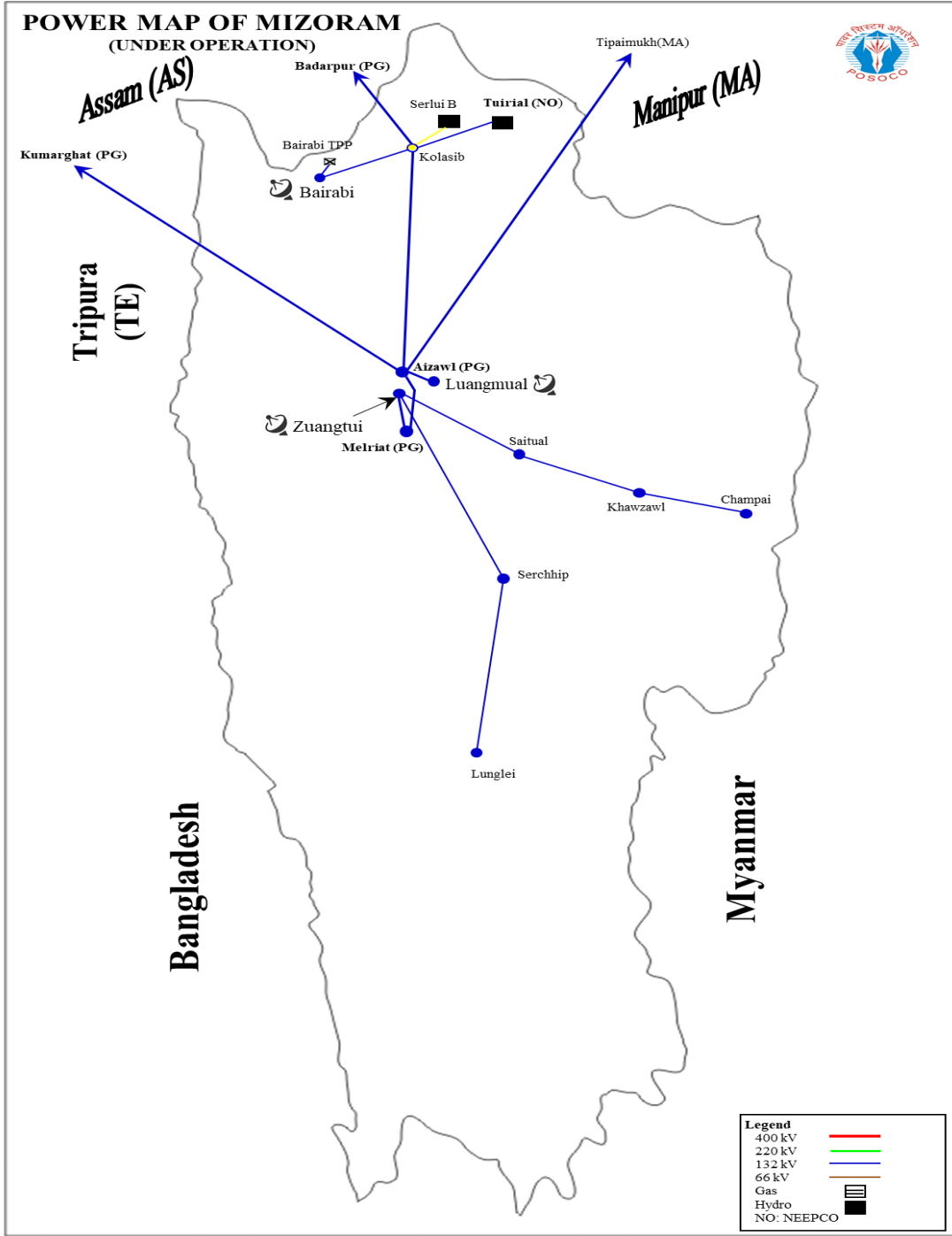
Panchgram (AS)

Badarpur (PG)

Silchar (PG)

- 1
- 2
- 3
- 4
- 5
- 11

POWER MAP OF MIZORAM (UNDER OPERATION)



