सत्यमेव जयते

Government of India
Ministry of Power
North Eastern Regional Power Committee
Lapalang, Shillong 793006

No. NERPC/SE (O)/OCC/2021/***9459-9495*** Dated: 02nd December, 2022

संलग्न सूची के अनुसार
As per list enclosed.

Sub: Minutes of 196th OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 196th OCC Meeting held via online on **25th November, 2022** for your kind information and necessary action. The minute is also available on the website of NERPC, **www.nerpc.gov.in**.

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

Encl: As above

Yours faithfully,

for ***Dy.*** **Director**

List of Addressees:

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. Engineer-in-Chief (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar-783369
18. ED, NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
25. Chief Engineer (NPC), GM Division, Central Electricity Authority, New Delhi – 110066
26. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
27. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
28. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
29. Head of SLDC, MeECL, Lumjingshai, SR Road, Umjarain, Shillong – 793022
30. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
31. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
32. Head of SLDC, MSPCL, Imphal – 795001
33. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
34. Head of SLDC, TSECL, Agartala – 799001
35. Chief Engineer(Elect), Loktak HEP,Vidyut Vihar, Kom Keirap, Manipur- 795124
36. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
37. Director,NETC,2C,3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-110077.

for **Dy. Director**

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Minutes of 196th OCCM, NERPC

Govt. of India
Ministry of Power
North Eastern Regional Power Committee
Shillong

North Eastern Regional Power Committee

Minutes of

196thOCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 25th November2022 (Friday)

Mode :"Online"

Shri B. Lyngkhoi, Member Secretary, NERPC welcomed the participants to the 195th OCC meeting. He apprised the members about the review meeting with chairperson CEA and directed the generating utilities to ensure zero deficiency in power supply from 1st April'23 to 15th May'23.

Thereafter, Member Secretary requested Sh. SrijitMukharjee, Deputy Director to take up theagenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 195thMEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 195thmeeting of Operation Sub-committee held on 18thOctober, 2022 at Shillong were circulated videletter No. NERPC/SE (O)/OCC/2021/8441-8477 dated 3rd November, 2022.

Utility	Agenda Item	Recorded in MoM	Comments
NERTS	C.16	i) NERTS highlighted that due to very large number of trippings on 33kV level, the transformer O&M is a challenge. He further added that in the event of breakdown, all connected areas through 33kV lines shall be without power till restoration. Thus, to ensure N-1 availability, the proposal of 2nd ICT is endorsed by the forum and referred to TCC/NERPC for final approval. ii)Hence, it is proposed that 2nd ICT may be provided at Ziro S/s	i) NERTS highlighted through presentation that due to very large number of tripping on 33kV level the transformer O&M is a challenge. He further added that in the event of breakdown, all connected areas through 33kV lines shall be without power till restoration. The forum opined the requirement of one more transformer to fulfill N-1 criterion, referred the issue for detail deliberation in next TCC/NERPC. ii)To be deleted

The Sub-committee confirmed the minutes of 195thOCCM of NERPC with the above modifications as no other comments/observations were received from the constituents.

B. FOLLOW UP AGENDA ITEMS

B.1. Operational Performance and Grid discipline during October,2022:

NERLDC presented the Operational Performance and Grid Discipline for the month of October'2022. The same is provided in the **Annexure B.1**.1.Manager NERLDC also informed the forum that DSM Regulations 2022 which was notified by Hon'ble CERC on 14th March 2022,shall be implemented w.e.f. 5 th Dec. 2022. He informed the forum that the criteria of issuance ofDeviation violation messages to NER constituents by NERLDC in real time shall also changewith implementation of the DSM Regulation 2022. Brief overview of the DSM 2022 regulationsand details regarding the new criteria for issuance of Deviation violation Messages waspresented during the meeting and the same is attached in **Annexure B.1.2**.

B.2. Generation Planning (ongoing and planned outages)

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

Plants	Reservoir level in meter	MU content	Present DC (in MU)	No of days as per current generation
Khandong + Kopilistg II			**0**	
Kopili			**0**	Willbe"0"until further intimation.
Doyang	**318.574**	**24.3**	**0.18**	**135**
Loktak	**766.63**	**16**	**0.813**	**19**

The outage of other generating stations may be approved considering the present water levels in reservoirs and long-term outage of Kopili HEP.

Deliberation of the sub-comiitee

After detailed deliberation the forum approved the outage of Generators in December'22

The sub-committee noted as above.

B.3. Outage Planning Transmission elements

It was agreedin the 99thOCC 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.

It was decided in the previous OCCM that shutdown would be granted from the 1st day of the following calendar month to the 30th/31st day of the same month.

Deliberation of the sub-committee

After detailed deliberation the forum approved the shutdown of transmission elements forDecember'22 (attached at **Annexure-B.3**)

The sub-committee noted as above.

B.4. Estimated Transmission Availability Certificate (TAC) for the month of September, 2022:

Transmission Utilities have submitted the outage datafor the month of October, 2022. So, the attributability of outage of the said elements is being finalized by NERLDC & NERPC.The Availability of the transmission elements of ISTS licensees for the month of September,2022 is as follows-

Sl no	ISTS Licensee	Availability for September'22 (%)
1	NETC	99.9034
2	KMTL	100.0000
3	NER-II TL	99.6065
4	PGCIL	99.9653 (For August 2022)

The sub-committee noted as above.

B.5. Mock Black Start Exercise:

The previous mock black start & restoration exercise has been conducted at various generating stations in NER on the dates mentioned in the following table:

As per regulation 5.8 (b) of IEGC, mock black start shall be carried out by Users/CTU/STUs at-least once in 6 months.

NEEPCO and NHPC informed the dates for testing as follows:

Plant Name	Performed On	Due Date	Schedule of Testing as per 195thOCCM
AGBPP	.....	.....	after upgradation of DG under R&M
AGTTCCPP	09.04.2019	09.10.2019	Oct'22*
PareHEP	25.01.2020	25.07.2020	To be done in lean hydro season
Kopili HEP	10.05.2019	NA	NA
Kameng HEP	.....	.....	In Lean Hydro season
Doyang HEP	-	-	Oct'22
KopiliStg-II	-	-	Under prolonged shutdown

*In the 195thOCCM,NERTS informed that CB for 132kV AGTCCPP – 79Tilla Ckt #II is healthy

DGM, SLDC, TSECL stated that the trolley at 79Tilla S/S would be replaced by Oct'22.

Deliberation of the sub-committee

Status as updated in the 196th OCCM:

Plant Name	Performed On	Due Date	Schedule of Testing as per 196thOCCM
AGBPP	.....	.....	after upgradation of DG under R&M
AGTTCCPP	09.04.2019	09.10.2019	Dec'22*
PareHEP	25.01.2020	25.07.2020	To be done in lean hydro season
Kopili HEP	10.05.2019	NA	NA
Kameng HEP	.....	.....	In Lean Hydro season
Doyang HEP	-	-	Completed on 21st Oct'22
KopiliStg-II	-	-	Under prolonged shutdown
RHEP	-	-	Scheduled on 29th Nov'22

*DGM, SLDC TSECL updated that synchronization trolley is installed at 79Tilla on 16th Nov'22. Consequently, GM NEEPCO stated that AGTCCPP will come up with a suitable date for the exercise in consultation with NERLDC.

The sub-committee noted as above

Action: all generating utilities

B.6. Status of ADMS:

Status for Automatic Demand Management Scheme in 7 states of NER.The SLDCs informed the latest status as follows:

Name of the utility	SAT Completion	DoCO
DoPAr.Pradesh	27-01-2021	Enabled & in-operation
AEGCL/APDCL	07-12-2020	Enabled & in-operation
MSPCL	24-11-2020	Enabled & in-operation
MePTCL/MePDCL	31-08-2020	Enabled & in-operation
P&ED Mizoram	22-02-2021	Enabled & in-operation
DoP Nagaland	17-11-2020	To be enabled after stability of ICCP link
TSECL	24-12-2020	To be enabled by Oct'22

In the 194th OCCM, Member Secretary, NERPC informed that after Inspection by PSDF-CEA team the following points have been raised w.r.t. ADMS implementation in Assam:

(a) ADMS implementation over ICCP protocol rather than with the approved OPC system

(b) Go Live or DoCO post Cyber Security Audit certification

(c) Non-communication of 5 out of 10 Sub-stations with ADMS Server

In 195th OCC NERPC provided clarification on the following two aspects:

- ADMS System Implementation with ICCP Protocol Interface with existing EMS SCADA System implemented and supported/managed by GE.
- Revision of x Go Live or DoCO date vis-a-visCyber Security Audit certification.

DGM, SLDC, TSECL informed the forum that ADMS could not be enabled due to connectivity problems i.e. at present only 1 MODEM is working and 3 MODEMs are non-operational. The forum requested TSECL to enable the scheme ASAP.

Deliberation of the sub-committee

DGM, TSECL updated that ADMS has been enabled at SurajmaniNagar (4MW) and Badarghatghat(8MW), while for the 3 Sub-stations (viz. Takerjhala, Bishalgarh, Badarpur) shifted under NERPSIP work is underway for ADMS integration.

NERLDC highlighted that ADMS logics are still different across stats and information on operation of relays is not available for monitoring. After detailed deliberation the forum requested states to harmonize the tripping logics and regularly provide logs on operation to NERLDC.

The sub-committee noted as above

Action: all state utilities

B.7. Violation of state wise TTC/ATC:

As per POSOCO KPI, NERLDC has to report the violation of import TTC/ATC of NER states in daily,weekly and monthly basis. It has been observed that most of the NER states are not N-1 secure causing violation of TTC/ATC limit although the actual drawl remains within the schedule values. Violation has been observed in case of Assam,Meghalaya, and Tripura states.

The TTC/ATC calculation of States done by NERLDC is as follows:

State	Time Period	N-1 considered	Limiting element	TTC	RM	ATC
Arunachal Pradesh	Off-Peak	132kV Lekhi – Pare	132 kV Pare – Itanagar S/C	195	5	180
	Peak			195	5	180
Assam	Off-Peak	220kV Misa-Samaguri I or II	220 kV Balipara-Sonabil	1730	40	1690
	Peak			1600	40	1690
Manipur	Off-Peak	132kV Imphal MA-Imphal PG Ckt I	132 kV Imphal (MA)-Imphal (PG) II & III	320	5	315
	Peak			320	5	315
Meghalaya	Off-Peak	132 kV Umiam3 – Umiam 1	132 kV Umiam-Umiam Umiam 1 II	340	10	330
	Peak			260	10	250
Mizoram	Off-Peak	132 kV Melriat-Silchar I & ORII	132 kV Aizawl-Luangmual S/C	160	5	155
	Peak			155	5	150
Nagaland	Off-Peak	220/132 kV ,100 MVA Dimapur ICT	220/132 kV ,30 MVA Mokokchung ICTs	255	5	245
	Peak			290	5	285
Tripura	Off-Peak	132 kV SM Nagar(ISTS) Budhjungnagar S/C	132 kV SM-Nagar (TR) – SM Nagar (ISTS) S/C	340	6	334
	Peak			315	6	304

In previous OCC meeting(s) it was decided that in the event of any major shutdown(approved/emergency) the state periphery ATC/TTC shall be calculated by respective SLDC and communicated to NERLDC. NERLDC conducted a training session on 29.06.2022 on calculating ATC, TTC for states at NERPC.

In 195th OCCM, NERLDC informed the forum that Assam, Manipur, Meghalaya, Mizoram & Tripura have provided the state-wise TTC/ATCfor the month of Sep 2022. DoP, AP &SLDC, Nagaland assured that the same will be provided from next month.

Deliberation of the sub-committee

SLDC AeGCLintimatedthat ATC/TTC for the month of October could not be provided because of PSSE discrepancy in base caseof network modeling, which has been conveyed to NERLDC.

NERLDC stated that the base case has been reviewed and rectified version is sent back to Assam. Moreover, NERLDC has requested all state SLDCs to check their base cases and consult in case of discrepancy.

After detailed deliberation the forum requested all the states to provide the respective ATC/TTC to NERLC periodically.

The sub-committee noted as above

Action: all state SLDCs

B.8. Issues pertaining to Kopili&Khandong.

A. Load restriction in Meghalaya Power System due to planned outage of Khandong HEP &KopiliStg-II:

Theplanned shutdown of Khandong HEP and Kopili Stage II has been approved from 10.01.2022 to 09.05.2022 in the 185thOCCMfor the following activities:

a. Inspection and repairing of Khandong Head Race Tunnel, Trash Rack Gate, Intake Gate, Surge Shaft Gates, Steel Liner of HRT etc.
b. Acid Proof Coating of Stage-II Penstock
c. Installation and commissioning of Penstock Protection BFV System of Khandong
d. Annual Planned Maintenance of Khandong Unit# I & II.

Decisions as per previous meetings: (i) Meghalaya System shall be operated by opening of 132kV Mawngap-Nongstoin T/L right from the start of Khandong HEP shutdown. (ii) In normal circumstances no load shedding is required and Meghalaya can continue to cater full demand based on present generation scenario. (iii) In event of tripping of any one circuit of 132kV UmiamStg-I to UmiamStg-III D/C SLDC Meghalaya shall swiftly shed load till loading of 132kV UmiamStg-I to UmiamStg-III S/C is within limit and also increase generation from UmiamStg-I HEP and Leshka HEP. (iv) based on Real Time Condition Mawphlang may be shifted to be fed from Agia side after concurrence of NERLDC, (v) Early restoration of Misa-Kopili-Khandong link by NERTS/NEEPCO.

B. Station supply at Khandong and Kopili Power Station:

Following the discussions in the 189th OCC and in the special meeting held on 27.04.2022 in presence of representatives from NERPC, NERLDC, NEEPCO, NERTS and AEGCL, Khlerihat – Khandong – Umrangshu link was charged as an interim special arrangement.

1. As agreed in the special meeting, AEGCL was requested to extend the PLCC system from Umrangshu to Haflong by 15th May 2022.

2. Since all the CRPs at Khandong Control room are under debris now and it is doubtful for revival of the same, NEEPCO is planning to arrange following CRPs and 220V DC source to charge the Khandong bus radially from Umrongso Sub-station only.

   It may kindly be noted that due to Khandong incident, the construction restoration activities of 4x50MW Kopili P.S, 2x25MW Khandong and 1x25MW Kopili Stage-II is badly hampered. Whatever activities are being carried out is based on DG Power only which is not the solution and progress of work has been severely hit.

As a stop gap arrangement following CRPs and 220V DC source shall be arranged by NEEPCO at the earliest.

- 132KV Umrongso bay – 1 No.
- 132/33KV 7.5MVA & 3MVA – 2 Nos.
- 33/0.4KV SAT 1MVA – 2 Nos.
- 33KV Umrongso line – 1 No.
- 33KV Kopili line – 1 No.

3. As discussed in 192nd OCC, NEEPCO has sent consent letter for becoming Bulk power consumer of APDCL for the consumption of construction power for restoration works of KhandongHEP.Further NEEPCO shall be sending weekly SEM reading to Assam/NERLDC. Also, NEEPCO requested for installation of 2 nos SEMs at the earliest so that restoration works can be started.
4. In 193rd OCC, GM, NEEPCO proposed space for 2 CRP in oldkioskroomnearKhandong stage 1 to PGCIL for Panel installation for 132kV Khliehriat-Khandong - 2 line and 132kV Khandong-Kopili line 2.
5. In 194th OCC, GM, NEEPCO informed the forum that fordrawing of construction power from 132kV Bus at Khandong via the two 132/33kV Transformers CRPs are at site but 220V DC battery bank is unavailable, for which order has been placed and will be supplied by Sep'22. Thereafter, drawing of power from the Grid shall commence by 1st week of October'2022. Regarding Panel installation for 132kV Khliehriat-Khandong - 2 line and 132kV Khandong – Kopili - 2,NERTS assured the forum to complete the work before Feb'23.

C. <u>Recommissioning of 1X25 MW Khandong Stage-II plant</u>

NEEPCO is planning to re-commission and synchronize 1X25MW Khandong Stage-II unit within thiscurrent financial year. Since all the Control & relay panels are submerged and damaged beyond repair during the inundation on 26.03.2022, for successful commissioning and evacuation of the generated power, the Khandong Switch Yard has to be adequately restored within February – 2023.

Present Status:

1. One CRP for Khandong-Umrongso feeder at Khandong end is procured and expected to commissionedby NEEPCO before February 2022.
2. One Temporary KIOSK rom has been identified and Cable trenches are under Construction and, cables are being re-routed.

Status of action being taken by NERTS, POWERGRID:

1. The matter for availabity one more 132KV line from Khandong SY to Khleirihat (PG) Sub-Stationwas discussed in the last OCC meetings, the availabity of towers nearby Khandong Power Stations/new arrangement my be intimated to NEEPCO.
2. For the above, NERTS, POWERGRID was requested to install 1(one) BCU based CRP Febreuary-2023. Status of the same may kindly be shared with NEEPCO.
3. NERTS, POWERGRID wasrequested to ensure the installation of PLCC panel for Khandong – Khleirihat linealongwith FOTE panels for digital and analog data/voice, protectection and communication to NERLDC before synchronization of the Khandong Stage-II.

Status of action taken by AEGCL:

1. AEGCL was requested to provide a PLCC Panel for Khandong-Umrongsoline and NEEPCO was to provide the 48V battery bank with charger for PLCC. Status of the same may please be intimated to NEEPO.

In the 195thOCCM, following points were discussed-

- Meghalaya Power system to operate in bifurcation i.e.132kV Mawngap-Nongstoin T/L shall be opened and Nongstoin, Nangalbibra, Tura and Ampati to be fed from Agia. It is decided that joint studies will be done by NERLDC & SLDC, Meghalaya for winter peak load management. NERLDC raised concern that such radial connectivity may create security issue in Meghalaya power system and frequent disturbances may occur.
- Early restoration of 132kV Jiribam –Haflong line (out due to Line diversion work by NHIDCL – NH48 / replacement of tower due to landslides in road

widening area) which will improve the ATC/TTC of Meghalaya State. NERTS informed the forum that the matter of wildlife clearance for the said line has been referred to the National Wildlife Board.

- Early commissioning of 220kV Mawngap-Killing line. NERPSIP informed severe RoW issues are hampering the progress, the matter has been taken up with the Government of Meghalaya.

NERTS opined that since the temporary restoration works may not be able to restore the envisaged Misa-Kopili-Khandong link before lean hydro season, it would be prudent to take up the permanent restoration work instead of going for the temporary arrangements. Permanent restoration at Kopili&Khandong is to be completed by March'23 for providing alternate path to Meghalaya System via Misa and 2nd line for evacuation of Khandong Stage#2 generation. Following decisions emerged out of the deliberations:

1. **Kopili Related activities -**

i. 48V DC Supply for PLCC Panels at Kopili Switchyard to be taken up by NEEPCO. NEEPCO requested NERTS to provide the load requirement.

ii. All POWERGRID owned bays shall be restored as per their permanent scope.