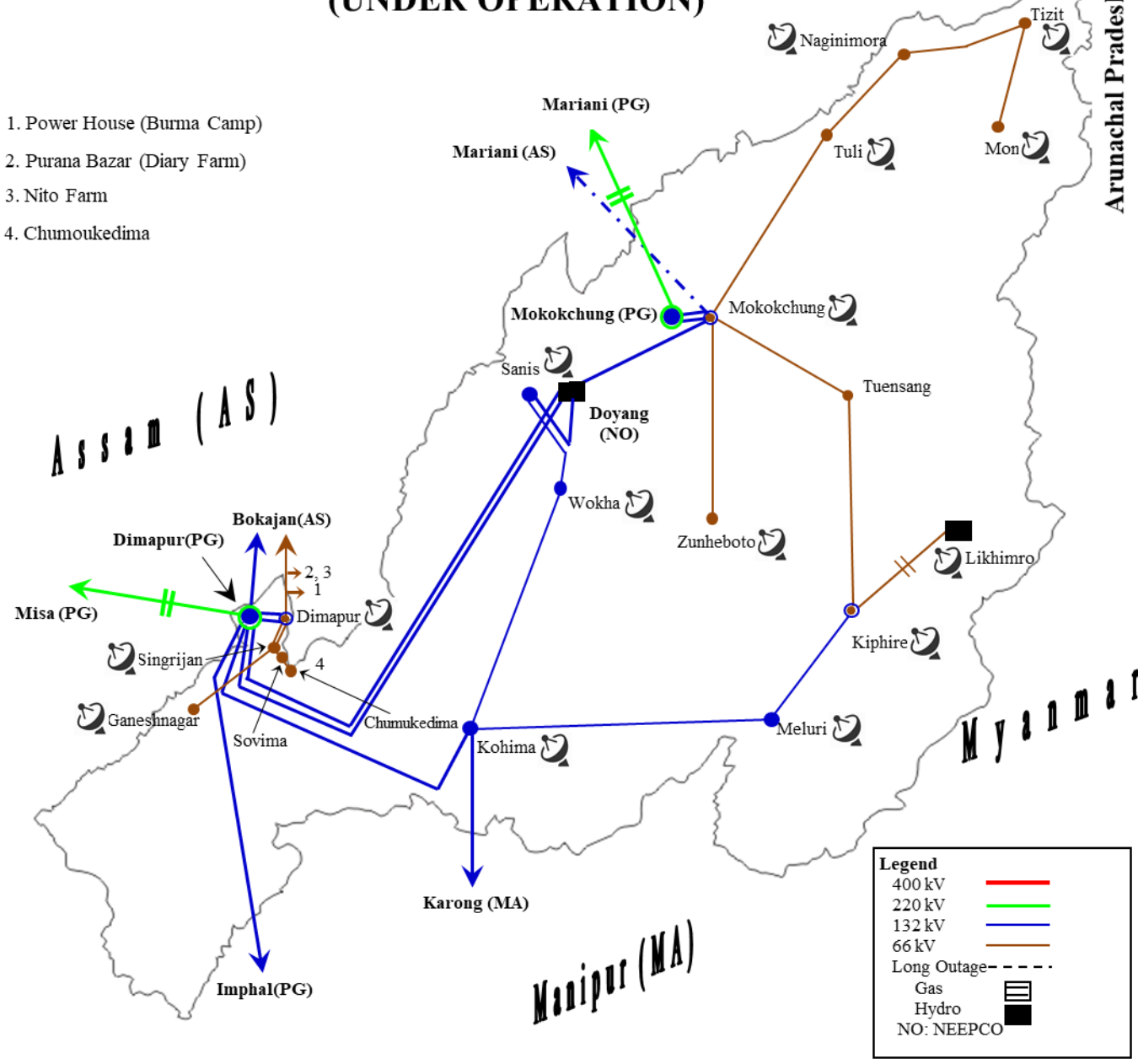
Legend

400 kV	Red line
220 kV	Green line
132 kV	Blue line
66 kV	Orange line
Gas	Rectangle symbol
Hydro	Circle symbol
NO: NEEPCO	Square symbol



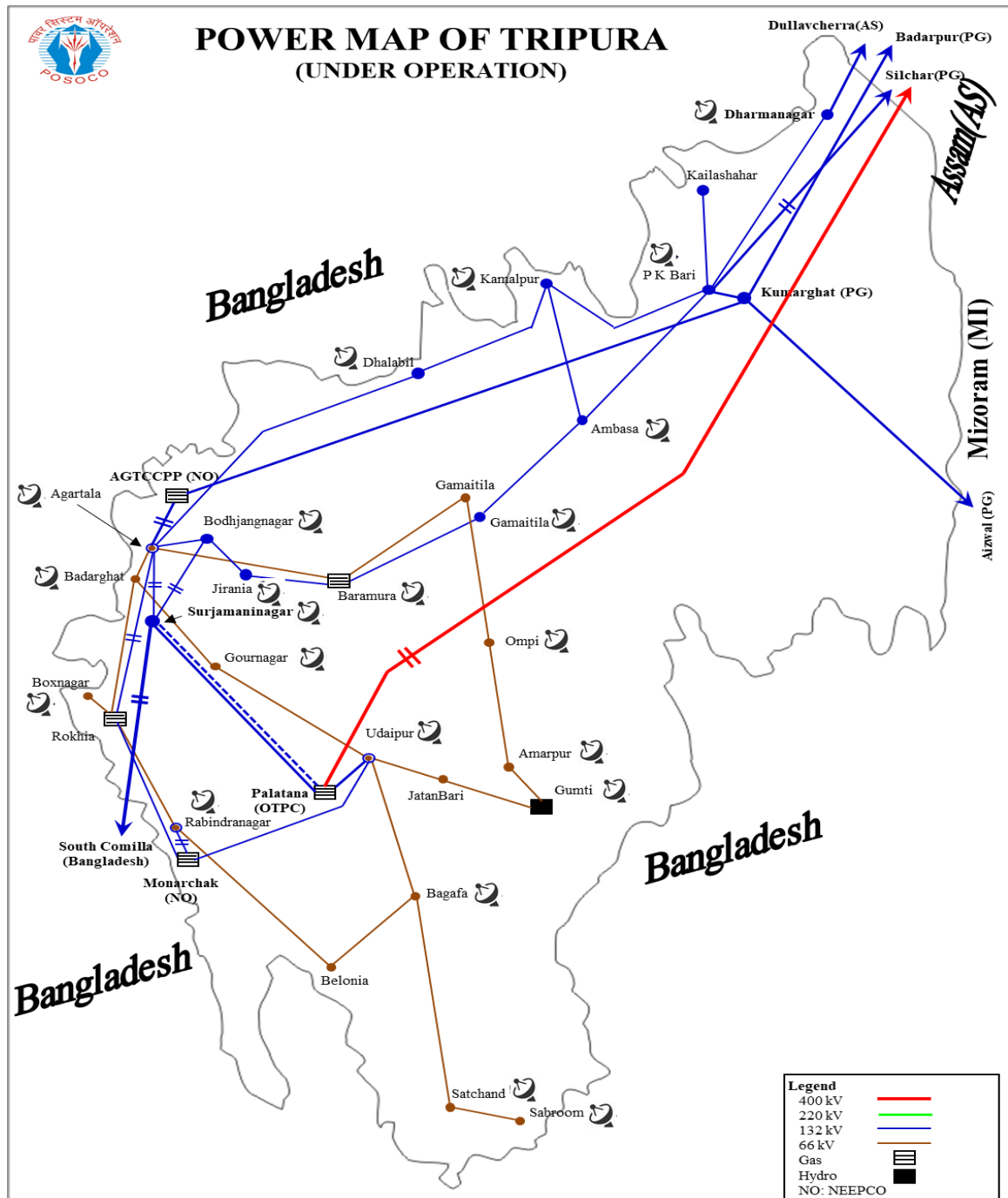
POWER MAP OF NAGALAND (UNDER OPERATION)

1. Power House (Burma Camp)
2. Purana Bazar (Diary Farm)
3. Nito Farm
4. Chumoukedima





POWER MAP OF TRIPURA (UNDER OPERATION)



Legend

- 400 kV (Red line)
- 220 kV (Green line)
- 132 kV (Blue line)
- 66 kV (Orange line)
- Gas (Square symbol)
- Hydro (Black square symbol)
- NO: NEEPCO

THANK YOU

Puja Load Study for Tripura for 2018

66 kV Bagafa- Belonia, 66 kV Gokulnagar- Badharghat, 66 kV Amarpur- Gumti, 66 kV Badharghat-Rokhia, 132 kV Ambasa- Kamalpur kept open