2. **Khandong S/y related activities**

i) 132kV Khliehriat– Khandong#1&2 to be restored on permanent towers

ii) AEGCL has agreed to provide 02 sets of CRP Panels to NERTS for restoration of 132kV Kopili-Khandong#2 & 132kV Khandong-Khliehriat#2 Lines. These panels shall be provided from Srikona (AEGCL) S/s on replenishment basis. POWERGRID requested AEGCL to provide panels for utilization in line with assets of POWERGRID being used by AEGCL in Mariani. CGM, AEGCL agreed.

iii) NERTS & NEEPCO officials visited site for finalizing the location to house the CRP panels of Lines mentioned in Point no. 3 above. After exploring all options, New Switchyard Panel Room constructed by NEEPCO has been finalized for housing CRP & PLCC panels for 2 Lines.

iv) 48V DC system for PLCC shall be arranged by NEEPCO.

3. POWERGRID requested NEEPCO to provide staff accommodation at Umrangsho Township for maintenance of bays at Khandong&Kopili. NEEPCO informed that the same will be reverted back after discussion with Management.

Deliberation of the sub-committee

Regarding reliable power supply in Meghalaya

Manager, NERLDC informed the following study results:-

Case-I: In closed loop system operation under present circumstances (i.e. non-commissioning of 220kV Killing – Mawngap D/C line, outage of Misa-Kopili-Khandong-Khliehriat link, 132kV Srikona-Panchgram line line, 132kV Haflong-Jiribam line) maximum of 290 MW load can be met under N-1 contingency of 132kV Umiam Stg-3 to Umiam Stg-1.

Case-II: In closed loop system operation with commissioning of 220kV Mawngap-Killing D/C (with outage of Misa-Kopili-Khandong-Khliehriat link, 132kV Srikona-Panchgram line line, 132kV Haflong-Jiribam line) maximum of 390 MW load can be met under N-1 contingency of 132kV UmiamStg-I to Mawlai line.

Case-III: In closed loop operation with re-conductoring of 132kV UmiamStg-I to UmiamStg-III D/C under present circumstances (i.e. non-commissioning of 220kV Killing – Mawngap D/C line, outage of Misa-Kopili-Khandong-Khliehriat link, 132kV Srikona-Panchgram line line, 132kV Haflong-Jiribam line) maximum of 380MW maximum demand can be met under N-1 contingency of 132kV Badarpur – Khliehriat line.

Case-IV: In segregated system operation under present circumstances (i.e. non-commissioning of 220kV Killing – Mawngap D/C line, outage of Misa-Kopili-Khandong-Khliehriat link, 132kV Srikona-Panchgram line line, 132kV Haflong-Jiribam line) maximum of 400MW load can be met under N-0 contingency. Voltage at 132kV NEHU Bus is 123kV at peak load and in case of N-1 contingency of 132kV badarpur-Khliehriat voltage falls to 107kV. Further under N-1 contingency of 132kV badarpur-Khliehriat, loading of 132kV Badarpur-Panchgram increases to 160MW.

Manager, NERLDC further informed that the maximum demand met shall increase by 10MW in all the above cases if 132kV Haflong – Jiribam is brought back into service.

EE, SLDC, Meghalaya stated that Case-IV or segregated system operation would be opted by Meghalaya for now with installation of 20MVAR Capacitor bank at 132/33kV NEHU S/Sn. After upgradation of 132kV UmiamStg-I to UmiamStg-III D/C (Line-I

completed, Line-II scheduled completion by 24th Dec'22) Meghalaya System shall be shifted to Case-III i.e. closed loop system operation.

After detailed deliberation the forum approved the proposal of Meghalaya and requested MePTCL to complete the upgradation of 132kV UmiamStg-I to UmiamStg-III D/C at the earliest.

On restoration of Jiribam-Haflong line, PGCIL updated that National wildlife Board meeting for forest clearance is scheduled in Dec'22, line will be restored soon after obtaining the forest clearance.

On commissioning of 220kV Mawngap-Killing line, NERPSIP updated that RoW issue is still unresolved and the matter is being discussed with the state government.

Regarding works at KopiliS/S

48V DC supply for PLCC panels is being undertaken by NEEPCO. PGCIL provided the load requirement of 20A max.

Regarding works at KhandongS/S

AEGCL asked PGCIL to undertake the transportation of 2CRPs at SrikonaSS to Khandong Switchyard for 132kV Kopili-Khandong#2 & 132kV Khandong-Khliehriat#2 Lines. PGCIL updated that relay replacement works in the CRPs is underway, transportation will be done thereafter.

The sub-committee noted as above

Action: NEEPCO, AEGCL,NERTS,

B.9. Implementation of Guwahati Islanding Scheme:

In the 190th OCCM, DD, NERPC stated that in the Special Meeting on 13th May'22 it was decided that dedicated fiber is required in order to ensure Cyber Security. AEGCL intimated that Dedicated Fiber is available in the link SLDC – Sarusajai – Mirza – Boko – Agia – BTPS – BgTPP and offered the same for the Islanding Scheme. The forum requested NERTS to explore the availability of dedicated fiber.Member Secretary, NERPC stated that after budgetary offer is received from at least two vendors the DPR will be finalized.

In 194thOCC, DGM, SLDC, AEGCL informed that in the meeting with M/s GE at SLDC Assam on 25th Aug'22 all points have been clarified and the inputs have been submitted also forthwith.

In 195th OCC, Member Secretary, NERPC informed the forum that the budgetary offer from M/s GE has been received. He added that the DPR for the Guwahati Islanding Scheme shall be finalized by Oct, 2022.

Deliberation of the sub-committee

Member Secretary NERPC updated that the finalized DPR wa discussed in 22nd RPC meeting and issue of high cost was flagged. So, re estimation of project cost will be done at the earliest.

The sub-committee noted as above

Action: NERPC

B.10. Furnishing details of upgraded UFR settings alongwith list of feeders and quantum of load:

Status as updated in the 194thOCC meeting:

Name of the state/utility	Submission of revised UFR list	Implementation of revised settings	Status of mapping
Ar. Pradesh	Submitted	Stg-1 (49.4Hz)implementation in new feeders. UFR to be procured by July'22, implementation to be done by Mar'23**	Written to GE, will be done soon*
Assam	Submitted	Installation Completed. UFR to be shifted to Samaguri for 132kV Khaloigaon-Samaguri line.	Done
Manipur	Not submitted	No extra shedding required only Stage upward revision to be done.	To be done
Meghalaya	Submitted	17 out of 17 feeders completed. Forum requested to share the points with RLDC SCADA	One feeder of Stage IV left for mappingOther stages completed.

Mizoram	To be submitted	Completed	By Sep'22 subject to resolving of SCADA issues***
Nagaland	Submitted	Completed	Mapped except Stage-I feeders##
Tripura	Submitted	Stage-1(49.4Hz), Stage-2 (49.2Hz), Stage-3(49Hz) require installation of UFR. – Delivery at site bySep22 and installation by Oct'22	To be done by the end of this month except for Non-RTU lines.

*No RTUs available for the selected feeders, DPR being prepared. The forum requested to share the SLDC display with NERLDC.

**waiting for Guwahati Islanding scheme to come. UFR to be put into that scheme

***Forum requested to resolve the communication issue and meanwhile share the SCADA display with the RLDC.

In the 195th OCCM, Member Secretary, NERPC informed the forum that the status of UFR scheme had been closely monitored in the 12th NPC Meeting held on 17th Oct, 2022 chaired by Chairperson, CEA. He added that the following points should be noted:

- The Quantum of load to be shed at each step to be matched by the states as per the minutes of the 12th NPC Meeting.
- As envisaged one-third of the UFR relays shall be inspected. The list for the same shall be shared by NERPC.
- The states are requested to map the respective feeders for required visibility purposes at SLDC/NERLDC.

P&ED, Mizoram and DoP, AP raised the issue of non-availability of connectivity with SCADA for the feeders installed with UFR at 33kV level. The forum requested P&ED, Mizoram and DoP, AP to install RTUs for these feeders so that the same can be mapped.

SLDC, Tripura informed the forum that 12 nos. of UFR have been installed and work for SCADA mapping is under progress. UFR installation and SCADA mapping shall be completed by Oct'2022.

Sr. GM, NERLDC informed the forum that the ADMS and UFR feeders should be segregated which is currently not followed by DoP, Nagaland as UFR Stg-I has been implemented through ADMS in Nagaland. The forum recommended that DoP, Nagaland should segregate the UFR scheme from ADMS. This would also resolve the SCADA Mapping issues of Stg-I.

He further added that the quantum of load shedding to be done at Stage 1 and Stage 4 for the Manipur is presently not 10 MW as envisaged.

NERLDC highlighted that there should be uniformity in ADMS logic for all the NER states. The forum requested NERLDC to coordinate with the NER states in order to bring the said uniformity.

Deliberation of the sub-committee

Arunachal Pradesh intimated that interaction with GE is undergoing for mapping works and it will be completed before Jan'23.

Manipur intimated that stage upward revision is done and talks with GE is underway regarding Mapping and will be completed before Jan'23. Sr. GM ,NERLDC suggested SLDC Manipur to add extra feeder to stg1 and stg 4 in order to reach the quantum of 10MW load shedding for each stage.

Nagland intimated that segregation of UFR and ADMSto be done by Jan'23 and RTUs for stg1 feeders have been included in DPR.

Tripura updated that installation of relays for stg 1 has been completed and details will be submitted to NERLDC in 2,3 days. As regrd mapping, SCAD team is visitin and working on it and will be done by Jan'23.

Mizoram stated that talks with GE is undergoing regarding mapping of feeders and will be completed Jan'23.

Meghalaya intimated that mapping is completed.

The sub-committee noted as above

Action: all state utilities

B.11. Primary Frequency Response testing plan of remaining units in NER:

Primary Frequency Response Testing of generator units is being carried out in line with the Clauseno.5.2(g) of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010.

Schedule as agreed in the 195thOCC meeting:

Region	Station	No.of generators	Suggested Schedule		Duration (days)
			Test Start	Test End	
NER	NEEPCO-Monarchak	1	26th July'22	28th July'22	done
NER	NEEPCO-Kameng	1 (by M/s Solvina)	Oct'22	Oct'22	2
NER	OTPCL-Palatana	2 (by M/sSolvina)	Nov'22	Nov'22	4
NER	Doyang-NEEPCO	2 (by M/s Siemens)	Oct'22	Oct'22	4(water level to be sufficient enough to run the units at full capacity)

In the 195th OCC,NEEPCO informed that the PFR testing for Kameng may be scheduled on 20th – 21st October, 2022 for unit-4. He added that the water level at Doyang is sufficient to run the machine at close to 90% of Generating unit MCR. The forum requested NEEPCO to schedule the testing of Doyang PFR testing based on the water level sufficiency.

OTPC informed that the PFR testing can be conducted after the planned shutdown of Unit#1 to be availed from 28th Oct,22 - 3rd Nov, 22.

Deliberation of the sub-committee

GM, NEEPCO stated that PFR testing at Doyang is not possible this season due to consistently low water level. However, testing at Kameng is confirmed to be done.

Regarding OTPC Palatana, PFR testing of unit 2 by m/s Solvina is scheduled on 20th and 21st Dec'22 and for unit 1, which is to be done by m/s Siemens, date is yet to be finalised.

The sub-committee noted as above

Action: NEEPCO, OTPC NERLDC.

B.12. Regular furnishing of Patrolling report for all Important Lines to NERLDC/NERPC

There is a requirement of regular and proper maintenance of transmission lines. It is requested to carry out the patrolling activities as per ClNo.23(2), (3) &(4) of CEAGrid Standards Regulation,2010on regular basis and submit the report to NERPC/NERLDC.

It is requested to upload DR, EL& FIR outputs for transmission linesin the NERLDC tripping portal in line with Cl.5.2 R of IEGC 2010 Regulations.

In previousOCCmeetings, Member Secretary, NERPC took strong note of the non-submission of patrolling report by the utilities in spite of repeated persuasion. He directed all the utilities to submit the patrolling report for all Important Lines to NERLDC/NERPC periodically.The forum requested NERPC to send letters to states in order to urge them to submit patrolling reports.

Deliberation of the sub-committee

NERLDC highlighted that all states except Manipur and Mizoram are submitting patrolling reports, but only few lines are covered in the reports, thus leaving out important lines. MS NERPC exhorted all the states to duly undertake comprehensive patrolling of the lines and submit the reports covering all the important lines.

The sub-committee noted as above

Action: all state utilities

B.13. Monthly Review of LGBR

PARTICULARS (Peak Demand in MW as per LGBR vs Actual)	Aug-22 (LGBR)	Aug-22 (Actual)	Sept-22 (LGBR)	Sept-22 (Actual)	Oct-22 (LGBR)	Oct-22 (Actual)
Arunachal Pradesh	162.00	154.72	163.00	144	141.00	121
Assam	2261.81	2378.85	2267.21	2308	2109.98	2312
Manipur	206.25	206.79	199.00	203	205.00	202
Meghalaya	332.97	348.369	340.69	354	327.00	356
Mizoram	106.81	118.68	113.30	127	114.66	127
Nagaland	184.99	161.8	170.00	161	160.00	167
Tripura (exc. Bangladesh)	310.49	323.95	305.00	333	300.00	321
NER DEMAND (exc. Bangladesh)	3258.70	3599.76	3309.56	3497	3196.00	3405.00

PARTICULARS (Energy Requirement in MU as per LGBR vs Actual)	Aug-22 (LGBR)	Aug-22 (Actual)	Sept-22 (LGBR)	Sept-22 (Actual)	Oct-22 (LGBR)	Oct-22 (Actual)
Arunachal Pradesh	82.43	79.7	77.00	72.12	69.88	88.53
Assam	1187.80	1320.510	1159.35	1211.630	1071.11	1006.800
Manipur	84.96	83.090	82.09	79.7	84.20	77.21
Meghalaya	180.84	185.320	168.39	176.96	180.70	186.79
Mizoram	50.07	55.498	48.46	51.58	76.43	53.17
Nagaland	83.69	86.180	78.68	82.69	79.63	76.44
Tripura (excl. Bangladesh)	151.58	168.6	155.40	155.14	152.69	150.28
NER DEMAND (exc. Bangladesh)	1788.46	1979.643	1743.50	1830.5987	1684.38	1639.979

Deliberation of the sub-committee

The forum observed that LGBR projections appear broadly in line with actual demand of states.

The sub-committee noted as above

B.14. Installation of AWS by IMD Guwahati

It was informed in 158th OCCM that RMC, IMD, Guwahati would install Automatic WeatherStation (AWS) in NER. As per the proposed list of stations by the constituents, IMD has surveyedthe stations and has mentioned the requirement of NoC for the suitable stations.

In 195th OCCM, Representative from IMD in his presentation had highlighted the status of site surveys and the location finalized by the respective states and IMD w.r.t the installation of AWS. NERLDC informed that a draft MoU has been prepared by Assam.

The forum requested that for the benefit of other states the said draft MoU may be circulated and requested all the other states to provide inputs on the draft MoU prepared by Assam so that the same may be finalized as early as possible.

Deliberation of the sub-committee

Representatives from IMD highlighted various issues with the sites proposed by the states. DGM TSECL objected to IMD that after getting NOC for the sites IMD is raising issues with sites. MS NERPC asked IMD to make report on issues faced with each site

and share with the respective states. Also NERLD requested IMD to visit the 12 sites proposed by DoP Nagaland.

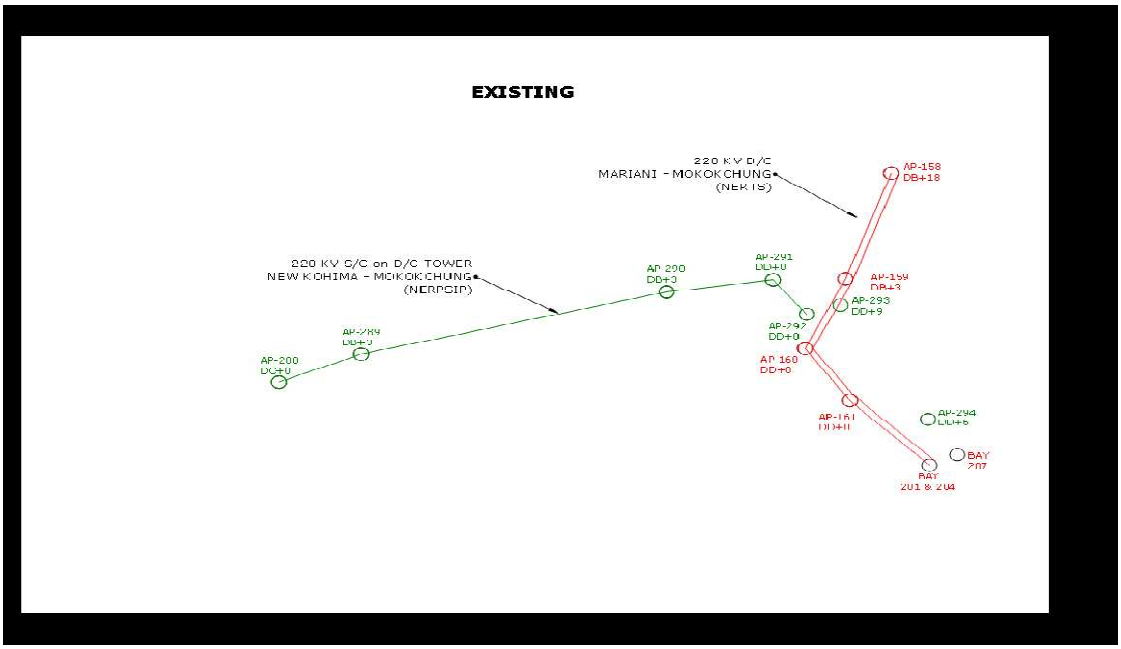
As regard MoU, IMD was in agreement with draft MoU prepared by Assam and the forum requested all the states to sign the MoU, with modifications if any, by December22.

The sub-committee noted as above
Action: all state utilities.

B.15. <u>Requirement of shutdown for executing bay exchange and line swapping for 220kV New Kohima – Mokokchung TL under NERPSIP Nagaland:</u>

Under the scope of NERPSIP, 220kV New Kohima GIS bay at 220/132kV Mokokchung GIS (POWERGRID) is completed and associated 220kV New Kohima – Mokokchung Transmission line on the verge of completion. However, due to non-availability of adequate corridor for crossing the existing 220kV Mariani – Mokokchung TL by the newly constructed line, swapping of the two lines near the substation and exchange of the bays at the substation is required. Matter has also been intimated to DOP.

The swapping of the transmission lines are proposed to be carried out from 07.09.2022 and since one number tower erection along with de-stringing and re-stringing of both the lines are required to be carried out only after obtaining shutdown of the existing 220kV D/C MarianiMokokchung TL. The minimum shutdown requirement shall be of 18 days.



In the 193rd OCCM the forumhad requested DoP Nagaland to intimate suitable timeline for the proposed shutdown of 220kV Mariani-Mokokchung D/C so that swapping of the two lines near the substation and bay exchange work at 220/132kV Mokokchung substation can be carried out.

In the 194th OCC, EE, DoP Nagaland intimated the forum that the shutdown of 220kV Mariani-Mokochung D/C is contingent upon return of shutdown of 132kV Kohima-Meluri line which is under outage due to tower collapse, and can be taken from 23rd Sept to 10th October. The forum had requested NERPSIP to finalize the schedule of the shutdown by 20th September'2022 and intimate to NERPC thereafter.