Case No	Case Description	Tripura Demand with Bangladesh	Palatana Generation	AGTCCPP Generation	Tripura Generation		Drawl from Grid	132 kV Palatana-Udaipur	132 kV Palatana-SMNagar	132 kV Dullavchera-Dharmanagar	132 kV Silchar-PK Bari D/C	132 kV Kumarghat-PK Bari	132 kV AGTCCPP-Agartala D/C	Limits	Grid Voltage
					Own Generation	Monarchak									
1	As per Demand Required by Tripura	470	600	80	78	90	302	58	135	16	2x17	3	2x34		Low Voltage at AGTCCPP = 125 kV, Agartala= 124 kV, Surajmaninagar= 123 kV, PK Bari= 124 kV, Kumarghat = 124 kV
2	N-1 (132 Palatana-Udaipur out)	470	600	80	78	90	302	0	179	19	2x20	2	2x36	132 kV Palatana Surajmaninagar (180 MW)	Low Voltage at AGTCCPP = 126 kV, Agartala= 125 kV, Surajmaninagar= 124 kV, PK Bari= 125 kV, Kumarghat = 125 kV
3	N-1 (132 kV Palatana-Surajmaninagar)	230	600	80	78	90	62	34	0	-7	2x1	-10	2x26	132 kV Monarchak - Rokhia Line (79 MW)	Voltage at AGTCCPP = 132 kV, Agartala= 132 kV, Surajmaninagar= 130 kV, PK Bari= 129 kV, Kumarghat = 129 kV
4	N-1 (Monarchak Generation)	350	600	80	78	0	272	79	107	7	2x12	-4	2x32	132 kV Palatana-Udaipur (79 MW)	Voltage at AGTCCPP = 130 kV, Agartala= 129 kV, Surajmaninagar= 128 kV, PK Bari= 128 kV, Kumarghat = 128 kV
5	N-1 (Rokhia Generation)	440	600	80	23	90	327	72	138	17	2x18	2	2x36	132 kV Monarchak - Rokhia (79 MW)	Low Voltage at AGTCCPP = 126 kV, Agartala= 125 kV, Surajmaninagar= 124 kV, PK Bari= 125 kV, Kumarghat = 125 kV
6	N-1 (Baramura Generation)	470	600	80	58	90	322	61	142	19	2x19	5	2x35		Low Voltage at AGTCCPP = 127 kV, Agartala= 126 kV, Surajmaninagar= 125 kV, PK Bari= 126 kV, Kumarghat = 126 kV
7	N-1-1 (Monarchak + Rokhia Generation)	270	600	80	23	0	247	79	95	3	2x10	-9	2x32	132 kV Palatana Udaipur (79 MW)	Voltage at AGTCCPP = 130 kV, Agartala= 129 kV, Surajmaninagar= 129 kV, PK Bari= 128kV, Kumarghat = 128 kV
8	N-1-1-1 (Monarchak + Rokhia + AGTCCPP)	210	600	0	27	0	183	79	106	5	2x12	-13	2x-3.6	132 kV Palatana Udaipur (79 MW)	Low Voltage at AGTCCPP = 127 kV, Agartala= 127 kV, Surajmaninagar= 127 kV, PK Bari= 128 kV, Kumarghat = 128 kV

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



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

संदर्भ : NERLDC/ED/SOII/1506

दिनांक : 01/10/18

सेवा में : Director (Technical),

TPGL,
Bidyut Bhawan,
North Banamalipur, Agartala,
Tripura 799007

विषय : Preparation for catering load to Tripura during Puja 2018.

महोदय,

It had been observed that demand of Tripura was highest during the period of Durga Puja of previous years. It is expected that similar trend will continue during the period of Durga Puja of 2018. For facilitating reliable and secure power supply to Tripura during the Durga Puja 2018, NERLDC conducted system studies based on the data furnished by SLDC Tripura. The study results are attached in Annexure-I. SLDC Tripura has projected a demand of 470 MW (including Bangladesh) during Durga Puja 2018. While conducting the studies, NERLDC observed that there will be Low Voltage in Tripura Power System while catering a load of 470 MW. The following issues are identified for reliable and secure power supply to Tripura during Durga Puja 2018:-

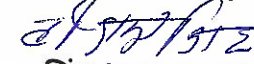
- Ensure reliable gas supply & if possible supply of enhanced quantum of gas may be explored by coordinating with gas supply agencies.
- Exploring possibilities to maximize the generation of Rokhia and Baramura Gas Based Power Plants
- Checking and rectification of protection settings of all 132 kV transmission elements and downstream elements owned by TSECL.
- Patrolling and vegetation clearance of all the lines owned by TSECL before Durga Puja 2018.
- Identify 190 MW Load for immediate disconnection in case of tripping of 132 kV Surajmaninagar (TSECL)- Palatana (OTPC) S/C line.

This is also to highlight that during last week there were four (4) number of Grid Disturbances in Tripura Power System. In order to avoid such disturbances in future mainly during Durga Puja 2018, it is requested to kindly look into the matter immediately.

धन्यवाद एवं सादर सहित।

Enclosure: As mentioned above.

भवदीय / Yours sincerely,


(टी. एस. सिंह / T.S.Singh)

(कार्यपालक निदेशक / Executive Director)

Puja Load Study for Tripura for 2018

66 kV Bagafa- Belonia, 66 kV Gokulnagar- Badharghat, 66 kV Amarpur- Gumti, 66 kV Badharghat-Rokhia, 132 kV Ambasa- Kamalpur kept open

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					Own Generation	Monarchak									
1	As per Demand Required by Tripura	470	600	80	78	90	302	58	135	16	2x17	3	2x34		Low Voltage at AGTCCPP = 125 kV, Agartala= 124 kV, Surajmaninagar= 123 kV, PK Bari= 124 kV, Kumarghat = 124 kV
2	N-1 (132 Palatana-Udaipur out)	470	600	80	78	90	302	0	179	19	2x20	2	2x36	132 kV Palatana Surajmaninagar (180 MW)	Low Voltage at AGTCCPP = 126 kV, Agartala= 125 kV, Surajmaninagar= 124 kV, PK Bari= 125 kV, Kumarghat = 125 kV
3	N-1 (132 kV Palatana-Surajmaninagar)	230	600	80	78	90	62	34	0	-7	2x1	-10	2x26	132 kV Monarchak - Rokhia Line (79 MW)	Voltage at AGTCCPP = 132 kV, Agartala= 132 kV, Surajmaninagar= 130 kV, PK Bari= 129 kV, Kumarghat = 129 kV
4	N-1 (Monarchak Generation)	350	600	80	78	0	272	79	107	7	2x12	-4	2x32	132 kV Palatana-Udaipur (79 MW)	Voltage at AGTCCPP = 130 kV, Agartala= 129 kV, Surajmaninagar= 128 kV, PK Bari= 128 kV, Kumarghat = 128 kV
5	N-1 (Rokhia Generation)	440	600	80	23	90	327	72	138	17	2x18	2	2x36	132 kV Monarchak - Rokhia (79 MW)	Low Voltage at AGTCCPP = 126 kV, Agartala= 125 kV, Surajmaninagar= 124 kV, PK Bari= 125 kV, Kumarghat = 125 kV
6	N-1 (Baramura Generation)	470	600	80	58	90	322	61	142	19	2x19	5	2x35		Low Voltage at AGTCCPP = 127 kV, Agartala= 126 kV, Surajmaninagar= 125 kV, PK Bari= 126 kV, Kumarghat = 126 kV
7	N-1-1 (Monarchak + Rokhia Generation)	270	600	80	23	0	247	79	95	3	2x10	-9	2x32	132 kV Palatana Udaipur (79 MW)	Voltage at AGTCCPP = 130 kV, Agartala= 129 kV, Surajmaninagar= 129 kV, PK Bari= 128kV, Kumarghat = 128 kV
8	N-1-1-1 (Monarchak + Rokhia + AGTCCPP)	210	600	0	27	0	183	79	106	5	2x12	-13	2x-3.6	132 kV Palatana Udaipur (79 MW)	Low Voltage at AGTCCPP = 127 kV, Agartala= 127 kV, Surajmaninagar= 127 kV, PK Bari= 128 kV, Kumarghat = 128 kV

Sl. No.	Name of Element	Owner	Outage Date	Outage Time	Revival Date	Revival Time	Reason End1	Reason End2
1	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	02-Jul-2018	12:01:00	02-Jul-2018	12:45:00	No tripping	OLTC relay trip at converter Transformer
2	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	17-Jul-2018	12:27:00	17-Jul-2018	13:01:00	DC Line Fault	No tripping
3	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	30-Jul-2018	04:03:00	30-Jul-2018	05:58:00	Fire Alarm Trip	Fire Trip(VESDA Zone-3)
4	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	27-Aug-2018	00:23:00	27-Aug-2018	15:30:00	DC Line Fault	DC Line Fault
5	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	29-Aug-2018	09:22:00	29-Aug-2018	13:20:00	Y-Block Ordered	Metallic Return Conductor Ground Fault Protection
6	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	02-Sep-2018	07:58:00	02-Sep-2018	12:11:00	DC Line Fault	DC Line Fault
7	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	04-Sep-2018	00:55:00	04-Sep-2018	04:22:00	VESDA	No tripping
8	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	04-Sep-2018	11:13:00	04-Sep-2018	13:22:00	VESDA	No tripping
9	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	04-Sep-2018	12:26:00	04-Sep-2018	13:44:00	DC Line Fault	Not Furnished
10	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	06-Sep-2018	04:02:00	06-Sep-2018	05:29:00	DC Line Fault	DC Line Fault
11	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	14-Sep-2018	12:16:00	14-Sep-2018	15:31:00	DC Line Fault	Not Furnished
12	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	15-Sep-2018	12:16:00	15-Sep-2018	17:08:00	DC Line Fault	Not Furnished
13	800 kV Biswanath Chariali - Agra 1 HVDC	POWERGRID	16-Sep-2018	11:45:00	16-Sep-2018	13:50:00	DC Line Fault	DC Line Fault
14	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	22-Sep-2018	11:35:00	22-Sep-2018	15:34:00	DC Line Fault	No tripping
15	800 kV Biswanath Chariali - Agra 2 HVDC	POWERGRID	30-Sep-2018	02:15:00	30-Sep-2018	12:45:00	DC Line Fault	Not Furnished

O/C

Minutes of Meeting between M/S OTPC, M/S NERLDC and M/S PGCIL at Palatana Site in regards to validation and Mock Test of SPS-2 and SPS-3 Schemes at Palatana End

Members Present:-

M/S OTPC	M/S PGCIL	M/S NERLDC
a) Smruti Ranjan Das	a) Anupam Acharya	a) Bimal Swargiary
b) Mr Alokesh Hazarika		
c) Mr Mitangshu Saha		

Representative from M/S NERLDC reached Palatana site at 30.08.2018 and from M/S PGCIL on 1.09.2018 for joint validation and inspection of SPS-2 and SPS-3 schemes. The following activities were carried out on 1.09.2018:

- SPS-2 and SPS-3 schemes were briefed to the inspection team by M/S OTPC.
- Operation of both schemes were explained to the Team.
- Inspection team checked the hardware wiring in regards to both the schemes.
- PLCC Channels were checked. Frequencies of PLCC Channels were verified with the remote end at Silchar.
400 KV Palatana- Silchar Line-1 Channel -1, Code-4:- SPS-2 DT Signal Received.
400 KV Palatana- Silchar Line-1 Channel -2, Code-2:- SPS-3 DT Signal Received.
- Relay and SCADA time was verified to be in SYNC with GPS Time.

Activities as per check list for testing at Palatana :

- No Recommendation found and also previous scheme was changed from SCADA to Hardware logic as intimated to NERPC by OTPC vide mail Dated 24.02.2018.
- Inspection team checked the hardware wiring of SPS-2 and SPS-3 and found ok.
- High Speed relays were physically checked and found as per requirement. Photo attached.
- HSR Relay O/P contacts are configured to P442 Relay and SCADA.
- HSR relay photos in connection with both SPS-2 and SPS-3 are attached.
- DC Supply for both the schemes has been checked. Details are as follows:
SPS-3:
Positive- Earth: 100 V DC
Negative- Earth: 142 V DC
SPS-2
Positive- Earth: 100 V DC
Negative- Earth: 142 V DC
- Wiring from PLCC to SPS scheme, Relay and SCADA has been checked and found ok.
- PLCC for 400 KV Line-1 (Palatana- Silchar) Channel -2, restarted locally and no spurious signal was generated for SPS-3
- PLCC checked for both 400 KV Line-1 and Line-2. Found normal and working.

(AIA Acharya)
01/9/18
DHEIL

(BIMAL SWARGIARY)
NERLDC
01.9.18

(Alokesh)
1/9/18

(Mitangshu)
1/9/18

Testing Activities in co-ordination with Silchar Team

- BCU restarted twice at Silchar End and no SPS-3 spurious signal received in Palatana End.
- Direct SPS-3 Signal was send from silchar to Palatana end by shorting at BCU O/P contacts. Following are the observations:
 - SPS-3 Signal received at Palatana End in 14:09:37.027 hrs as recorded by P442 Relay.
 - PLCC counter increased from 73 to 74 in Line-1 Channel 2, Code-2. Signal received and HSR relay picked and was recorded in both relay and SCADA.
 - Relay DR attached.
 - As the unit was in generation, hence further operation of breaker tripping was not performed. However wiring for tripping of breakers were checked and found satisfactory.
 - Previous DR of SPS-3 operation after signal received is attached.