As per the decision of the 195th OCCM, special meeting was convened on 20th Oct, 2022 to resolve the issues w.r.t the bay exchange and line swapping for 220kV New Kohima – Mokokchung TL with 220kV Mariani-Mokokchung line 1. The deliberation of the said meeting is as follows:

- POWERGRID informed that after bay swapping, the changes in Bays will be as follows:

Bay No	**201**	**204**	**207**
Before Bay Exchange/Existing	Mariani II	Mariani I	New Kohima
After proposed Bay Exchange	New Kohima	Mariani II	Mariani I

The owner of Bay no 207 shall remain with DoP, Nagaland only while Bay no 201 and 204 will remain with POWERGRID.

- Since transfer of assets is not possible, it was requested that NERTS and DoP, Nagaland may have a bilateral agreement for O&M of their respective bays.
- CTU connectivity agreement shall not be required.
- NERTS to confirm with the RIO w.r.t the clearances required for charging of the Bays after the proposed changes are made, since there is an addition of two towers (AP293 and AP294) for the diversion of 220 kV Mariani – Mokokchung I and II Line.
- NERTS to adhere to the PTCC clearance as per the CEA's guidelines.
- Since the proposed configuration allows for double OPGW at tower AP-159, its collapse may make the system vulnerable. NERTS mentioned that the same shall be reviewed.
- Various undertakings/compliances (Protection, Telemetry, and Metering etc.) were requested by NERLDC to be duly filled by NERTS before FTC.
- Necessary changes to be done by NERTS in the SCADA & metering database.
- SIO clearance dated 28.02.22 submitted by DoP, Nagaland for Bay no 207 mentions New Kohima Bay and has no validity. Also, the same has not been energized till date. DoP, Nagaland prior to FTC, may obtain clarification from SIO regarding validity of SIO clearance and swapping of the inspected Bay (207) for New Mariani II Line.

Deliberation of the sub-committee

Reagrding agreement on O&M of respective bays of DoPnagland and PGCIL, DoPNagaldn stated that it will be finalized soon, and PGCIl have already provide bay equipment details to Nagaland.

NERLDC pointed out that long outage of Mariai-Mokochung DC is posing threat to power system of Nagaland and multiple extensions of shutdown is also affecting other shutdowns related to Nagaland power system.

PGCIl rebutted that the extensions were due to delays in obtaining RIO clearance, which in turn has been obtained on 24.11.2022.

After detailed deliberation the forum strongly asked PGCIl to bring the line in service at the earliest.

The sub-committee noted as above

Action: NERTS, DoP Nagaland

B.16. Overloading of 220 kV Mariani (PG)-Mariani (AS) S/C

It has been observed that the loading in 220 kV Mariani (PG)-Mariani (AS) has reached beyond 180 MW on some instances while the maximum allowable loading of the line is 213 MVA.

A joint visit was conducted by AEGCL and POWERGRID and the matter was discussed among NERPC, POWERGRID and AEGCL through a VC meeting on 06-10-2020. Based on the joint investigation of the matter, Triangular configuration of Mariani (POWERGRID) – Kathalguri (NEEPCO) – Mariani (AEGCL) at 220kV level with existing Twin Moose Conductor was recommended by NERPC. AEGCL vide letter dated 22.01.2021 requested for 'in-principle' approval of triangular configuration of the same. CEA, vide letter dated 09.02.2021, granted no objection in implementation of triangular configuration by AEGCL. The scheme was agreed in the 3rd NERPC-TP held on 19th July 2021.

AEGCL may look into the implementation of the downstream 220 kV system at New Mariani and plan for better evacuation of the generation in Upper Assam Power System.

It is also proposed for upgrading the conductor configuration of 220 kV Mariani (PG) – Mariani (AS) line from existing Zebra to Twin Moose Conductor, as no objection received from CEA, vide letter dated 09.02.2021. This will increase the capacity of the conductor from 213 MVA to more than 300 MVA.

It is also proposed to look into the possibility of commissioning of 2nd circuit of 220 kV Mariani (PG) – Mariani (AS) line so that under the N-1 contingency of 220 kV Mariani (PG) – Mariani (AS) one circuit, the other circuit will provide safe evacuation of generation of Upper Assam Power.

In 195th OCC AEGCL informed that at present some portion of the 220 kV Mariani (PG) – Mariani (AS) line is still Zebra Conductor and could not be converted to Twin Moose as it is likely to create clearance issue while charging. The forum requested NERTS and AEGCL to do a joint inspection so that a solution can be drawn as the said portion of the line is limiting the loading capacity for the line. The forum suggested that the option of conversion of the Zebra Conductor to HTLS Conductor may also be explored to avoid clearance issue.

Deliberation of the sub-committee

DGM, SLDC, AEGCL informed that Twin Moose conversion is not possible as the tower at Loc. No.233 as it is supported with stay wires and anchor tower is being constructed (by POWERGRID) to support the same. However HTLS is possible and same shall be completed by Jan'23.

The sub-committee noted as above

Action: AEGCL, NERTS

C. NEW AGENDA ITEMS

Agenda from NERLDC

C.1. Furnishing daily data of generation, demand and shortage by State, ISGS and IPPs:

Gross generation and ex-bus generation of all State Generators, ISGS (Inter State Generating Station) & IPP (Independent Power Producer) for each day is to be furnished to MOP/NLDC which was discussed in 193rd OCC meeting held on 12th August 2022.

In addition to the above, hourly demand and shortage data of the states is also required to be furnished to NLDC/MOP.

In view of the above it is requested to furnish above data in the format specified (as sent in mail dated 07.11.2022)

Deliberation of the sub-committee

Manager NERLDC intimated that most of the states do provide gross generation data for each day but no net generation data is provided. Arunachal Pradesh is not proving any data at all. Even some ISGSs are not providing the net generation data. After detailed deliberation the forum strongly urged the states and ISGSs to provide required generation data and hourly demand and shortage data of the states.

The sub-committee noted as above

Action: all generating and state utilities

C.2. Unauthorizedsynchronizing attempts of AGBPP Units:

Several times it is observed that repeated CB closing attempts are taken by AgBPP on un-successful synchronization of its units against single code.

For example, on 15.10.2022, after tripping of AgBPP unit - 5 at 11:34 NERLDC code (8598) was obtained by AGBPP for synchronisation of unit – 6.However, it was observed that two attempts were taken to synchronise the unit at 11:59 Hrs and 12:30 Hrs which went unsuccessful.

On expiry of the previous code, a new code was provided (Code No: 8600) for a final attempt for synchronisation of unit – 6, but the unit could not be synchronized again.

Eventually, it was discussed via telephone that no further code will be issued for synchronisation of GTG-6 till AGBPP provides full details of the cause of de-synchronisation in the above mentioned attempts. However, AGBPP went on to synchronise the unit at 12:44 Hrs without necessary code from NERLDC despite of instruction given regarding non-closing of the unit without any code.

It is to be noted that this attempt also failed and the machine desynced again at 12:49 Hrs.

Hence, AgBPP is requested to take the matter seriously and avoid such attempts of unauthorized synchronization without analyzing the root cause of desynchronization of units as it may lead to adverse effects and serious disturbances in the grid.

SOE of unit closing for reference is attached as **Annexure C.2**.

Deliberation of the sub-committee

NELRDC highlighted that AgBPPS attempt of unauthorized synchronization using the previously issued charging code is violation of IEGC grid code. GM, NEEPCO expressed regret over the incident and assured the forum that the root cause of desynchronization will be investigated and such acts will not be repeated in future.

The sub-committee noted as above

Action: NEEPCO.

C.3. Delayed returning of shutdown in peak hours:

It is observed in the month of September, October & November that in many instances NERTS has delayed in returning the shutdown of grid elements. As Powergrid owns most of the ISTS as well as important transmission lines/elements, returning of the shutdown in stipulated time becomes crucial for transfer of power to many constituents with security, especially during peak hours. Few instances when delayed returning of shutdown has caused constraints in the system are tabulated below:

Sl. No.	Element	Approved Date and Time	Availing Time	Returning Time	Returning Delay	Impact on grid
1	132KV/33kV ZIRO-ICT	08:00 hrs to 16:00 Hrs of 08.11.2022	08:22	17:12	1 Hr 12 Min	Ziro area of AP was in dark having load of around 10 MW
2	132kV-DAPORIJU-ZIRO	08:00 hrs to 16:00 Hrs of	08:19	19:10	3 Hrs 10 Min	Dark in Ziro, Along, Pasighat,

		07.11.2022				Roing, Tezu and Namsai area.
3	132kV-BISWANATH CHARIALI-PAVOI-2	06:00 Hrs to 15:30 Hrs of 28.10.2022	08:59	18:39	3hrs 9min	20 MW load curtailed in Pavoi area of Assam
4	132kV-BADARPUR-KHLIEHRIAT-1	08:00 hrs to 16:00 Hrs of 05.10.2022	09:41	22:31	6hrs 31min	Overloading of 132kV Lumshnong-Panchgram and load curtailment by Meghalaya in Lumshnong area
5	132kV-DIMAPUR-DIMAPUR(PG)-2	08:00 hrs to 16:00 Hrs of 07.10.2022	08:12	16:52	52 min	Overloading of other circuit and load curtailment in Dimapur area during peak hours.
6	132kV-BADARPUR-KHLIEHRIAT-1	08:00 hrs to 16:00 Hrs of 22.09.2022	08:34	20:20	4 hrs 20 min	Overloading of 132kV Lumshnong-Panchgram and load curtailment by Meghalaya in Lumshnong area

In many of the cases of delayed S/D return, it is observed that there was delay in availing shutdowns. Hence it is suggested that the shutdown may be availed on time so as to avoid delay in returning the shutdown during peak hours.

List of elements with delay in returning shutdowns is attached as **Annexure C.3**.

Deliberation of the sub-committee

PGCIL rebutted that such extensions are on account of unavoidable technical glitches occurring in the equipments, which cannot be foreseen and planned for. ED NERLDC requested PGCIL to planning of shutdowntimings of shutdowns so that security of the system is least compromised with extensions. MS NERPC exhorted PGCIL to avoid such delays in future.

The sub-committee noted as above

Action: NERTS

C.4. Non-Switching of grid elements due to failure of remote switching:

On 03.11.2022 at 01:06 Hrs, a code (9704) was issued from NERLDC for closing of 400kV, 50MVAr Bus Reactor-1 at Misa S/S due to high system voltage. However, the same could not be closed from RTAMC nor from site due to some remote switching issue and lack of communication with site staff respectively (as informed by RTAMC).

Hence NERTS is requested to ensure the switching of system elements whenever instructed/ on system requirement either from remote or locally.

Deliberation of the sub-committee

PGCIL assured the forum to look into the remote switching and lack of communication issues promptly and to ensure that such incidents are not repeated.

The sub-committee noted as above

Action: NERTS

C.5. Long Outage of Reactors in the grid:

With the onset of lean hydro period and reduction in the demand of the region in the Night hrs, high voltage is observed in the grid. As such, taking reactors into service becomes essential to contain the system voltage within IEGC band. However, it is observed that few of the bus/line reactors are under outage for quite sometimes. List of such reactors are shown below:

Sl. No.	Element	outage date	outage time	reason of outage
1	63 MVAR , 400kV-BONGAIGAON-BYRNIHAT (KILLING) L/R@ BONGAIGAON – 400kV	25-07-2022	08:17	Approved time: 08:00 Hrs to 16:00 Hrs of 25-07-22. Extended several times to 15-09-22, 05-10-22, 20-11-22. For upgradation of CAG type English electric make Differential and REF relay with Micom P643 and P141.
2	50 MVAR, 400kV-BISWANATH CHARIALI-BALIPARA-2 L/R@ BALIPARA – 400kV	14-07-2022	11:05	For internal inspection of high rise of Fault gases. (Emergency without approval)
3	20 MVAR, 132kV B/R @ KUMARGHAT	11-11-2022	23:42	Y-ph Bushing Blast
4	400 kV, 63 Mvar Bus Reactor at Byrnihat	09-12-2014	-	Replacing 63 MVAR Bus Reactor with 80 MVAR Bus reactor
5	125 MVAR, 400kV Bus Reactor at Bongaigaon	05-11-2022	19:48	Approved time: 08:00 Hrs of 05-11-22 to 16:00 Hrs of 12-11-22. Extended tp 19-11-22. Due to DCRM violation of Circuit Breaker of Balipara#3 Main Bay 419 at Bongaigaon (Severe in R-ph/ nominal in Yand B ph).
6	20 MVAR, 132kV B/R @ AIZWAL	02-11-2022	08:28	Approved time: 08:00 Hrs of 02-11-22 to 16:00 Hrs of 16-11-22. Extended to 23-11-22.

				HIGH MOISTURE OBSERVED IN THE OIL. Dryout and filtration for increasing the dielectric strength of oil and paper for enhancement of useful life.

Hence, concerned constituents are requested to expedite restoration of the reactors and also provide a tentative date of restoration of the above mentioned reactors.

Deliberation of the sub-committee

Regarding 63Mvar Line reactor at BgTPP, Nerldc highlighted its importance in lean demand season in addressing high voltage condition. PGCIL clarified that bushing replacement of the reactor is required and which can only be carried out after bringing BTPS-Salakti DC into service.

Regarding 50MVar BNC line reactor at Balipara, PGCIL intimated that the reactor will be under outage till April'23 as in-situ rectification work is undergoing which involves long drawn processes. Sr GM NERLDC highlighted the importance of the reactor in partly addressing he high voltage problem at Ranganadi and in addressing the problem some lines might have to be opened to control rise in voltage during lean hydro season.

Regarding 80MVar Bus reactor at Killing substation, MePTCL intimated that logistics issues is hampering the work but the work will be done at the earliest.

After detailed deliberation the Forum exhorted the concerned utilities to bring the reactors into service at the earliest as the lean demand and low hydro season begins in order to arrest the rise in voltages.

The sub-committee noted as above

Action: NERTS, MEPTCL

C.6. Commissioning of 420 kV, 80 MVAR Bus Reactor at Ranganadi HEP

Voltage rise issue is witnessed at Ranganadi HEP throughout the year and it gets more severe during the lean hydro period leading to difficulty in grid operation. 400 kV lines at Ranganadi HEP are also kept open for considerable period of time to control voltage at Ranganadi during real-time operation which is affecting the reliable operation of NER Grid.

As per deliberations in 192nd OCCM, NEEPCO informed that work will be completed within 18 months from LOA date. The table below shows the duration for which high voltage was observed at Ranganadi for the years 2021 & 2022. NEEPCO is requested to update the latest status and expedite Installation of 420 kV, 80 MVAr bus reactor at Ranganadi HEP.

Sl No.	Year	Total Hours for which Bus voltage of Ranganadi Bus above IEGC band (420 kV and above)
1	2021	169.98
2	2022	26.66

Deliberation of the sub-committee

GM, NEEPCO intimated that as per LoA, due date is July'23 but it might be delayed by six months, thus tentative date for installation 80MVAr Bus reactor is Dec'23.

The sub-committee noted as above

Action: NEEPCO.

C.7. Installation of 10 MVAR Bus Reactor at 132 kV Meluri S/S for Closed loop formation of Kohima-Meluri-Kiphire-Tuensang-Mokokchung link

132 kV Kohima S/S is presently connected with the rest of the NER grid via 132kV Karong-Kohima line,132 kV Kohima-Chiephobozou-Wokha-Sanis-Doyang link,132 kV Dimapur-Kohima line & 132 kV Kohima-Meluri line but Kohima-Meluri-Kiphire-Tuesang-Mokokchung link is generally kept open from Kiphire end. Kohima S/S caters to the load of Capital area of Nagaland Power System, hence the availability of Kohima S/S is very important. However, this area is prone to frequent grid disturbances due to its geographical location.

On 2nd Nov'22 at 13:52 hrs during the visit of Honourable President of India, Grid disturbance occurred in Kohimaarea of Nagaland Power System with a load loss of 19MW and generation loss of 8MW making it a critical situation.

Forming closed loop connection of Kohima-Meluri-Kiphire-Tuesang-Mokokchung will strengthen the connectivity of Kohima S/S and upgradation of 66kV Kiphire-Tuensang-Mokokchung link to 132 kV will enhance the reliability and security of the Capital area of Nagaland Power System. However, high voltage issue at Meluri S/S (upto 145 kV) is observed in the present condition. As per system study, installation of Bus reactor of 10 MVArcapacity at Meluri S/S will resolve the issue. Hence, the Kohima-Meluri-Kiphire-Tuesang-Mokokchung link at 66kV or 132 kV can be kept in

closed loop only after installation of 10MVAR Bus Reactor otherwise high voltage condition will persist in Meluri and Kohima S/S.

DoP, Nagaland is requested to install the reactor at 132 kV Meluri S/S for closed loop operation of the above mentioned link and expedite the upgradation works of the same to 132 kV.

Deliberation of the sub-committee

NERLDC highlighted through a presentation the present scenario and requirements of up gradation of Mokochung-Tuensang-Kiphire link to 132kV for reliable power supply to Kohima region and installation of 10MVar Bus Reactor at Meluri SS to address the high voltage scenario. Regarding up gradation of the line, EE, SLDC, DoP Nagaland clarified that although the line is upgraded to 132kV, bay equipments are not yet upgraded. DD, NERPC proposed for switchable line reactor at Melluri for 132kV Kohima-Meluri line which shall enable smooth charging of line, compensation during light loading of line as well as control of voltage at Meluri. Moreover, the forum approved the 10MVAR switchable line reactor at Meluri and and referred the matter to the upcoming CMETS meeting of CTU. Further forum requested DoP Nagaland to complete upgradation of 66kV Mokokchung – Tuengsang-Kiphire link to 132kV at the earliest.

The sub-committee noted as above

Action: NEPRC, NERLDC, DoP Nagaland

C.8. Implementation of Bus Bar Protection at 132 kV Kahilipara(AEGCL) Substation:

Grid Disturbance occurred twice in Kahilipara, Kamalpur and part load of Sishugram areas of Assam Power System on 2nd Aug'21 and 23 Sept'22 with load loss 100 and 120 MW respectively which is a cause of concern.

As per Minutes of 57th PCC meeting, the forum deliberated that Busbar protection is to be implemented at Kahilipara with procurement of 5 core CTs. AEGCL is requested to implement and expedite Bus Bar protection scheme at Kahilipara (AEGCL) to ensure the reliability of capital area of Assam System.

Deliberation of the sub-committee

AeGCL updated that the matter of procurement of CTs has been taken up with the higher management and their approval is awaited. After detailed deliberation the forum strongly urged AeGCL to expedite the process in order to ensure reliability of Capital area of Assam power system.

The sub-committee noted as above

Action: AEGCL

C.9. <u>Prolonged outage of 220 kV Mariani – Mokokchung D/C line creating contingency in the grid:</u>

19 days shutdown from 10/10/2022 to 28/10/2022 for 220 kV Mariani – Mokokchung D/C line was proposed and subsequently approved to POWERGRID for swapping of bays at Mokokchung S/S. On the request of POWERGRID on account of obtaining RIO clearance, the Shutdown was extended numerous times initially upto 05.11.2022, subsequently upto 11.11.2022, 16.11.2022 and 24.11.2022. It is to be mentioned that this S/D has left Mokokchung area vulnerable for more than a month, additionally shutdowns in Nagaland were also deferred due to the same.

Hence POWERGRID is requested to intimate the reason for such a significant delay in obtaining RIO clearence and inform the expected date of restoration of the above line.

Refer to item B.15

<u>Agenda from KMTL</u>

C.10. <u>Related to commissioning of 220 KV downstream transmission line of DOP Nagaland at New Kohima(400/220kV) SS</u>

Conernsof KMTL:

1. OPGW wire for 220 KV downstream Transmission line has not been installed so it is very difficult to achieve the protection of 220 KV transmission line by using line differential Relay. As line length is 10 KM (Approx.) for 220 KV Transmission line therefore Line differential Relay has been considered for both the ends.
2. PLCC & SDH panel has not been installed at 400/220 KV GIS substation, New Kohima till date.
3. 220 KV downstream transmission line conductor parameters yet to be received from DOP, Nagaland for Relay settings at 400/220 KV GIS substation, New Kohima

<u>Deliberation of the sub-committee</u>

Manager, KMTL requested the forum to ensure installation of OPGW, LDP, PLCC, SDH equipments in the 220kV downstream line. He also requested for providing parameters to KMTL for finalization of settings.

Member Secretary, NERPC requested POWERGRID to include OPGW for the 220kV New Kohima – Zhadima D/C under regional scheme – State Sector and proceed for early implementation as the line is in final stage of commissioning. NERTS agreed to the same.

The sub-committee noted as above

Action: NERTS, DoP Nagaland

Agenda from AeGCL

C.11. Related to charging of second circuit of 220kV Sonabil-Balipara TL

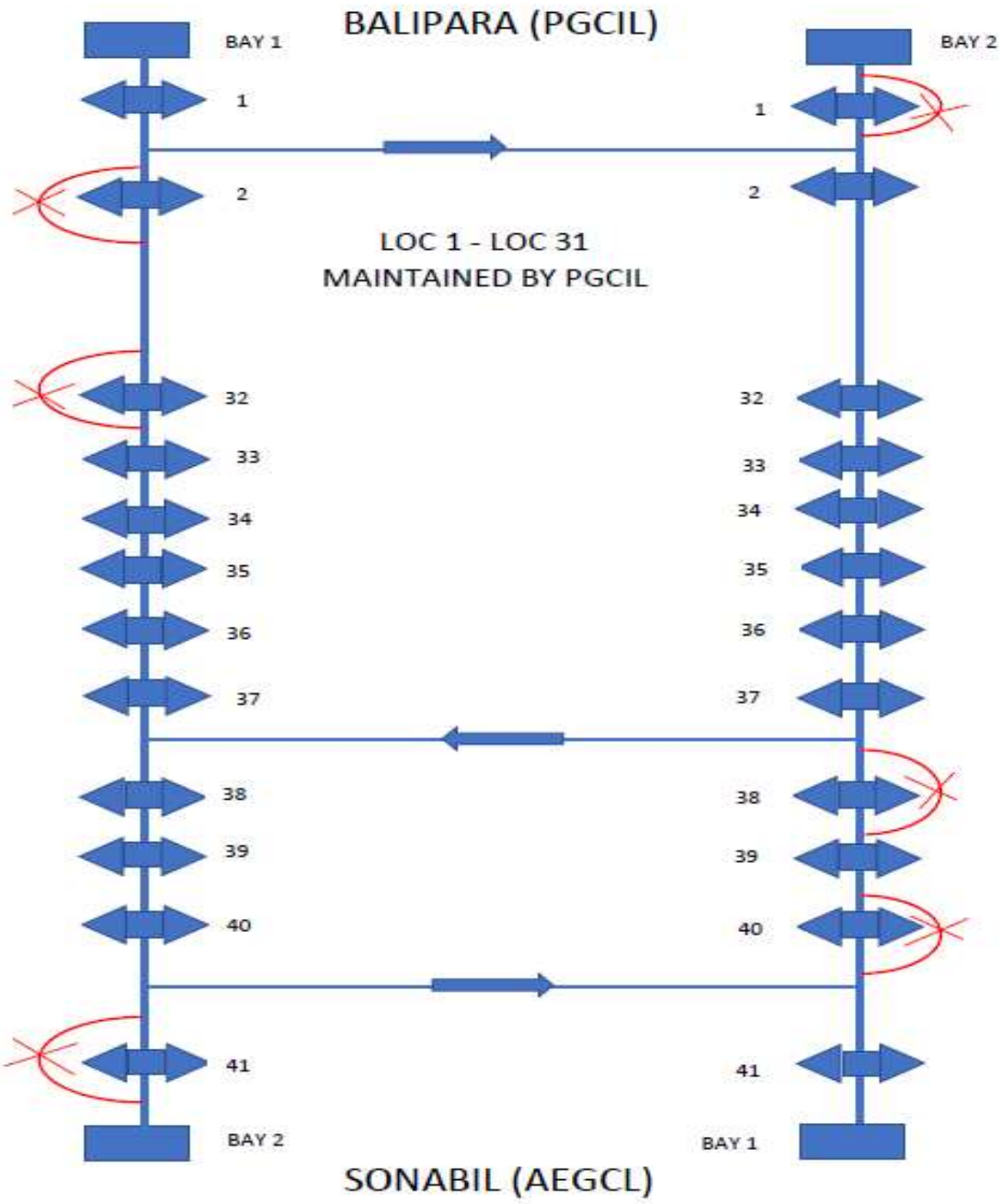
The 2nd 220kV bay at Balipara (PGCIL) end is ready for charging. The electrical inspector license has also been obtained. FTC for the same will be applied shortly along with the bay at Sonabil end.

However, it has been observed that the configuration of 220kV Balipara-Sonabil line is in criss-cross connection with the designated bays. The detail diagram is appended as Annexure – I. As such day time shutdown of the 220kV Sonabil - Balipara line for a period of 12 to 15 hrs will be required for opening of jumpers and reconnection. These works must be attended to by both AEGCL and PGCIL as majority portion of the line is being maintained by PGCIL. After re configuration of the lines, nomenclature at Sonabil end will have to be interchanged. The same will be taken care of by AEGCL.

After completion of the said work, charging of the 2nd circuit will be taken up immediately. As informed by site officials of AEGCL, the Auto Recloser function at the Sonabil end is not configured and for configuration of the same relay engineer from SIEMENS will be requested.

Deliberation on the following points is requested from the forum:

1. FTC of the existing bay at Sonabil end and the newly constructed at Balipara end will be applied by AEGCL. FTC of the 220kV Line(s) may be taken up by PGCIL.
2. Day time shutdown of the 220kV Sonabil-Balipara line may be needed for a period of 12 to 15 hrs for re-configuration works.
3. Establishment of the PLCC communication link between Balipara and Sonabil can be taken up only after physical reconfiguration of the line, which may take a day or two. Therefore, the line may be permitted to charge without the PLCC communication link for availing power during peak hours.
4. Nomenclature of the 220kV bays at Sonabil end will be changed and the same will have to be updated in NERLDC/SLDC SCADA.
5. Permission for charging the 2nd circuit without Auto Reclosure Logic is requested from the forum.



Deliberation of the sub-committee

AeGCL requested PGCIl to take up the FTC of 220kV lines as majority portion of the line is maintained by it. The later agreed to the request.

Regarding proposed shutdown of the line, the forum provided in principle approval.

DGM(AM), NERTS informed that for 220kV Balipara-Sonabil-I Line Differential Protection has been installed by POWERGRID and is presently in service. The forum advised AEGCL to install LDP for 220kV Balipara-Sonabil-II and utilize one pair from OPGW installed under NERPSIP for the said line prior to commissioning of Circuit-2.

The forum agreed for charging of the line without PLCC, but exhorted AeGCL to install PLCC within a set deadline.

The sub-committee noted as above

Action: NERTS, AEGCL, NERLDC.

Agenda form Manipur

C.12. IMPLEMENTION OF ADMS SOLUTION ON 33/11Kv substation in Manipur

In the 21st NERPC meeting held on the 3rd &4th Feb, 2021 at Kohima, NERPC had approved the proposal of MSPCL to implement ADMS in 19 nos. of substations as an extension for automation of Demand management after successful completion of the installation of ADMS pilot project at four power substation.

Subsequently MSPCL had submitted a DPR for the scheme "Implementation of ADMS solution on 33/11kV Substation in Manipur" amounting to 88.08 Crore for probable funding under PSDF.

The project covers implementation of ADMS IN 19 nos. of substations and installation of capacitor Bank in 32 nos. of substation to maintain power supply voltage.

However, NLDC had pointed out in its observation that the DPR needs vetting from NERPC. Following which MSPCL vide letter No. 12/65 (ADMS-2)/GM (PD)/2021-MSPCL/503 dated May 6, 2022 had requested NERPC for vetting the DPR from their end.

As per the observation and desire of the members of TESG in its 67th meeting, MSPCL agreed to exclude the cost of printer, other charges (GPRS SIM and its subscription) and hence the DPR was revised to one amounting to Rs. 79.94 crore.

In the 67th TESG meeting, it was also deliberated as per the desire of CEA, that the DPR should be vetted by RPC.

Deliberation of the sub-committee

The forum noted the following with respect to the proposal of Manipur:-

Observations: The objective of the project is to implemet an Automatic Demand Management System. It includes functions that manages outages, restore outages, demand and optimize the peformance of the grid.

a) In order to adhere to IEGCR, MSPCL needs to moniter and control the various system parameters of the grid.

b) To control the emergency laod shedding at the time of peak demand, the feederes needs to be marked as critical/ non-critical and accordingly managed. This can be achieved through feeder automation via Peak demand and Load management and Fault Location, Isolation and restoration applications and associated equipments such as Auto reclosers.
c) Volt/ volt ampere reactive optimization (VVO) and voltage conservation through voltage reduction will be achieved with proposed Automatic Capacitor banks.
d) Dynamic inductive laod and variable system parameters causes heavy voltage drop and line losses, thereby over loading of distribution network and upstream transmission network and generating units.
e) This inductive (lag) reactive energy can be compensated by providing capacitor banks at strategic locations at load centres.

Hence, the proposal has been prepared for provision of ADMS with various software applications such as Peak Demand Management, FLISR, VVO and associated hardwares required such as Auto reclosers, servers, 11 KV Auto switched capacitor banks at various 33/11 KV substations in MSPCL.

Technical Observation: The scheme is found technically feasible as:

a) Reduce the over drawl of energy at Peak Demand.
b) Reduce the system T&D losses.
c) Protect the substation equipments such as Circuit breakers, power transformers etc. from frequent trippings of the feeders.
d) The supply voltage at consumer premises will be maintained & quality of supply can be given to end consumers.
e) The T&D system will be relieved from overloading.
f) The equivalent MW capacity will be available which can be further used for future load growth. Therefore, avoiding investments in additional infrastructure.

There by, current scheme of providing ADMS solution on 33/11 KV sub stations in Manipur is the most feasible techno economical solution.Financial Observation: a) This scheme will reduce the system T&D losses.
b) The infrastucture cost is reduced
Total Project Cost – Rs. 88.08 Crore

With the above observations the forum recommended for approval by PSDF and funding for the project.

The sub-committee noted as above

Action: MSPCL

D. ITEMS FOR STATUS

D.1. Implementation of projects funded from PSDF:

The status as informed in 195thOCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**	Line Differential Protection
Ar. Pradesh	Package-I (Diagnostic tools) Complete in all respects. P-II (for PLCC & communication) Supply completed. Erection WIP. 50% requisition submitted. P-III (Substation equipment) Agreement signed and 10% requisition submitted. Total 90% requisition by Apr'22. Completion by Dec'22. (Approval from TSA and Account opening in 3 months)	Project completed in all respects.	-	30% requisition submitted.	-
Nagaland	Completed in all respects.	Work completed in all respects. UC submitted.	-	30% requisition submitted	Lines identified. Under DPR preparation stage.
Mizoram	Final 10% disbursed. UC to be submitted.	Work completed in all respects. Remaining part of final 10% to be disbursed ASAP.	To reply to TESG queries.	30% requisition submitted.	Revised DPR including both 132kV Aizawl-Luangmual and 132kV Khamzawl-Khawiva to be submitted.
Manipur	Package-II: completed Package-I: all stations complete except Ningthoukhong. By May'22.	Work completed in all respects. UC submitted in Oct'21.	WIP.	10% disbursed. 20% requisition sent.	Revised DPR for LDP of 132kV Imphal-Yurembam-III to be submitted by June'22.

	33kV System Integration with SLDC	In tendering stage			
	Reliable Communications for grid connectivity	In tendering stage			
Tripura	Completed. Final UC submitted on 04th May'22.	Final 10% requisition submitted.	Not relevant in present scenario with commissioning of ISTS lines. Issue dropped	10% funds received. 20% requisition to be sent ASAP	For 132kv 79Tilla-Budhjungnagar line and for Rokhia link LDP at own cost. Tendering undergoing. DPR preparation for rest of the lines
Assam	Work completed except CRP, SAS work in 8stations which have been retendered and awarded to M/s SIEMENS. Completion by Dec'22	Project completed in all respects.	-	30% funds yet to be fully disbursed. 60% requisition sent.	Lines identified. Under DPR preparation stage.
Meghalaya	MePTCL – completed in all respects. MePGCL – Completed in all respects.	Project completed in all respects.	-	30% funds yet to be fully disbursed. 60% requisition sent.	All works except OPGW done

In the 194th OCC, CGM, SLDC, AEGCL requested for extension of Milestone date for SAMAST. The forum unanimously decided that in view of the pandemic restrictions throughout NER in 2021 the extension is to be granted. Member Secretary, NERPC informed that originally the Project Completion deadline as per PSDF was 12 months, however in LoA target is completion by 18 months. The forum decided to extend the milestone date(s) and completion/Go Live/DoCO date(s) by 3 months, with target completion by 10th November'2022.

D.2. Status update of important grid elements under prolonged outage impacting system operation:

Sl. No	Element	Owner	Status as informed in the 195th OCCM	Latest Status
1	132kV Mariani – Mokokchung (*out since April'2008*)	AEGCL	Non clearance due to persisting funding issue	Funding issue
3	132kV Roing-Pasighat (*charged through ERS tower*	NERTS	By Mar'23	Mar'23
4	220kV Misa-Kopili D/C, 220/132kV ICTs at Kopili, 132kV Khandong –Kopili D/C(*out since Oct'19*)	NEEPCO/ NERTS	Nov 22 As decided, under NERTS Scope, restoration of ICT#2, one ckt of 132kV KhandongKopili is targeted for restoration. As decided, Control & Relay panel for the same shall be placed in SPR being constructed by NEEPCO. After readiness of SPR, one month shall be required for commissioning.	
5	132kV Srikona – Panchgram	AEGCL	DPR approved by the standing finance committee of Govt of Assam. However Administrative approval still awaited	Adminitrative approval obtained.
6	400kV Imphal – Thoubal-I and 315MVA 400/132kV ICT at Thoubal	MSPCL	RoW, litigation pending in court.	RoW, litigation pending in court.
7	63MVAR Bus Reactor at Byrnihat to be replaced with 80MVAR Reactor	MePTCL	Reactor dispatched from the Siemens Factory on the 12th October 2022. Will reach by November 2022.	Logistics issue hampering the work. Tentatively by Dec,22.
8	Mawlyndep and Khliehriat CBs at Mustem	MePTCL	Expected to energize after 29th October 2022. Bus shutdown will be required for Mustem Sub Station.	Completed
9	400kV Silchar-Misackt DC (permanent restoration)	NER-II TL	Restoration work (ERS) of both the ckt done. Work	Mar'23

			underway for permanent restoration	

D.3. Status of commissioning for upcoming projects:

Sl. No	Name of the element	Utility	Status as informed in 195thOCC meeting	Latest Status
1	132kV Monarchak-Surjamaninagar	TSECL	March 23	March'23
2	PLCC for 132kV Loktak-Ningthoukong and 132kV Loktak-Rengpang(existing lines)	MSPCL	PLCC EQUIPMENT INSTALLATION COMPLETED AT RENGPANG END. COMMISSIONING PENDING. PLCC FOR LOK-NINGTHOUKHONG TO BE TAKEN ALONGWITH WITH 132KV LOK-NINGTHOUKHONG 2ND CKT	
3	Construction of 2nd bay at Balipara for 220kV Balipara-Sonabil-2	AEGCL	SAS integration going on	SAS integration completed. Ready for charging
4	Upgradation of 132kV Lumshnong – Panchgram line	MePTCL	Recondcutoring works of Lumshnong-Panchgram line has started on the 13th October 2022 and is in full progress. About 0.434 Ckt. Km is completed	Work halted. Will resume once the upgradation work of UmiamstI-III DC line is completed.
5	PLCC for 132kV Karong-Kohima. PLCC at Kohima	DoP Nagaland	PLCC panel at Karong has also to be changed as to ensure same make at both the substations. Awaiting sanction from PSDF	Awaiting sanction from PSDF
6	132kV Loktak-Ningthoukhong-II	MSPCL	RoW issue at two spans, resolution underway	
7	132kV Roing-Chapakhowa	NERTS	Work is in progress with a target for completion of the line by Dec'22.	