Recommendations:

- a) As discussed with Silchar inspection Team, DT for SPS-2 is removed and not available in Silchar. Accordingly OTPC was asked to remove in Palatana end to avoid spurious signal for SPS-2. (Wires removed in Palatana PLCC panel for DT Received of SPS-2). SPS-2 will work with breaker opening contacts at Palatana end.
- b) The SPS-2 and SPS-3 Schemes at Palatana end are found ok as per logic.

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01.9.18
(BIMAL SWARGIARY)

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1/9/18

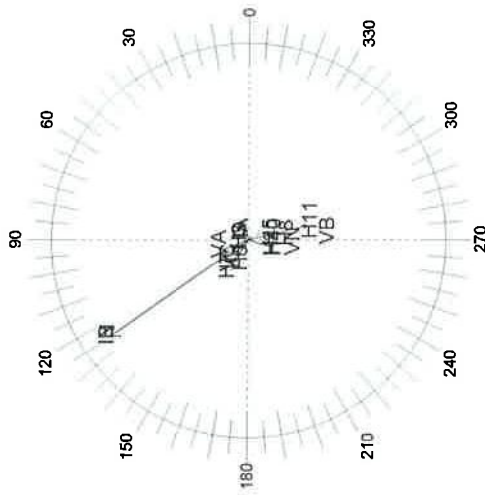
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1/9/18

③

Title	RMS	InstPeak	Phase	InstVal
VA	93.546	-190.200	110.827°	0
VB	131.342	-126.800	283.923°	9
VC	69.391	-63.400	143.961°	-6
VN	165.605	221.900	253.819°	3
IA	1.196	-1.381	10.996°	0
IB	218.841	307.963	125.034°	-1
IC	1.055	-1.381	149.734°	-1
IN	218.623	307.963	125.004°	-1

Scale
 1823.0 V/cm
 2228.2 V/cm
 1215.4 V/cm
 2430.7 V/cm
 26.5 A/cm
 1994.3 A/cm
 17.6 A/cm
 2003.2 A/cm



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A SPS-3 SIGNAL REC N N 14:09:37.027316 14:09:37.775350 002
 A Any Pole Dead A A 000
 A SOTF Enable A A 000

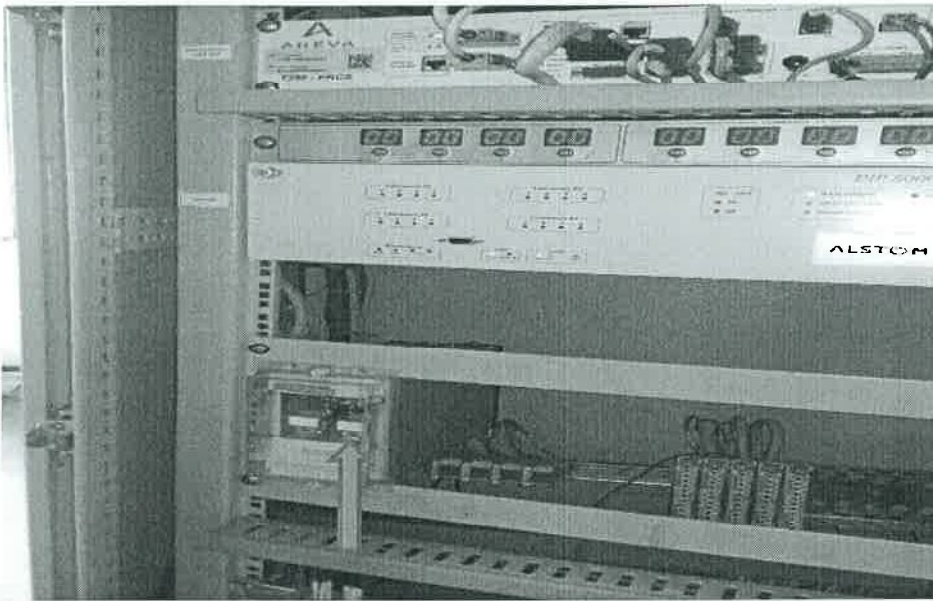
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2800 2850 2900 2950 3000 3050 3100 3150 3200 3250

6

Signal Receive HSR Relay at Palatana

Before Testing:



After Testing(SPS-3 Signal Received)



WLS

5/2/18

8/2/18

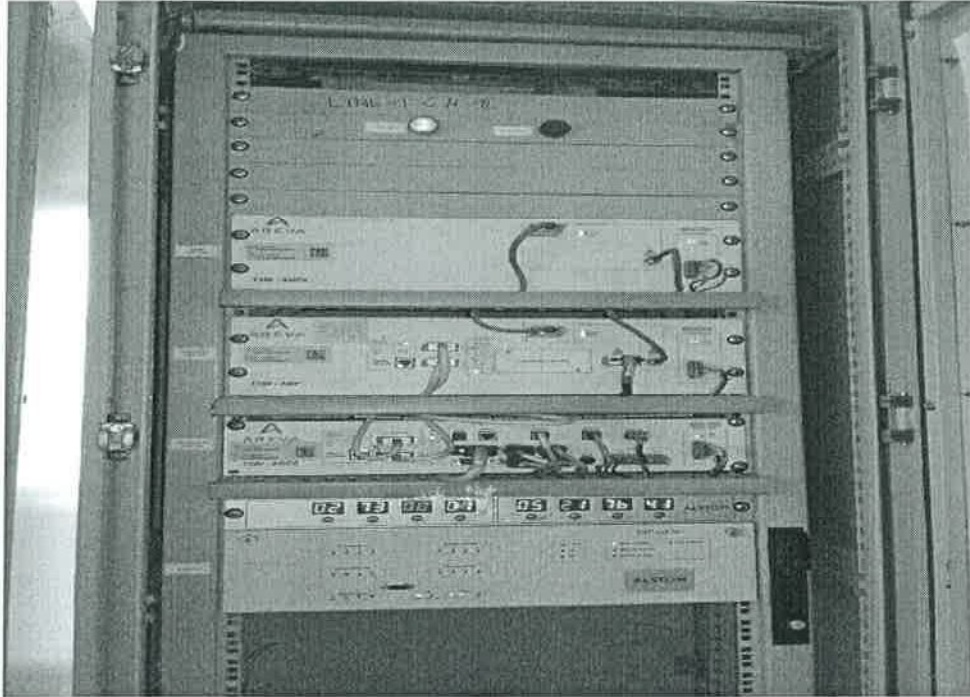
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5

PLCC Counter before and after test:

Before Test:



After Test: (Counter increased from 73 to 74)