			Constraints/ Challenges: a. Severe Obstruction from Forest dwellers in DeopaniRF(20 loc.) b. Severe ROW in 21 locations in Jia&Ezengo areas. Immediate requirement of releasing compensation. Approval for final compensation awaited from District Admn.	
8	Re-conductoring 220kV BTPS-Salakati D/C	NERTS	Work in Circuit -1 targeted for commencement by 3rd week of October 2022. Constraint: Incessant Rain	Circuit 1 reconducoring under progress, to be completed by 2.12.2022. Circuit 2 will be reconductored thereafter
9	420kV 80MVAR Bus Reactor	NEEPCO	October'2022	
10	220kV Killing – Mawngap	NERPSIP	RoW not yet resolved at 05 locations (01 foundation & 04 erection). Stringing RoW in 01 section in Mawphlang area, East Khasi Hills to be resolved.	Same status
11	220kV Samaguri – Mariani-I	AEGCL	FC still awaited in the Samaguri-Khumtai section. While the Mariani-I to Khumtai section is charged	Same status
12	Reconductoring of 132kV UmiamStg-III to UmiamStg-I by HTLS	MePTCL	About 10 Ckt Km has been completed out out of 13 Ckt Km.	
13	PLCC/DTPC for 220kV Balipara- Sonabil	AEGCL	Will be commissioned along with charging of line 2	Near completion. Will be commissioned along with charging of line 2
14	220kV AGBPP –Namsai	TBCB		

	D/C			
15	Upgradation of 132kV Surjamaninagar-Surjamaninagar(ISTS), 132kV Bodhjungnagar-SMNagar, 132kV P.K.Bari-Ambassa, 132kV P.K. Bari-P.K.Bari(ISTS)	TSECL	WIP	WIP
16	LILO of 132kV Leshka-Khliehriat-I at Mynkre and Mynkre SS and 33kV downstream at Mynkre.	NERPSIP	Mynkre SS work is severely affected by incessant rain in the last month. S/s will be ready by Nov'22.	Dec'22
17	220kV Tinsukia-Behiating D/C	NERPSIP	The balance 01 no. foundation location is still water logged. Line targeted to complete by Nov'22.	Jan'22
18	LILO of 132kV Kamalpur-Kamakhya& 132kV Kamalpur-Sishugram at Amingaon	NERPSIP	AEGCL will arrange S/D by end Oct'22. As a special case and on request of AEGCL, POWERGRID has sanctioned Rs 15.5 Lacs for installation of ERS.	ERS installation work under the scope of AEGCL, work not started yet
19	220kV Rangia – Amingaon D/C and 220/132kV 2x160MVA Amingaon S/S	NERPSIP	Work in Progress. By Nov'22.	Jan'22
20	132kV Rengpang-Tamenglong and 132/33kV 4x6.67MVA at Tamenglong at Manipur	NERPSIP	Compensation estimate received from District Authority, Noney and is under process for disbursement. By Nov'22.	RoW still persisting, Dec'22
21	132/33kV 2x20MVA Gamphazol at Manipur	NERPSIP	Few balance testing are under progress. Will be charged Nov'22.	Ready for test charging, but telemetry and communication not present which can only be done after SAS integration. Hence approval of test charging without telemetry requested. NERLDC provide conditional approval subjected to NERPSIP submitting undertaking clearly mentioning the deadline for installing telemetry

22	132/33kV West Phaileng S/S at Mizoram	NERPSIP	Ready for charging. 3 nos of collapsed towers in the connecting line to be restored by State DISCOM.	Ready for charging but no line
23	132/33kV 2x12.5MVA Marpara S/S at Mizoram	NERPSIP	Work hampered due to frequent Rain and landslide. Materials transportation is severely affected due to very bad road conditions. By Dec'22	Jan'23
24	132/33kV 2x12.5MVA Lungsen S/S at Mizoram	NERPSIP	Work hampered due to frequent Rain and landslide. Materials transportation is severely affected due to very bad road conditions. By Dec'22	Jan23
25	132kV Lungsen-Chawngte S/C at Mizoram	NERPSIP	Foundation work completed. Erection and Stringing activities are going on. By Oct'22.	Jan23
26	132kV Chawngte – S.Bungtlang S/S at Mizoram	NERPSIP	Work in Progress. By Oct'22.	Dec'22
27	132kV W.Phaileng-Marpara S/C at Mizoram	NERPSIP	Work hampered due to frequent Rain and landslide. Materials transportation is severely affected due to very bad road conditions. By Nov'22	Feb23
28	220kV Zhadima – Mokokchung at Nagaland	NERPSIP	Bay Swapping at 220kV Mokukchung (GIS) SS under progress. By Oct'22.	Lines and bays ready.RIO report awaited.
29	LILO of 132kV Wokha – Kohima at 132/33kV New Kohima at Nagaland	NERPSIP	Row at one location is yet to get resolved. A compensation amount yet to be furnished by DC Kohima. Nov'22.	Dec'22
30	132kV Wokha-Zunheboto – Mokokchung at Nagaland	NERPSIP	Heavy rain fall affected progress. RoW pertaining to tree cutting / stringing is being resolved with	Jan'23

			support from District Administration. Transportation of man and materials are affected due to bad road condition. By Nov'22	
31	132kV Tuengsang – Longleng at Nagaland	NERPSIP	Line by Oct'22, Tuensang SS is not yet ready.	Line ready but Tuensang SS projected to be ready by jan'24
32	132/33kV Amarpur S/S at Tripura	NERPSIP	WIP. Heavy rain fall affected the progress. By Nov'22.	Jan'23
33	132/33kV Manu(new) S/S at Tripura	NERPSIP	WIP. Heavy rain fall affected the progress. By Nov'22.	Jan;23
34	132kV Dharmanagar-Kailashor	NERPSIP	RoW recently resolved with the support of District authorities. By Oct'22.	Jan'23
35	132kV Ziro-Yazali and 132/33kV Yazali S/S	POWERGRID-Comprehensive		
36	132kV Yazali – Palin and 132/33kV Palin S/S	POWERGRID - Comprehensive		
37	132kV Palin- Koloriang and 132/33kV Koloriang S/S	POWERGRID - Comprehensive	Dec'23	Dec'23
38	132kV Khonsa – Deomali and 132/33kV Khonsa S/S	POWERGRID - Comprehensive	Dec'23	Dec'23
39	132kV Miao – Namsai and 132/33kV Miao S/S	POWERGRID - Comprehensive	Dec'23	Dec'23
40	132kV Chimpu – Holongi and 132/33kV Holongi S/S	POWERGRID - Comprehensive	RoW issues at 5 locations resolved. Work resumed, expected by Sept'22	
41	Lower Subansiri HEP	NHPC	Unit 1 by Jan'23 and Unit 2 by Feb'23	Unit 1 by Jan'23 and Unit 2 by Feb'23
42	400kV Lower Subansiri-BNC line1	PGCIL	Nov'22	Dec'22
43	400kV Lower Subansiri-BNC line2	PGCIL	Feb'23	Feb'23
44	Conversion of MT to DM at (i)132kV Khliehriat,	NERTS	As per 1st NERPC (TP) meeting,	Nirjuli – Decmber'22 Imphal - Feb'23

	(ii)132kV Badarpur, (iii)132kV Nirjuli, (iv) 132kV Imphal		upgradation of Nirjuli&Imphal was only approved. Nirjuli – Decmber'22 Imphal - Feb'23	

D.4. Status of ISTS expansion scheme in NER:

A. Status of downstream 220kV or 132kV network by STUs from the various commissioned and under-construction ISTS substations inNER

Sl.	ISTS S/s	State	Voltage ratio, Trans. Cap	Down- stream Voltage level (kV)	Unutilized bays	Status of ISTS bay	STU Lines for unutilized bays	Status of Lines(as updated in 192nd OCCM)	
								Date of Award	Completion schedule
1	New Mariani (POWERGRID)	Assam	400/220kV, 2x500MVA	220	2	Commissioned	New Mariani (POWERGRID) – Diphu (Assam) 220kV D/c line	Preliminary survey completed	By Jan'25
2	New Kohima (TBCB)	Nagaland	400/220kV, 2x500MVA	220	2	Commissioned	New Kohima (TBCB) – New Kohima (Nagaland) 220kV D/c line	LoA Feb'2021	Resolution of issue of high deviation angle at 1st tower at New Kohima (TBCB) underway. Completion of the line after the said resolution
3	Nangalbibra (TBCB)	Meghalaya	220/132kV, 2x160MVA	132	2	Under bidding	Nangalbibra (ISTS) – Nangalbibra (MePTCL) 132kV D/c (Single Moose) line	Survey awarded	Dec'23

B. Status of 400kV substations and other important elements being implemented by STUs in NER under intra-state schemes to be connected through ISTS

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
A	**Assam (to be implemented by AEGCL)**			
I	**Rangia**	400/220kV, 2x500MVA	1. EPC Contract Award is Tentatively scheduled in the early half of Dec'2022. 2. Master Plan submitted for approval. 3. Tender under preparation 4. AIB points to be addressed	Dec'2025
a)	LILO of both circuits of Bongaigaon – Balipara 400kV D/c line at Rangia	400 kV, D/C	1. EPC Contract Award is expected byDec'2022. 2. Tender preparation is completed and is to be reviewed by AIIB	Mar'26 (36 months form date of Award)
II	**Khumtai**	400/220/132kV, 2x500MVA + 2x160MVA	Survey work to be completed by June'2022. EPC tender to be floated on finalization of fund allotment. 220kV work will be constructed under ongoing AIIB scheme for which contract has already been award to M/S RS infra PVT tech ltd.	May'2026
a)	Khumtai (AEGCL) – BiswanathChariyali (PG) 400kV D/c line	400kV D/c	Survey work completion by July'22, tender floating after finalization of fund allocation.	220kV LILO part 60% complete. 400kV line by May'2026
III	**Upgradation of Gohpur S/s from AIS to GIS**	-	1. Notice of Award has been issued on 8thjune 2022 to M/S Sumaja Electro infra Pvt ltd.	June'2025
a)	2 no. 132kV GIS line bays at Gohpur for termination of LILO of one circuit of BiswanathChariali – Itanagar 132kV D/cl ine(line works underISTSthrough TBCB route)	132kV	1. LoA by Jun'22	June'2025
IV	**Upgradation of Sonapur S/s from AIS to GIS**	-	1. Contract to be awarded by Jun'23. LoA by Jun'23	June'2026

a)	LILO of 400kV Silchar-Byrnihat at Sonapur	-	1. LoA by Jun'23	June'2026

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
B	**Tripura (to be implemented by TSECL)**			
I	**Surajmaninagar (TSECL)**	400/132kV, 2x315MVA	Award by Sep'22	12 months from Date of Award
a)	LILO of both circuits of Surajmaninagar (ISTS) – Palatana 400kV D/c lineatSurajmaninagar (TSECL) S/s	400kV D/c	All works except 400kV termination at Surjamaninagar(TSECL) by POWERGRID to be done. Balance works under separate contract.	84% Line works complete by PGCIL, total completion subjected to Sub-station readiness at Surajmaninagar
C	**NEEPCO (to be implemented by NEEPCO)**			
I	**Extension works at RanganadiHEPend**	Oct 22	Oct 22	Oct 22
II	**Extension works at Pare HEP end**	March'24	March'24	March'24
a)	Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi- Naharlagun / Nirjuli132 kV S/c line			
b)	Re-conductoring of LILO portion at Pare end (of Ranganadi - Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalentto ACSR Zebra) along with modification of 132kVbay equipment at Pare HEP			

D.5. Status Review for the Items Referred from previous OCCMs:

S.No	Item for Discussion	Status as per 195thOCCM	Latest Status
1.	Installation of Capacitor banks in	At Dhemajifunding issue.	Same

	Upper Assam area of Assam (Agenda No. B19. of 189th OCCM)	However, with coming of other lines like Pare-N. Lakhimpur voltage issue may be automatically rectified.	status
2.	Introduction of SPS in Leshka S/Sn of Meghalaya (Agenda No. C4 of 189th OCCM)	OEM has visited the site and proposed certain modifications in the original scheme. The finalised scheme will be submitted to the higher management in the following week.	
3.	Voltage and MVAR issues at 400kV Kameng S/Sn (Agenda No. C7 of 189th OCCM)	Within Dec'2022	Dec'22
4.	Non-availability of operational synchronization facility at 132kV Agartala Station (Agenda No. C10. of 189th OCCM)	TO BE COMPLETED BY OCT 22 by TSECL.	Synchronization trolley arranged at Agartala substation
5.	Difficulty in test synchronization at Ningthoukhong S/Sn (installation of line CVT) (Agenda No. C11. of 189th OCCM)	Issue to be resolved shortly. Test synchronization can be done after 22nd Oct, 2022	
6.	Outage of 400kV Imphal (PG) – Thoubal-I (Agenda B.15 of 184th OCCM)		
7.	Charging of 33kV Khupi-Kimi line at 132kV: Recommendations of the 187th OCCM to be implemented: (a) Installation & Commissioning of PLCC and additional Wave Trap with accessories at Khupi (NEEPCO) - By Mar'22 Minutes of 188th OCC meeting held on 16th March, 2022 at Guwahati (b) Defective Relays at Khupi end to be repaired (NEEPCO) – By Mar'22 (c) PID testing and replacement of defective insulators (NEEPCO) – By Mar'22 (d) Infringement checking and vegetation clearance (NEEPCO) – By Mar'22 (e) Stringing of OPGW by POWERGRID Comprehensive – By Mar'22 (f) Procurement and installation of Line Differential Relays (NEEPCO) – By Mar'22 (Agenda B.15 of 188th OCCM)	Status Report submitted to NERPC.	
8.	Synchronization issue of 220kv AGBPP – Tinsukia 1 & 2 at AGBPP end.(NEEPCO to update the status of	Tender floated in the month of August'2022.	

	CVT procurement and other relevant details.) Item B.24 of 190th OCCM.		
9.	Installation of second wave trap at Nirjuli SS for both N.lakhimpur and Pare circuits by PGCIL (B.14. Of 192nd OCC)	To be installed along with charging of the LILO portion	To be installed along with charging of the LILO portion
10.	Frequent breakdowns (BD) of Khuppi- Balipara transmission line (C2 of 191st OCCM)		Patrolling undertaken by DoP Arunachal Pradesh
11.	Proposed continuous shutdown of 132kV S/C LoktakJiribam(PG) for HTLS reconductoring (C.5 of 191st OCCM)	132kV Loktak-Jiribam S/D needs discussion with higher authority of MSPCL.	S/D approved
12.	Issues faced during Mock Black Start exercise of Pare HEP on 27/05/2022 (C.7 of 191st OCCM)	As per agenda the same shall be performed in lean season.	In lean season
13.	Implementation of Single Phase Auto-Reclosure for 132kV Rangia-Motongaand 132kV Gelephu-Salakati Line (C.14 of 191st OCCM)	Nov'22	
14.	Non reporting of 132kV Mohanpur S/S under NERPSIP and Comprehensive projects (C.16 OF 191ST OCC)	Work in progress. Telemetry system for reporting to SLDC will be ready by next week.	NERPSIP raising the issue of old fibers. Work in scope of TSECL
15.	High level of dissolve gases on DGA report of Kameng U#3 R-phase GT: (C.17 of 191st OCCM)	Acetylene is within permissible limit.	
16.	Grid Disturbance in Dhaligaon area of Assam Power System (C.18 of 191st OCCM)	Estimate prepared and submitted to Disaster Risk reduction Works, 2022-2023, Govt of Assam	Same status
17.	Tower schedule of 220 KV D/C Transmission line (from Zhadima 400/220 KV GIS Substation to Zhadima 220 KV Substation) (B.18 OF 194TH OCC)	Yet to submit. Line Parameters changed due to increasing in no oftowers. Revised parameters to be submitted soon.	Same status
18.	400 kV STG-1 Main Bay at OTPC Palatana (C.6 of 194th OCCM)	Bay currently Open. To be rectified in Unit 1 S/D.	Rectified
19.	400 kV Bongaigaon-Byrnihat L/R at 400 kV Bongaigaon (PG) (C.6 of 194th OCCM)	Applied for shutdown in Nov'22 and awaiting for Shutdown approval	Bushing replacement of the reactor required, to be done after returning of 220kV

			BTPS-Salakti DC
20.	Occurrence of Multiple grid disturbance in Gohpur and radially connected areas of Assam Power System (C.10 of 194th OCC)	Work completed from AEGCL end. SEM meters to be provided.	
21.	Status of Installation of TLSA in 400kV Silchar-Azara T/L & 400 kV Silchar-Byrnihat T/L (C.12 of 194th OCCM)	Tendering process to be completed.	Tender floated by NETC for procurement of TLSAs
22.	PLCC & protection related issues at 132kV Tipaimukh S/s (C.15 of 194th OCC)	48V charger to be replacement done on 16th Oct 2022	48V charger replaced
23.	48V System reliability at Pasighat end (C.16 of 194th OCC)	Transmission division/ circle was requested to take up the matter, likely to be completed by March 2023 if fund is approved.	Same status

E. METERING AGENDA ITEMS

E.1. Procurement of SEM & DCD/Laptop for future requirements:

In the 194thand 195thOCCM, DGM(AM), NERTS informed that 40DCDs are under procurement and delivery is expected by Oct'22.

Deliberation of the sub-committee

DGM, PGCIL updated thatLoA has been placed and supply of DCDs is expected by 9th Jan'23.

E.2. Issues regarding SEM Data Processing:

a. Mismatch in 220 kV Deomali (AP) - AGBPP (Kathalguri) power flow data:Pair-check mismatch has been observed for 220 kV Deomali (AP) - AGBPP (Kathalguri). Deomali end is reading 2/3rd of Kathalguriend.In 194th OCCM, SLDC A.P assured the forum to send expert form Itanagar to check the SEM at the earliest.

   Status may be reviewed.

b. Non-receipt of SEM data from 220kV Mariani(As) & 132 kV Pailapool Substations:Weekly SEM data of 220kV Mariani(As) & 132 kV Pailapool(As) Substations is important for accounting of Assam drawal. However, SEM data from the said substations is not being received.

   In 194th OCCM, SLDC AEGCL intimated the forum that regarding SEM at Mariani(As), USB to serial converter's driver is not available, for which PGCIL assured to ask Mariani(PG) to extend support. Regarding SEM at Pailapool it was informed that a new laptop is required which will be procured very soon.

   Status may be reviewed.

c. Sign reversal of Rengpang end of 132kV Loktak- Rengpang line:Sign Reversal problem exist in Rengpang end of 132kV Loktak-Rengpang line.In 194th OCCM, SLDC MSPCL informed that a thorough evaluation of the meter was done but the problem still persists. The forum requested PGCIL to extend help to MSPCl. To which PGCIL concurred

   Status may be reviewed.

d. Erroneous reading of Tipaimukh end of 132kV Aizwal-Tipaimukh line:Tipaimukh end of 132kV Aizwal-Tipaimukh line is reading close to 0 (Zero). In 194th OCCM, SLDC, MSPCL informed that similar to problem with SEM at Rengpang SS, the problem with SEM at Tipaimukh still persists despite a thorough evaluation of the meter. The forum requested PGCIl to extend help to MSPCl. To which PGCIL concurred

   Status may be reviewed.

In 195th OCCM, the followings were concluded:-

a. DoP, AP will rectify Deomali SEM by Oct'22 for 220 kV Deomali (AP) - AGBPP (Kathalguri) feeder.
b. Mariani: SLDC, Assam mentioned that the issue has been resolved. However, NERLDC informed that data was received for only 1 week (19-09-2022 to 25-09-2022) on 26th Sep 2022, after which the same has not been received. SLDC, Assam assured to check with the field personnel. Pailapool: Laptop has not been procured by Assam yet
c. MSPCL vide email dated 17th October 2022 informed that Rengpang SEM undergoing check.
d. MSPCL vide email dated 17th October 2022 informed that Tipaimukh SEM needs replacement.

Deliberation of the sub-committee

a. DoP, AP will rectify Deomali SEM by Oct'22 for 220 kV Deomali (AP) - AGBPP (Kathalguri) feeder.
b. Mariani: SLDC, Assam mentioned that there has been persistent connectivity issue at the ss and asked PGCIL for support. Pailapool: Laptop has not been procured by Assam yet
c. MSPCL rectified the Rengpang SEM on 17thOcober.
d. MSPCL reiterated that Tipaimukh SEM needs replacement. PGCIL stated that replacement meter will be sent shortly.

E.3. High Time Drifted SEMs:

Time drift in SEMs may result in computational errors in Regional energy accounts & Weekly Loss. All constituents in whose premises the meters are installed are required to take corrective action for the same.

Time drift of more than 4 mins observed in the following meters.

S.No	ENTITY	FEEDER NAME	METER NO
1	ASSAM	220 kV TINSUKIA END OF KTG FDR-I	NP-9654-A
2	ASSAM	220 kV TINSUKIA END OF KATHALGURI FDR-II	NP-9658-A
3	ASSAM	132 kV UMRANGSOO END OF KHLEIRIAT (PG)	NP-5290-A
4	ASSAM	132 kV UMRANGSOO END OF HAFLONG	NE-0019-A

5	ASSAM	132 kV RANGIA END OF MOTONGA	NP-9669-A
6	MANIPUR	400 kV THOUBAL END OF IMPHAL(PG)-II FDR	NP-9603-A
7	MIZORAM	132 kV KOLASIB END OF AIZAWL(PG) FDR	NE-0087-A
8	POWERGRID	400/132kV SILCHAR 200MVA ICT-1 (HV SIDE)	NE-0050-A
9	POWERGRID	400 kV SILCHAR END OF BYRNIHAT	NP-9398-A
10	POWERGRID	400 kV SILCHAR END OF PALATANA FDR-I	NE-0030-A
11	POWERGRID	400/132 kV SILCHAR ICT-3 (HV SIDE)	NP-6946-A
12	POWERGRID	400/132 SILCHAR END OF MISA FDR-I	NP-9925-A
13	POWERGRID	400 kV SILCHAR END OF IMPHAL-II	NE-0040-A
14	POWERGRID	400 kV SILCHAR END OF PK BARI (STERLITE)-I	NP-9901-A
15	POWERGRID	400 kV SILCHAR END OF IMPHAL-I	NE-0007-A
16	POWERGRID	132 kV SILCHAR END OF SRIKONA-I	NP-9895-A
17	POWERGRID	400 kV BONGAIGAON END OF NTPC_BgTPP-2	NP-9477-A

Note: Out of 90 Locations, appx. 35-40 Nos. of locations send SEM Time Drift Report.