AAmy
1/9/18

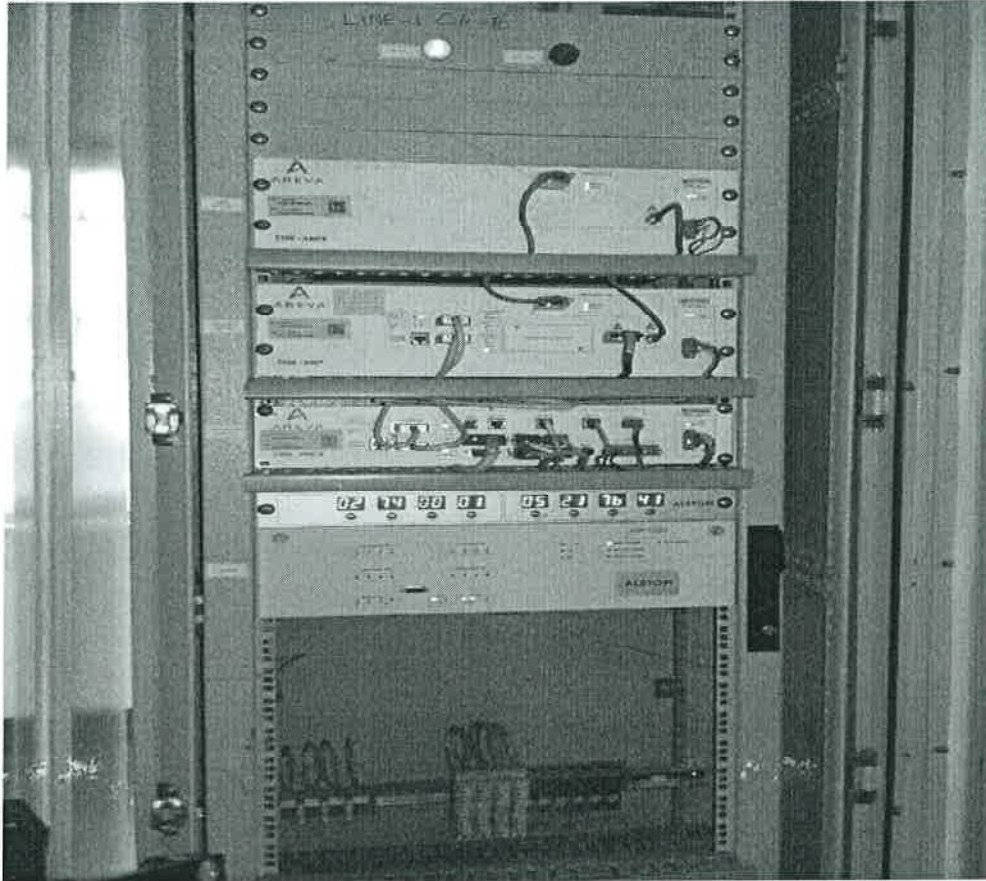
ALU

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Ann

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After test (counter increased from 73 to 74) (6)



P442-Relay Recording Signal Received:

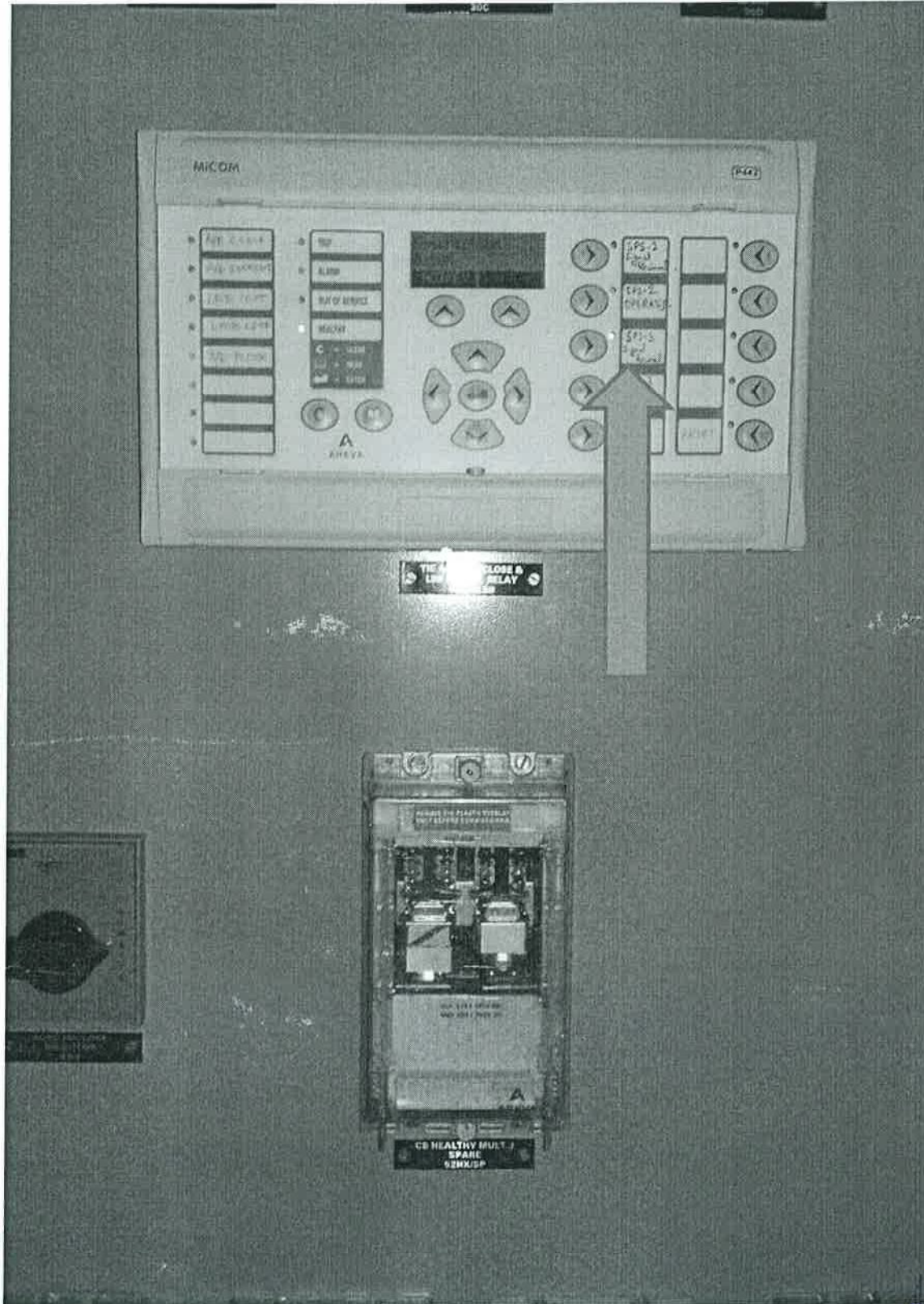
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01-09-18