Deliberation of the sub-committee

PGCIL: stated that it will look into the matter and will resolve through Laptop or DCD.

Assam: T&C will take up the work

Manipur: Thoubalpersonnel have been informed and will take up the matter

Mizoram: PGCIL will help

E.4. DCD issue at 132 kV Kolasib Substation:

Enormous amount of old files remained dumped in DCD of 132 kV Kolasib station which is causing hindrance in receiving latest weekly SEM data. Even after communicating several times, the problem is still persisting.

Deliberation of the sub-committee

Mizoram updated that they have approached PGCIl for resolving the problem with DCD, but it is not yet resolved, will look again.

Annexure-I

List of Participants in the 196th OCC Meeting held on 25.11.2022

SN	Name & Designation	Organization	Contact No.
1	Sh. Geyi Yinyo, JE (E)	Ar. Pradesh	09436200050
2	Sh. H.C.Sharma, CGM, SLDC	Assam	-
3	Sh. P.K.Roy, AGM	Assam	-
4	Smti. Laishram Ritu, DGM(SLDC), MSPCL	Manipur	-
5	Sh. B.Wankhar, SE (SLDC)	Meghalaya	07005673697
6	Sh. T.Gidon, EE, SLDC, MePTCL	Meghalaya	06009094044
7	Sh. Joe Kharmih	Meghalaya	-
8	Sh. H.Lalruatkima, Sr.EE	Mizoram	09862925462
9	Sh. J.H Laithangliana	Mizoram	-
10	Sh. S.I. Asangba Tikhir, EE	Nagaland	07085508502
11	Sh. Anil Debbarma, DGM (SLDC)	Tripura	09612589250
12	Sh. Joypal Roy, GM (O&M)	NEEPCO	088372000 69
13	Sh. N.Roy, ED	NERLDC	-
14	Sh. S.C. DE, Sr.GM	NERLDC	-
15	Sh. Sachin kr. Singh, Dy.Manager	NERLDC	-
16	Sh. Sourav Mandal, Manager	NERLDC	09402102354
17	Sh. Palash Jyoti Borah, Dy.Manager	NERLDC	08761093397
18	Sh. P.Kanungo, CGM (AM)	PGCIL	09436302823
19	Sh. Ankit Vaish, DGM, NERTS	PGCIL	09409305725
20	Sh. Raktim Konwar, Manager (NERPSIP)	PGCIL	09678682358
21	Sh. Soubhik Choudhury, Manager (O)	OTPC	08837008091
22	Sh. Kangkan Paul, Manager	NTPC	09435029230
23	Sh. Susovan Das, AGM (EEMG)	NTPC	07637032174
24	Sh. Ramesh Kumar	NTPC	-
25	Sh. Niranjan Rabha,	NETC	
26	Sh. K.N.Mohan, Scientist-G	IMD	09822342052
27	Dr. Sanjay O'Neill Shaw, Scientist-F	IMD	09864232832
28	Sh. Vivek Karthikeyan, Sr.Mgr	INDIGRID	08966903034
29	Sh. Manoj Kumar	APRAAVA	-
30	Sh. B. Lyngkhoi, Member Secretary	NERPC	09436163419
31	Sh. S.M.Aimol, Director	NERPC	08974002106
32	Sh. S.Mukherjee, Dy.Director	NERPC	08794277306

33	Sh. Vikash Shankar, AD-I	NERPC	09455331756
34	Sh.Dinesh Kr.Singh, AD-I	NERPC	07042118261
35	Sh. Ashim Goswami, AD-II	NERPC	-
36	Sh. S. Chaturvedi, AD-II	NERPC	08077661727

उ.पू.क्षे ग्रिड प्रदर्शन

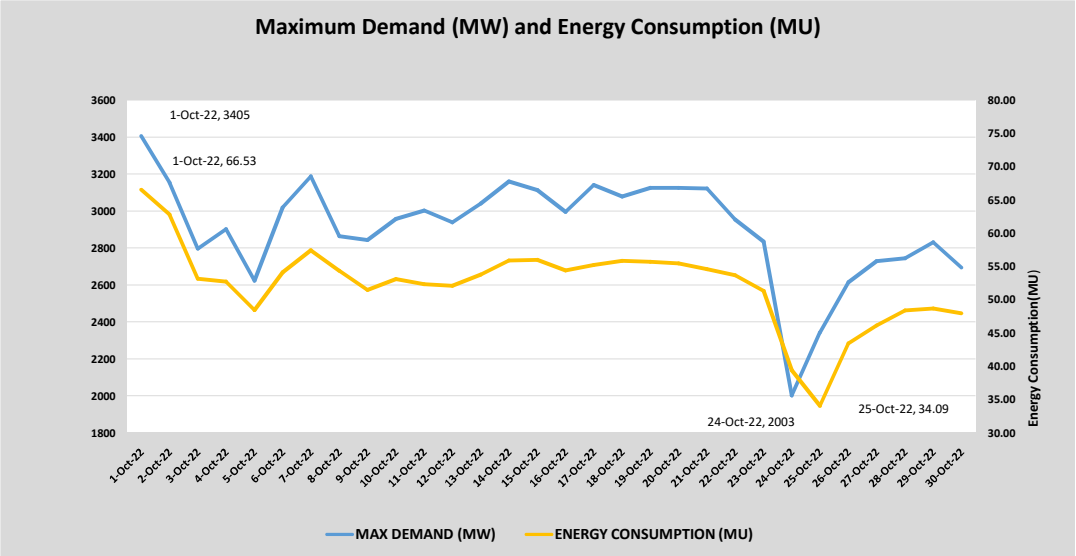
NER GRID PERFORMANCE

For the month October 2022

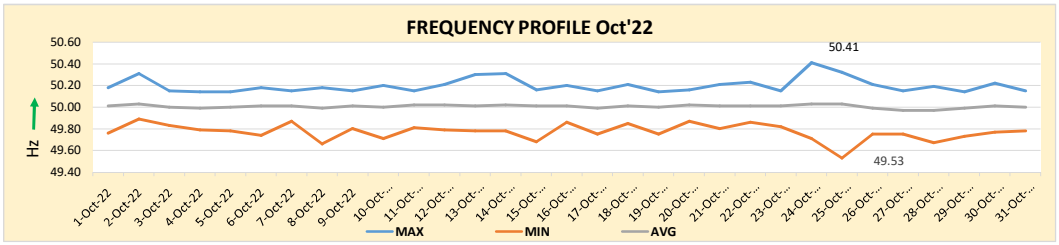
North-Eastern Regional Load Despatch Centre

Grid-India, Shillong

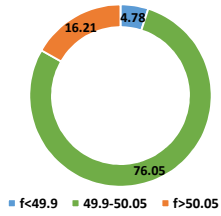
Maximum MW and MU in NER: October 2022



Frequency Profile

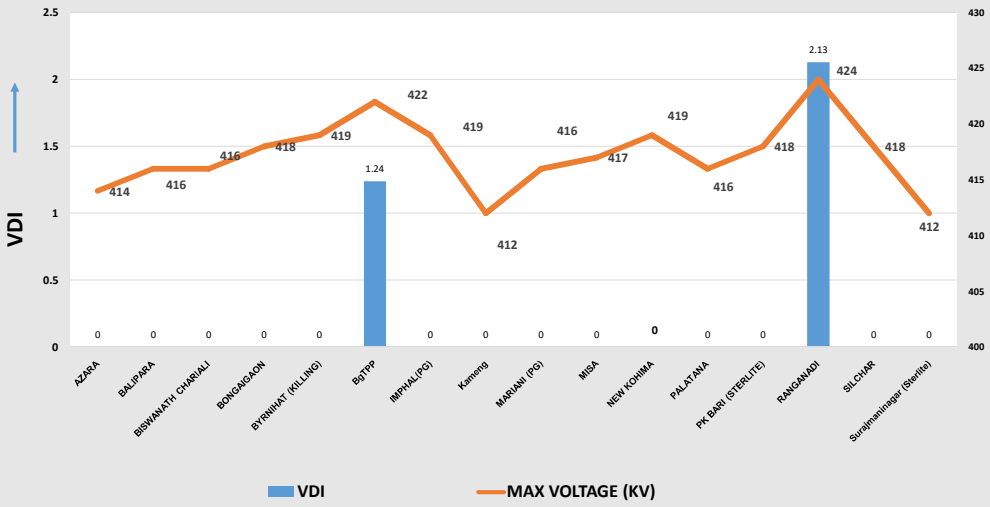


FREQ PROFILE FOR Oct'22

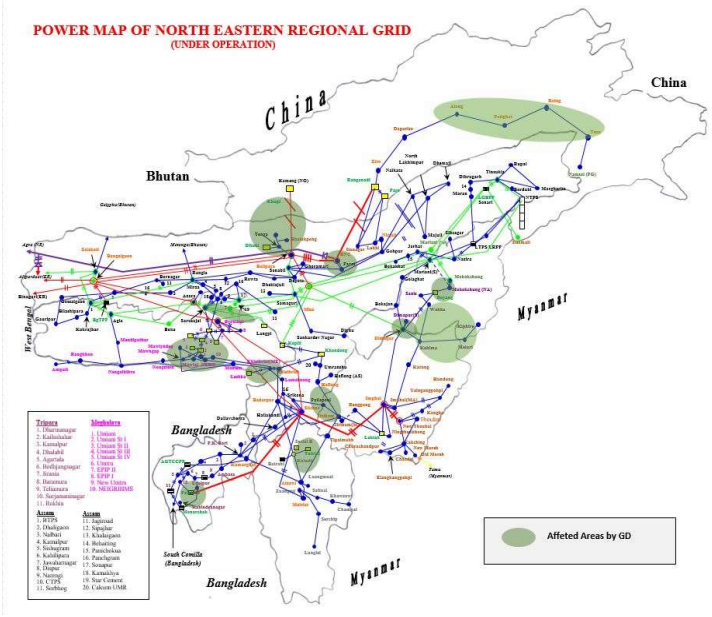


VDI (400 KV) for October' 2022

No. of 400 kV lines kept open for over voltage : NIL



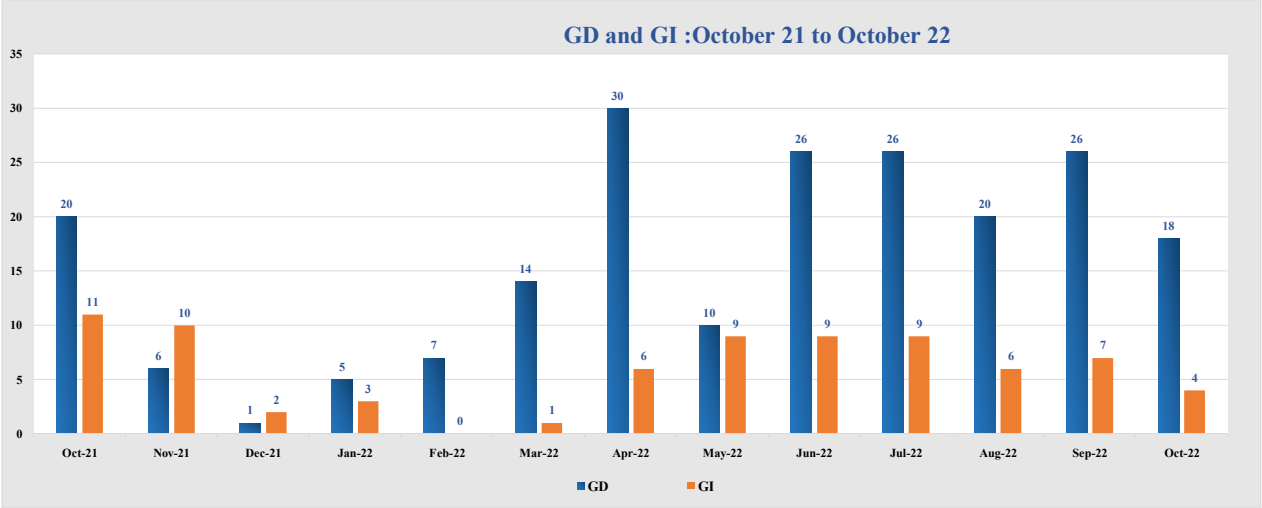
Grid Disturbance during October 2022



No. of GD	18
No. of GI	4

Sl. No.	Element	Number of times
1	132 Palatana - Surajmaninagar, 132 Agartala - Surajmaninagar 1 & 2, 132 kV Budhjungnagar - Surajmaninagar and 132 kV Surajmaninagar(ST)-Surajmaninagar lines.	caused GD 1 time
2	132 kV Tuirial-Kolasib Line	caused GD 2 times
3	220 kV Sarusajai-Karbi Langpi D/C lines	caused GD 1 time
4	132 kV Dimapur(PG) - Dimapur(Nagaland) 1 line	caused GD 2 time
5	132 kV Sanis-Wokha, 132 kV Kohima-Chiephobozou, 132 kV Kohima-Meluri and 132 kV Karong-Kohima lines	caused GD 3 time
6	132 Karong-Kohima Line	caused GD 2 time
7	132 kV Pailapool - Srikona and 132 kV Pailapool - Jiribam lines.	caused GD 1 time
8	132 kV Leshka - Khleihriat(ME) - 1 & 132 kV Leshka - Khleihriat(ME) - 2	caused GD 1 time
9	132 kV Doyang - Mokokchung (DoP, Nagaland) line	caused GD 2 times
10	132 kV Balipara - Tenga line& Dikshi HEP Unit 1	caused GD 1 time
11	132 kV Along Pasighat	caused GD 1 time
12	132 kV Karong-Kohima line 132 kV Kohima-Meluri line Likhimro Unit 1,2 ,3	caused GD 1 time

Grid Disturbance/Incidences for last 12 Months



Projected Hydro Generation Availability

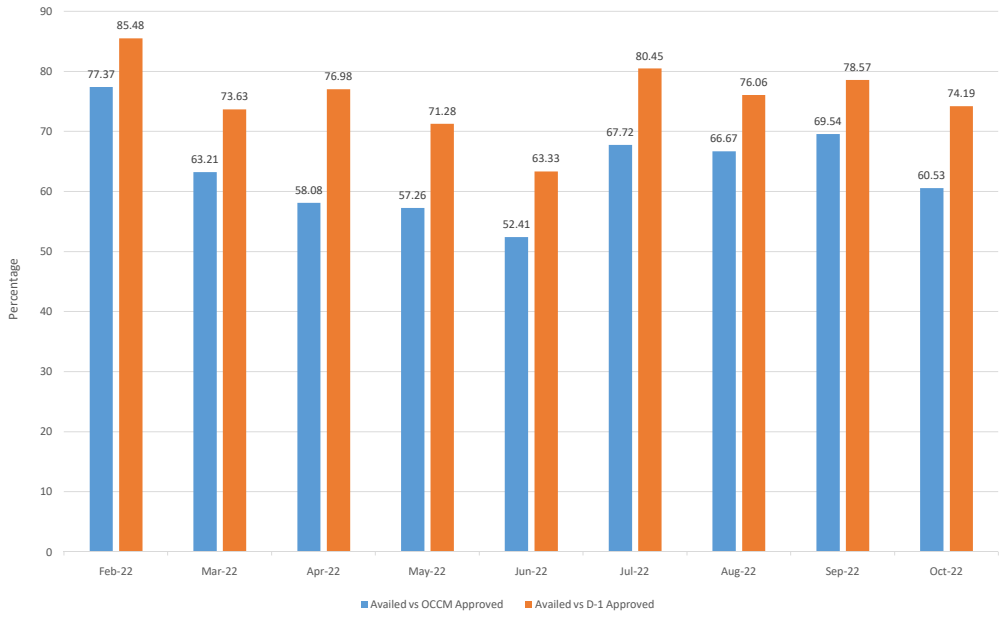
Plants	Reservoir Level in meters (as on 24/11/2022)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	-	-	-	-
Kopili	-	-	-	-
Doyang	318.574	24.3	0.18	135
Loktak	766.63	16	0.813	19.68

OCC approved shutdown availing status for the month of October 2022

SUMMARY OF NER OUTAGE

MONTH	PLANNED IN OCC	APPROVED IN D-1	AVAILED IN REAL TIME	AVAILED VS PLANNED	AVAILED VS APPROVED	DEFFERED BY RLDC DUE TO SYSTEM CONSTRAINT
October-22	152	124	92	60.53%	74.19%	4

	OCC Approved	D-1 Approved	Availed	Not Availed	RLDC Deferred
NER	152	124	92	32	4
NERTS	98	78	51	27	2
ASSAM	33	29	26	3	0
MANIPUR	0	0	0	0	0
MEGHALAYA	7	5	5	0	1
NAGALAND	2	1	0	1	1
MIZORAM	4	3	3	0	0
TRIPURA	1	1	0	1	0
Arunachal Pradesh	0	0	0	0	0
NETC	0	0	0	0	0
KMTL	0	0	0	0	0
NEEPCO	0	0	0	0	0
NTPC	0	0	0	0	0
OTPC	1	1	1	0	0
INDIGRID	6	6	6	0	0
NHPC	0	0	0	0	0



RMSE of Load forecast for Oct'22

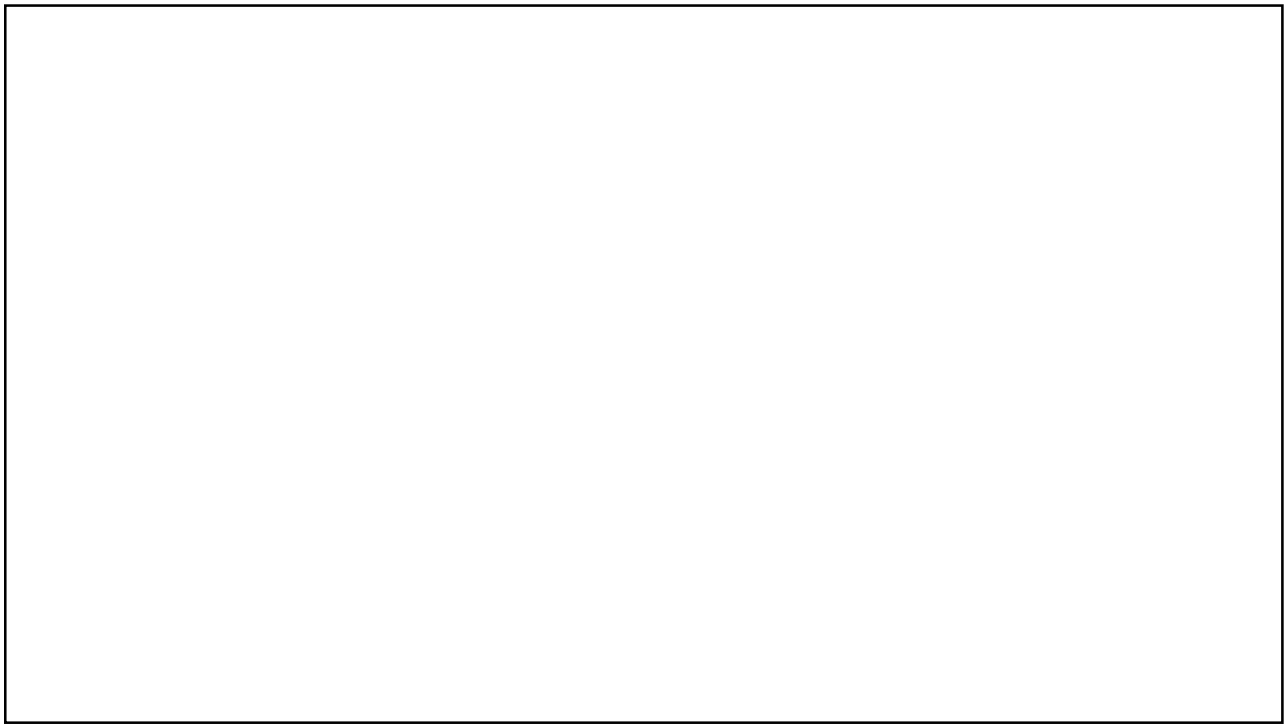
RMSE of the forecasted Demand by SLDCs Vs Actual Demand met as per SEM by SLDCs (as per IEGC c1.5.3):

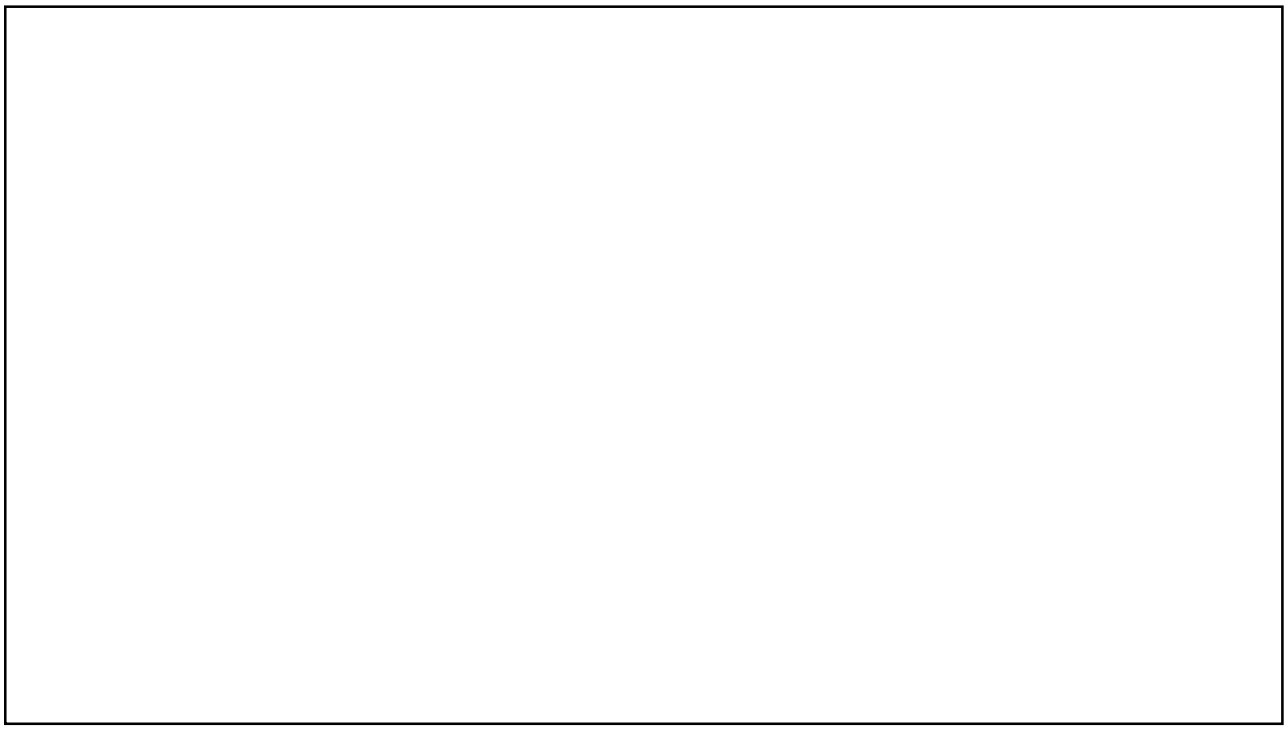
$$RMSE = \sqrt{\frac{\sum_{i=1}^{N} (Predicted_i - Actual_i)^2}{N}}$$

Where,
Predicted$_i$ = Forecasted Value
Actual$_i$ = Actual value
N = Total number of observations.

	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Median	13	8	7	11	16	16	10

Telemetry and Data Availability





Thank You

New Criteria for Deviation Violation Messages in line with DSM-2022 Reg.

DSM-2022 Regulations:

Notified on 14th March 2022

Date of Implementation – 5th Dec. 2022

COMPUTATION FOR DEVIATION

IN A TIME-BLOCK

Deviation for General Sellers (in %):	= 100 x [(Actual injection in MWh) – (Scheduled generation in MWh)] / [(Scheduled generation in MWh)]
Deviation for WS sellers (in %):	= 100 x [(Actual injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)]
Deviation for Buyer (in %):	= 100 x [(Actual drawal in MWh) – (Scheduled drawal in MWh)] / [(Scheduled drawal in MWh)]

NOTE: 'WS seller' means a seller in case of a generating station based on wind or solar or hybrid of wind-solar resources.

NORMAL RATE OF CHARGES FOR DEVIATION

Normal rate of Charges for Deviation for a time block shall be equal to the Weighted Average Ancillary Service Charge (in paise/kWh) computed based on the total quantum of Ancillary Services deployed and the net charges payable to the Ancillary Service Providers for all the Regions for that time block

For a period of one year from w.e.f of these regulations:

normal rate of charges for deviation in a time block (T) = Max [(weighted average ACP of the DAM), (weighted average ACP of the RTM), (weighted Average Ancillary Service Charge)] of all the regions for that time block (T)

Non availability of ACP for (T), then ACP of (T) of last available day shall be considered

The normal rate of charges for deviation shall be rounded off to the nearest two decimal places

CHARGES OF DEVIATION: Seller

For General Seller:
Payable in a time block

❖ Deviation by way of Over-Injection

- **Zero** till 2% Deviation-general seller
  *Shall be paid back for over injection @ **reference charge** rate for deviation up to 2% Deviation-general seller*
- @ 10% of the **normal rate** beyond 2% Deviation

❖ Deviation by way of Under-Injection

- @ **reference charge** rate till 2% Deviation-general seller
- @ 120% of the **normal rate** beyond 2% till 10% Deviation-general seller
- @ 150% of the **normal rate** beyond 10% Deviation-general seller

Categories:

1. GENERAL SELLER (GS)
2. RUN OF RIVER (ROR)
3. MUNICIPAL SOLID WASTE
4. WIND-SOLAR SELLER

'**Reference Charge Rate**' means (i) in respect of a general seller whose tariff is determined under Section 62 or Section 63 of the Act, **Rs/ kWh energy charge as determined by the Appropriate Commission**, or (ii) in respect of a general seller whose tariff is not determined under Section 62 or Section 63 of the Act, **the daily weighted average ACP of the Day Ahead Market segments of all the Power Exchanges**, as the case may be;

For ROR: *Payable in a time block*

'RoR generating station' means a hydro generating station which does not have upstream pondage

❖ Deviation by way of Over-Injection

- **Zero**
  *Shall be paid back for over injection @ **reference charge** rate for deviation up to 2% Deviation-general seller*

❖ Deviation by way of Under-Injection

- @ **reference charge** rate till 2% Deviation-general seller
- @ **normal rate** beyond 2% till 10% Deviation-general seller
- @110% **normal rate** beyond 10% Deviation-general seller

CHARGES OF DEVIATION: Buyer

Categories:
1. Buyers (Sch > 400MW)
2. Buyers (Sch. up-to 400 MW)
3. RE Rich state Buyers

For Buyers (Sch > 400MW):
Payable in a time block

❖ Deviation by way of Under-Drawal

- **Zero**
  Shall be paid back as under:
  - ✓ *@ 90% of **normal rate**, for deviation up to 10% or 100 MW in a time block, whichever is lower*
  - ✓ *@ 50% of **normal rate** for deviation beyond 10% or 100 MW in a time block, whichever is lower and up to 15% or 200 MW in a time block, whichever is lower*

❖ Deviation by way of Over-Drawal

- @ **normal rate** till 10% dev. or 100 MW, whichever is lower
- @ 120% of the **normal rate** beyond 10% or 100 MW, whichever is lower and up to 15% or 200 MW, whichever is lower
- @ 150% of the **normal rate** beyond 15% dev. or 200 MW, whichever is lower

For Buyers (Sch up-to 400MW):
Payable in a time block

❖ Deviation by way of Under-Drawal

- **Zero**
  Shall be paid back as under:
  - ✓ *@ 90% of **normal rate**, for deviation up to 20% or 40 MW in a time block, whichever is lower*

❖ Deviation by way of Over-Drawal

- @ **normal rate** till 20% dev. or 40 MW, whichever is lower
- @ 120% of the **normal rate** beyond 20% or 40 MW, whichever is lower

Present Criteria for Issuance of Deviation Violation Messages

Taking Inference from DSM-2014 Regulations, Presently, in line with the regulations 5.4.2(a), 5.4.2(b), 5.4.2(g), 6.4.6, 6.4.7, 6.4.10, and 6.4.12 of IEGC 2010, Deviation violation messages are being issued to constituents as per following methodology by NERLDC:

Criteria	Message Category
if Schedule < 400 MW, then 48 MW deviation if Schedule > 400 MW, then <12% or 150 MW (whichever lower)	Normal
if Schedule < 400 MW, then 48 MW to 80 MW deviation if Schedule > 400 MW, then 12%-20% or 150 MW -250 MW (whichever lower)	Alert
if Schedule < 400 MW, then > 80 MW deviation if Schedule > 400 MW, then >20% or 250 MW (whichever lower)	Emergency

New Criteria for Issuance of Deviation Violation Messages

After implementation of DSM-2022 Regulations, the criteria for Issuance of Deviation Violation Messages shall be as follows:

For Buyer with Sch upto 400MW	For Buyer with Sch > 400MW	For General Seller including RoR	Message Category
<20% or 40 MW (Whichever is lower)	<10% or 100 MW (whichever is lower)	<2%	Normal
20% - 30% or 40 MW-60 MW (Whichever is lower)	10%-15% or 100 MW- 200 MW (Whichever is lower)	2%- 10%	Alert
> 30% /60 MW (Whichever is lower)	> 15% or 200 MW (whichever is lower)	> 10%	Emergency

Approved Shutdown for the month of Dec 2022

SN	Name of Element	Dec-22 (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31)	Time	Reason	Category
	SHUTDOWNS PROPOSED BY PGCIL				
	132kV Transmission lines				
1	132kV Palatana - SM Nagar - 1 TL	Consent received from Tripura; Consent required from NLDC	0600Hrs to 1500Hrs	to facilitate overhead stringing works of LILO line in between tower no-109 to tower no-110 of 132kv Palatana - SM Nagar line	Existing system improvement related shutdown.
2	132 KV Aizawl - Kumarghat TL		0700Hrs to 1500Hrs	Attending/Rectifying Line defects during Cross-patrolling	Normal Maintenance related shutdown.
3	132 KV Aizawl- Tipaimukh TL	Consent received from Manipur	0700Hrs to 1500Hrs	Attending/Rectifying Line defects during Cross-patrolling	Normal Maintenance related shutdown.
4	132kV Dimapur-Doyang -I TL	Intimation to NEEPCO	0800Hrs to 1500Hrs	For removal of arcing Horns from Porcelain Insulator of Cross-Arm Side	Normal Maintenance related shutdown.
5	132kV Dimapur-Doyang -II TL	Intimation to NEEPCO	0800Hrs to 1500Hrs	For removal of arcing Horns from Porcelain Insulator of Cross-Arm Side	Normal Maintenance related shutdown.
6	132kV Khliehriat - Badarpur TL	Not Approved in 196th OCCM	0800Hrs to 1500Hrs	rectifications of various defects observed during tripping and AMP works at Substation	Normal Maintenance related shutdown.
7	132kV Khliehriat - Khandong-I TL	Not Approved in 196th OCCM; Consent not received from NEEPCO	0800Hrs to 1500Hrs	for rectification of Suspension string of loc No.: 63&64 and AMP works at Substation	Normal Maintenance related shutdown.
8	132kV Melriat - Shimmui - 1 TL	Consent received from Mizoram	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
9	132kV Melriat - Shimmui - 2 TL	Consent received from Mizoram	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
10	132kV Silchar - Srikona - 1 TL	Consent received from Assam	0700Hrs to 1500Hrs	AMP of Bay Equipments at AEGCL end	Normal Maintenance related shutdown.
11	132kV Silchar - Srikona - 2 TL	Consent received from Assam	0700Hrs to 1500Hrs	AMP of Bay Equipments at AEGCL end	Normal Maintenance related shutdown.
12	132kV Loktak - Jiribam TL	Already Approved in 195th OCCM	CSD 0700Hrs to 1500Hrs (till Jan 2023)	For conductor restringing to HTLS under NERSS project.	Construction Related Shutdown

		Dec-22 (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31)			Category
	220kV Transmission lines				
13	220kV Old Mariani - Kathalguri TL	Consent received from Assam; Intimation to NEEPCO	0700Hrs to 1500Hrs	for fixing of missing arching horns	Normal Maintenance related shutdown.
14	220kV New Mariani - Kathalguri TL	Intimation to NEEPCO	0700Hrs to 1500Hrs	for fixing of missing arching horns	Normal Maintenance related shutdown.
15	220kV Salakati - BTPS - 1 TL	Cancelled as already approved in Nov'22	CSD 0800 to 1700Hrs	For HTLS reconductoring works	Construction Related Shutdown
16	220kV Salakati - BTPS - 2 TL	Consent received from Assam	CSD 0700 to 1500Hrs	For HTLS reconductoring works	Construction Related Shutdown
17	A/R of 220kV Salakati - BTPS - 1 TL	Consent received from Assam	0700Hrs to 1500Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown
18	A/R of 220kV Salakati - BTPS - 2 TL	Cancelled as already approved in Nov'22	0800Hrs to 1700Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown
19	220kV Salakati - Bongaigaon- 2 TL		CSD 0700Hrs to 1500Hrs	For upgradation works under Add cap from Conventional to SAS system	Construction Related Shutdown
20	220kV Misa - Dimapur # 1 TL		0700Hrs to 1500Hrs	Repairing and replacement of lightning damaged insulator at various location to prevent breakdown of line	Existing system improvement related shutdown.
21	220kV Misa - Dimapur # 2 TL		0700Hrs to 1500Hrs	Repairing and replacement of lightning damaged insulator at various location to prevent breakdown of line	Existing system improvement related shutdown.
22	A/R of 220kV Misa - Kopili # 1 TL		0900Hrs to 1700Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
23	A/R of 220kV Misa - Kopili # 2 TL		0900Hrs to 1700Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
24	A/R of 220kV Misa - Kopili # 3 TL		0900Hrs to 1700Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
25	220kV Misa - Samaguri - 1 TL	Consent received from Assam	0700Hrs to 1500Hrs	AMP of Bay Equipments at AEGCL end	Normal Maintenance related shutdown.

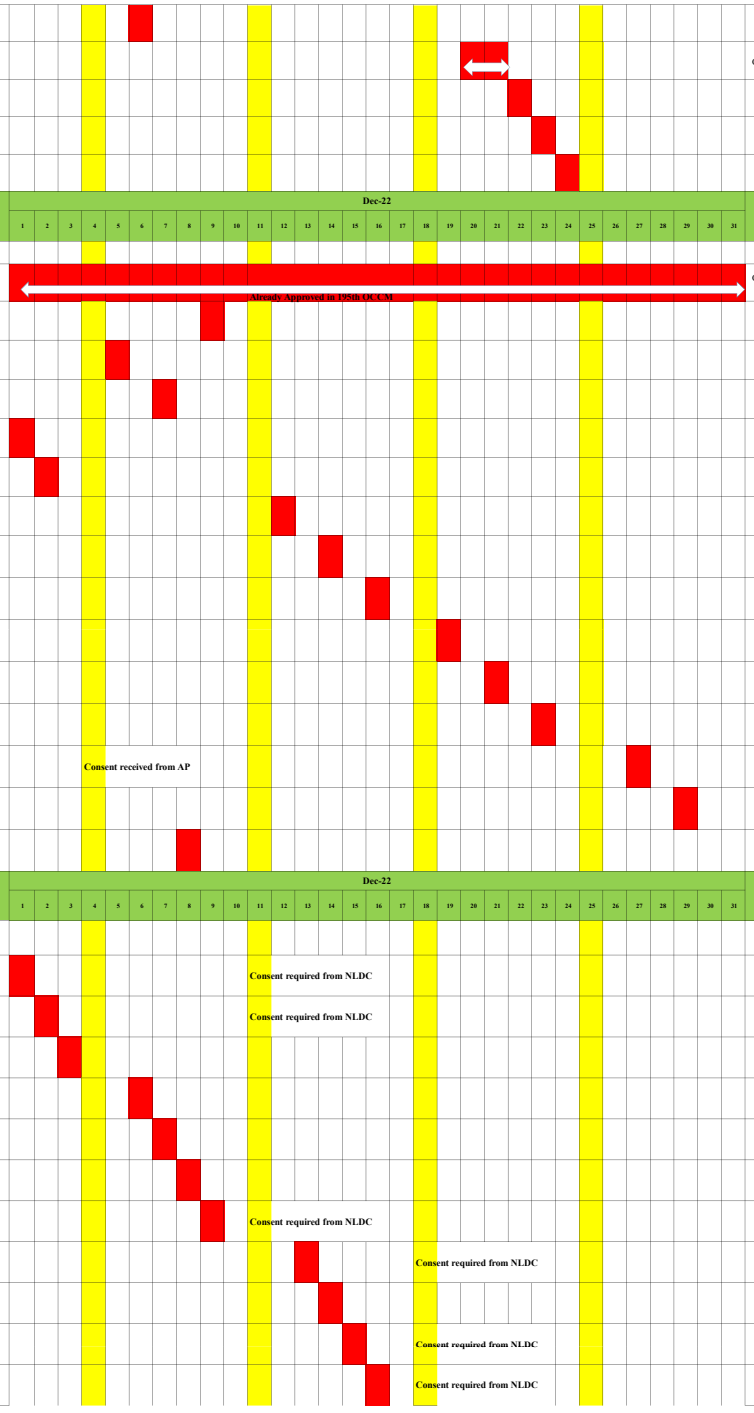
		Dec-22 (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31)			Category
	400kV Transmission lines				
26	400kV Bongaigaon - BTPS (BgTPP) #1 TL	Intimation to NTPC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
27	400kV Bongaigaon - BTPS (BgTPP) #2 TL	Intimation to NTPC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
28	400kV Bongaigaon - Balipara#1 TL along with LR		0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
29	400kV Bongaigaon - Balipara#2 TL along with LR		0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
30	400kV Bongaigaon - Balipara#3 TL along with LR		0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
31	400kV Bongaigaon - Balipara#4 TL along with LR		0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
32	400kV Bongaigaon - Azara TL along with LR	Consent received from Assam	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
33	A/R of 400kV New Mariani - Misa - 2 TL		0700Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
34	A/R of 400kV Misa - Balipara # 1 TL		0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
35	A/R of 400kV Misa - Balipara # 2 TL		0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.