P442 Relay Recording SPS-3 Signal Received. (7)



APLS
Mans

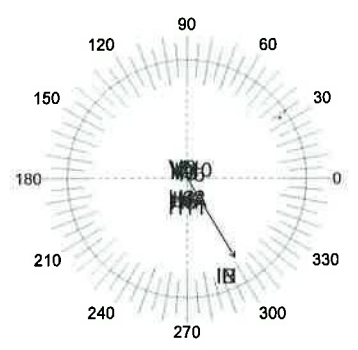
1/9/18

APLS

td/ain

8

CH	Scale	Title	RMS	InstPeak	Phase
1	5860.0 V/cm	VA	158.632	-31.700	25
2	4906.0 V/cm	VB	139.834	-31.700	85
3	4906.0 V/cm	VC	115.752	63.400	39
4	5042.3 V/cm	VN	325.150	-221.900	70
5	17.8 A/cm	IA	1.128	1.381	16
6	1139.9 A/cm	IB	187.007	-262.390	30
7	17.8 A/cm	IC	0.630	0.000	32
8	1145.8 A/cm	IN	186.895	-262.390	30



Previous AR attached for SPS-3

5	A	SPS-3 OPERATED	N	N	17:42:04.684310	17:42:05.034170	002
6	A	SPS-3 SIGNAL REC	N	N	17:42:04.667650	17:42:05.030838	002
12	A	Any Pole Dead	A	A			000
13	N	All Pole Dead	N	A	17:42:04.730958		001
14	A	SOTF Enable	A	A			000

-150 -50 0 ms 100 200

Report of Committee visit at Silchar (PG) on 1st Sep'18 for Inspection of SPS-3 at Silchar(PG)

Members Present:

PGCIL	NERPC	NERLDC	OTPC
Mr. Devaprasad Paul	Mr. Srijit Mukherjee	Mr. Jerin Jacob	Mr. Subhajit Ganguly
Mr. Ashim Paul			
Mr. Rajarshi Bhattacharya			

Purpose of the visit:

- Inspection of existing SPS at Silchar
- Detailed analysis whether SPS-3 can be taken in to service using existing asset

Finding/observations of the Committee:

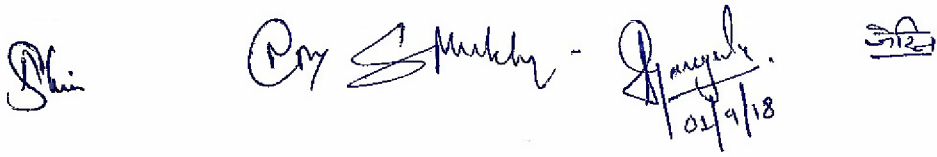
i) Status of SPS-2-In the last visit of committee on 12 & 13th Jan'18, it was noted that SPS-2 (Silchar to Palatana DT send scheme) was implemented in the main-1 relay of the 400 kV Silchar – Palatana 2 line using breaker auxiliary relay contacts (Hard wiring). SPS-2 signal was configured using PLCC Channel-1, code-4 of Palatana 1 line. Presently, this SPS-2 DT signal been removed and SPS-2 logic has been implemented in the BCU of 132 kV Silchar – Srikona 1 line for load shedding. Further due to unsuccessful Auto Reclosure at Silchar end a DT is being sent to Palatana end by Silchar for individual 400 kV Palatana I and Palatana II lines. The logic has been built in 21R (Backup Impedance) relay of each bay by taking 86LO and 186 LO contacts of Main and Tie bay through goose for sending of DT signal.

ii) DC Source- The following values of DC voltage was found at Silchar S/S

a) Source 1- 83.5 V, -143 V

b) Source 2- 126 V, -108 V

iii) SPS-III- In the last visit, SPS 3 logic was found to be implemented using hard wiring. Presently, the SPS-III logic has been implemented in Palatana 2 BCU (SCADA/Soft Logic). The hard wiring from BCU to PLCC has been re-wired on 1st Sep'18. This BCU was restarted by removing DC fuse in order to check if this action initiates a DT send signal to remote end. It was found that no DT was being sent after switching ON of BCU two times.


The bottom of the page contains several handwritten signatures in blue ink. From left to right, there is a signature that appears to be 'Shi', followed by a signature that looks like 'Pray S. Mukherjee', then a signature that appears to be 'Subhajit Ganguly' with the date '02/9/18' written below it, and finally a small signature on the far right.

However, a manual triggering of SPS-3 signal was done from Silchar(PG) and the signal was received at Palatana (confirmed over phone). PLCC counter has been increased at Silchar(PG). Photographs (Pre & Post) attached as Annexure – II & III. Counter at Palatana also increased as confirmed over phone.

iv) 21R Relay of Palatana-II- In order to check spurious 'DT send' signal due to switching ON 21R relay, the Backup Impedance relay was switched ON and OFF. No DT send signal was detected.

v) No more spare DC input/output contact is available in Palatana-2 BCU.

The current SPS logics (1, 2, 3, 4) has been attached as Annexure-I herewith for necessary reference.

Recommendations:

1. SPS-3 should be turned on at Silchar(PG) for monitoring purpose. Period for monitoring may please be decided.

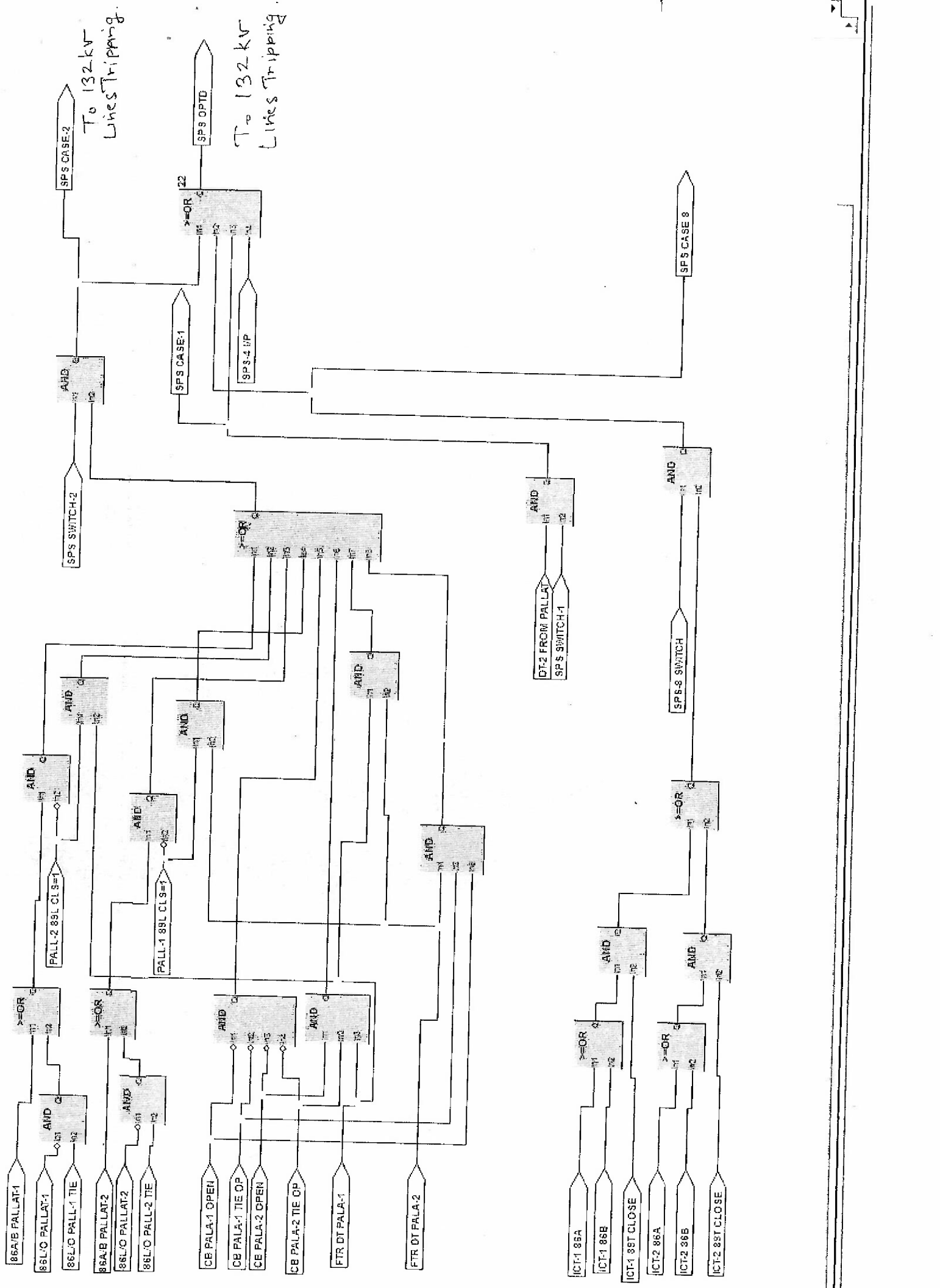
Dhiman Paul
01/09/18
Dy. Manager S/S

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So. Executive, OTRC

[Signature]
01/09/18
Engineer, Powergrid

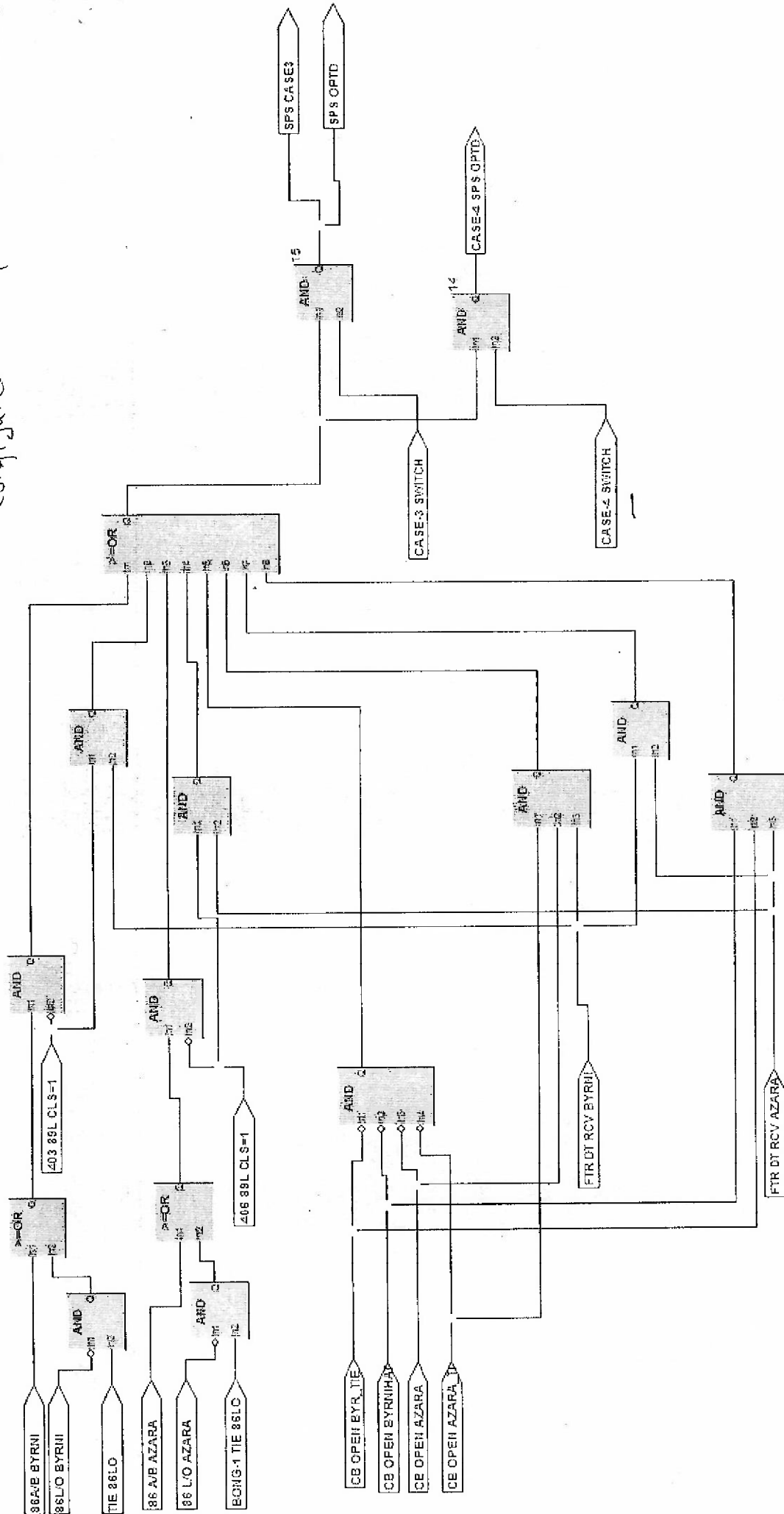
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Engineer
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SPS-3A

Configured in 450kV Pal-2 BCU



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