36	400kV Silchar- Azara TL along with LR	Consent received from Assam	0700Hrs to 1200Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
37	400kV Silchar- Brynihat TL along with LR	Consent received from Meghalaya	1300Hrs to 1600Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
38	400kV Misa - New Mariani # 1 TL		0700Hrs to 1500Hrs	For replacement of damaged insulator at various locations	Normal Maintenance related shutdown.
39	A/R of 400kV Silchar - Azara TL	Not Approved in 194th OCC/NE	0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
40	A/R of 400kV Silchar - Brynihat TL	Not Approved in 194th OCC/NE	0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
41	A/R of 400kV Balipara - Bongaigaon # 3 TL		0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.
42	A/R of 400kV Balipara - Bongaigaon # 4 TL		0800Hrs to 1600Hrs	Auto reclosure to be kept at non auto mode for OPGW works	Existing system improvement related shutdown.

		Dec-22			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			Category
	132kV Nirjuli SS				
43	132kV Main Bus at Nirjuli	Consent received from AP & Assam	0700Hrs to 1500Hrs	During this shutdown, 1) Jumper of Lekhi Line will be shorted with Gohpur Line at dead end tower by opening a section ofLekhi line connected to the main bus. 2) Dismantling of existing foundations of LA & CVT and construction of new foundation and erection ofsupport structure for LA & CVT in 132KV Lekhi-Nirjuli Bay. 3) Bus duct erection below Main Bus under package-SS74 associated with (i) Extension of 132/33kVNirjuli Substaion under NERSS-IX & (ii) Augmentation of 132/33kV Nirjuli Substation under NERSS- XIII	Construction Related Shutdown
44	132kV Main Bus at Nirjuli	Consent received from AP & Assam	0700Hrs to 1500Hrs	HV Testing for new GIS commissioning under package-SS74 associated with (i) Extension of 132/33kVNirjuli Substaion under NERSS-IX & (ii) Augmentation of 132/33kV Nirjuli Substation under NERSS- XIII.	Construction Related Shutdown
	132kV Melriat SS				
45	132kV Main Bus at Melriat	Consent received from Mizoram	0800Hrs to 1500Hrs	AMP of Bus	Normal Maintenance related shutdown.
	220kV Salakati SS				
46	220kV TBC Bay at Salakati		CSD 0700Hrs to 1500Hrs	For upgradation works under Add cap from Conventional to SAS system	Construction Related Shutdown
47	220kV Bus coupler along with Main Bus-2 at Salakati		CSD 0700Hrs to 1500Hrs	For upgradation works under Add cap from Conventional to SAS system	Construction Related Shutdown
	220kV Dimapur SS				
48	160MVA 220/132kV ICT-1 at Dimapur		0800Hrs to 1500Hrs	Placement of Gas Density Hose Cable by Godrej/Taikai	Existing system improvement related shutdown.
49	160MVA 220/132kV ICT-2 at Dimapur		0800Hrs to 1500Hrs	Placement of Gas Density Hose Cable by Godrej/Taikai	Existing system improvement related shutdown.
	400kV Mariani SS				
50	400kV ICT-2 Main Bay at Mariani		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
51	400kV Bus Reactor-2 Main Bay at Mariani		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
52	500MVA 400/220kV ICT-2 at Mariani		0700Hrs to 1500Hrs	AMP of ICT	Normal Maintenance related shutdown.

		Dec-22			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			Category
	400kV Misa SS				
53	500MVA 400/220kV ICT-3 at Misa		0700Hrs to 1500Hrs	For modification in OTI/WTI circuit to reduce maloperation of the equipments.	Existing system improvement related shutdown.
54	315MVA 400/220kV ICT-2 at Misa		0700Hrs to 1500Hrs	For modification in OTI/WTI circuit to reduce maloperation of the equipments.	Existing system improvement related shutdown.
55	50MVAR Bus Reactor - 1 at Misa		0700Hrs to 1500Hrs	For modification in OTI/WTI circuit to reduce maloperation of the equipments.	Existing system improvement related shutdown.
56	400kV Balipara - 1 Main Bay at Misa		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
	400kV Silchar SS				
57	200MVA 400/132kV ICT-2 at Silchar		0700Hrs to 1500Hrs	AMP of ICT	Normal Maintenance related shutdown.
58	63MVAR Bus Reactor-1 at Silchar		0900Hrs to 1800Hrs	CSD tuning. May require upto 5 Close Open operation	Normal Maintenance related shutdown.
59	63MVAR Bus Reactor-2 at Silchar		0900Hrs to 1800Hrs	CSD tuning. May require upto 5 Close Open operation	Normal Maintenance related shutdown.
60	400kV Azara Main Bay at Silchar		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
61	132kV Bus-1 at Silchar		0700Hrs to 1500Hrs	Bus bar topology testing after topology change	Existing system improvement related shutdown.
62	400kV Palatana-1 Main Bay at Silchar		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
63	400kV Palatana-2 Main Bay at Silchar		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
64	400kV Palatana-1 Tie Bay at Silchar		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
65	400kV Palatana-2 Tie Bay at Silchar		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
	400kV Bongaigaon SS				
66	Balipara # 1 & Alipurduar # 1 Tie Bay at Bongaigaon		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
67	Byrnihat & BTPS#1 Tie bay at Bongaigaon		0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.

68	BTPS#2 & BR#3 Tie bay at Bongaigaon	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
69	315MVA 400/220kV ICT#1 at Bongaigaon	CSD 0700Hrs to 1500Hrs	For replacement of Buchholz relay in Y&B Phase of ICT#1 and WTI and OTI Logic modification.	Normal Maintenance related shutdown.
70	315MVA 400/220kV ICT#2 at Bongaigaon	0700Hrs to 1500Hrs	For modification of OTI/WTI trip logic to prevent maloperation	Normal Maintenance related shutdown.
71	50MVAR Bus Reactor - 2 at Bongaigaon	0700Hrs to 1500Hrs	AMP of Reactor	Normal Maintenance related shutdown.
72	400kV New Siliguri - 2 Main Bay at Bongaigaon	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
		Dec-22			Category
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			
	400kV Balipara SS				
73	400kV 50MVAR Biswanath Chariali -2 L/R at Balipara	CSD 0900Hrs to 1700Hrs (upto Jan 2023)	Rectification of the Existing Reactor.	Normal Maintenance related shutdown.
74	400KV 63MVAR BONGAIGAON-2 LINE REACTOR at Balipara	0700Hrs to 1500Hrs	AMP of Reactor	Normal Maintenance related shutdown.
75	400KV MISA-1 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
76	400KV MISA-2 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
77	400KV ICT-1 AND BUS REACTOR-1 TIE BAY at Balipara	0700Hrs to 1500Hrs	DGA OIL SAMPLING OF NEW Installed CT	Normal Maintenance related shutdown.
78	400KV MISA-2 AND BNC-2 TIE BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
79	400KV BNC-1 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
80	400KV BNC-2 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
81	400KV BONGAIGAON-3 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
82	400KV BUS REACTOR-3 MAIN BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
83	400KV BUS REACTOR-3 TIE BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
84	220KV BUS COUPLER BAY at Balipara	0700Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
85	160MVA 220/132 KV ICT-1 at Balipara	0700Hrs to 1500Hrs	AMP of ICT	Normal Maintenance related shutdown.
86	400KV 63MVAR BONGAIGAON-3 LINE REACTOR at Balipara	0700Hrs to 1500Hrs	AMP of Line Reactor	Normal Maintenance related shutdown.
87	400KV 125 MVAR BUS REACTOR-3 at Balipara	0900Hrs to 1800Hrs	RLDC MFT INSTALLATION AND WTI/OTI LOGIC MODIFICATION	Existing system improvement related shutdown.
		Dec-22			Category
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			
	800kV BNC SS				
88	Pole-1 Main Bay at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
89	Pole-1 Tie Bay at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
90	132kV Buscoupler Bay at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
91	SUBANSIRI-3_SUBANSIRI-4-TIE_BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
92	SUBANSIRI-2-MAIN-BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
93	400 kv ICT-1 MAIN BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
94	AC FLITER-3_SUB-BANK-3 at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
95	AC FLITER-3_SUB-BANK-4 at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
96	BALIPARA_2-BALIPARA-4_TIE_BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
97	AC-FILTER-1_MAIN-BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.
98	AC-FILTER-1_AC-FILTER 2_TIE-BAY at BNC	0800Hrs to 1500Hrs	AMP of Bay Equipments	Normal Maintenance related shutdown.



	Name of Element	Dec-22	Time	Remarks	Category
	Interregional/International				
99	400kV Bongaigaon - New Siliguri -1 TL	Consent required from NLDC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
100	400kV Bongaigaon - New Siliguri -2 TL	Consent required from NLDC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
101	400kV Bongaigaon - Alipurduar -1 TL	Consent required from NLDC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
102	400kV Bongaigaon - Alipurduar -2 TL	Consent required from NLDC	0700Hrs to 1500Hrs	For firmware upgradation of distance relay	Existing system improvement related shutdown.
103	800KV AGRA BNC - I (S/D proposed by NR3)	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	For Stringing (tapping and crossing) and de- stringing of 800kV diverted section of new 800kV HVDC Agra-BNC line due to construction of Gorakhpur Link Expressway. S/D proposed by NR3. During shut down, all 04 poles will be out	Construction Related Shutdown
104	800KV AGRA BNC - II (S/D proposed by NR3)	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	For Stringing (tapping and crossing) and de- stringing of 800kV diverted section of new 800kV HVDC Agra-BNC line due to construction of Gorakhpur Link Expressway. S/D proposed by NR3. During shut down, all 04 poles will be out	Construction Related Shutdown
105	220KV-ALIPURDUAR (PG)-SALAKATI-1	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Re- Conductoring work under NERSS - XII pakage	Construction Related Shutdown
106	A/R of 220KV-ALIPURDUAR (PG)-SALAKATI-2	Consent required from NLDC	0800Hrs to 1700Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown
107	220KV-ALIPURDUAR (PG)-SALAKATI-2	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Re- Conductoring work under NERSS - XII pakage	Construction Related Shutdown
108	A/R of 220KV-ALIPURDUAR (PG)-SALAKATI-1	Consent required from NLDC	0800Hrs to 1700Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown
109	400KV-BINAGURI-BONGAIGAON-1	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Recoductoring Work of Line with HTLS Conductor	Construction Related Shutdown
110	A/R of 400KV-BINAGURI-BONGAIGAON-2	Consent required from NLDC	0800Hrs to 1700Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown
111	400KV-BINAGURI-BONGAIGAON-2	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Recoductoring Work of Line with HTLS Conductor	Construction Related Shutdown
112	A/R of 400KV-BINAGURI-BONGAIGAON-1	Consent required from NLDC	0800Hrs to 1700Hrs	A/R switch to be kept in Non-Auto mode for HTLS reconductoring works in other circuit	Construction Related Shutdown

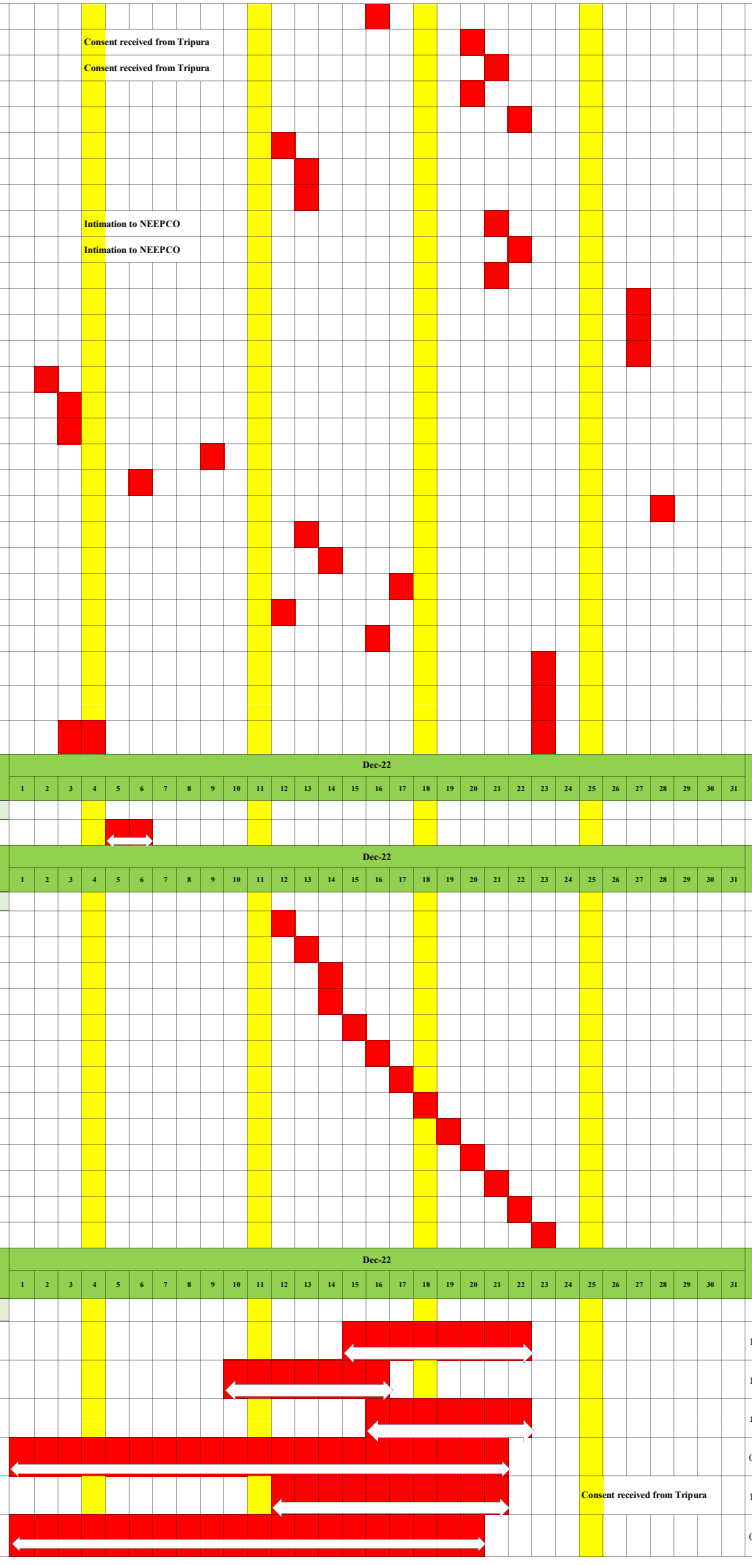
	Name of Element	Dec-22	Time	Remarks	Category
	Assam				
1	220KV BTPS (Salakati)-RANGIA CKT 1		07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
2	220KV BTPS (Salakati)-RANGIA CKT 1		07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
3	220KV BTPS (Salakati)-RANGIA CKT 2		07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
4	220KV BTPS (Salakati)-RANGIA CKT 2		07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
5	132KV MARIANI-GOLAGHAT		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
6	132KV GOLAGHAT-SARUPATHAR		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
7	132KV SARUPATHAR-BOKAJAN		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
8	220KV SAMAGURI-MARIANI	Intimation to NEEPCO	07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
9	220KV SAMAGURI-MARIANI	Intimation to NEEPCO	07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
10	220KV SAMAGURI-SONABIL CKT 1		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
11	220KV SAMAGURI-SONABIL CKT 2		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
12	315MVA AT-1 at MIRZA		07:00-15:00	ROUTINE TESTING	Normal Maintenance related shutdown.
13	315MVA AT-2 at MIRZA		07:00-15:00	ROUTINE TESTING	Normal Maintenance related shutdown.
14	315 MVA TRAFO 1 AT MIRZA		7:00-11:00	Installation of Energy meters under SAMAST project:	Construction Related Shutdown
15	315 MVA TRAFO 2 AT MIRZA		11:00-15:00	Installation of Energy meters under SAMAST project:	Construction Related Shutdown
16	63MVAR BUS REACTOR AT MIRZA		7:00-16:00	ROUTINE TESTING	Normal Maintenance related shutdown.
17	400KV MIRZA-SILCHAR		6:00-15:00	RELAY AND 63MVAR LINE REACTOR TESTING	Existing system improvement related shutdown.
18	220KV SSJI-MIRZA 1		10:00-12:00	Installation of Energy meters under SAMAST project at MIRZA end	Construction Related Shutdown
19	220KV SSJI-MIRZA 2		13:00-15:00	Installation of Energy meters under SAMAST project at MIRZA end	Construction Related Shutdown
20	400KV MIRZA-BONGAIGAON		6:00-15:00	ROUTINE TESTING	Normal Maintenance related shutdown.
21	220KV AGIA-BTPS-I		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
22	220KV AGIA-BTPS-II		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
23	220KV AGIA-BOKO		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
24	220KV AGIA-MIRZA		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
25	220KV AGIA-MIRZA		07:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
26	132 KV PANCHGRAM-HAILAKANDI		07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
27	132 KV SRIKONA-PAILAPOOL		07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
28	132 KV PANCHGRAM-HAILAKANDI		07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
29	132 KV HAILAKANDI-DULLAVCHERRA		07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.

30	132 KV SRIKONA-PAILAPOOL	07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
31	132 KV DULLAVCHERRA-DHARMANAGAR	07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
32	132 KV DULLAVCHERRA-DHARMANAGAR	07:00-15:00	PREVENTIVE MAINTENANCE & INSPECTION WORK	Normal Maintenance related shutdown.
33	132 kV Pailapool- Jiribam	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
34	133 kV Pailapool- Jiribam	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
35	220KV AMGURI-NTPS	07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
36	220KV AMGURI-MARIANI	07:00-15:00	PREVENTIVE MAINTENANCE	Normal Maintenance related shutdown.
37	132kV BOKAJAN-DIMAPUR	8:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
38	220KV TINSUKIA-KATHALGURI CKT 1	9:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
39	220KV TINSUKIA-KATHALGURI CKT 2	9:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
40	220KV TSK-NTPS	9:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
41	220KV TSK-NRPP	9:00-15:00	CORRIDOR CLEANING	Normal Maintenance related shutdown.
42	220kV BTPS - Agia Feeder - I	09:00 - 11:00	Installation of Energy meters under SAMAST project:	Normal Maintenance related shutdown.
43	220kV BTPS - Agia Feeder - II	11:00 - 13:00	Installation of Energy meters under SAMAST project:	Normal Maintenance related shutdown.
44	220kV SONABIL-BALIPARA CKT 1	11:00-13:00	Installation of " CHECK" Energy meters under SAMAST project at SONABIL end	Normal Maintenance related shutdown.
45	220KV AGIA-MIRZA	8:00-10:00	Installation of Energy meters under SAMAST project at MIRZA end	Normal Maintenance related shutdown.
46	220KV Mirza-BOKO	10:00-12:00	Installation of Energy meters under SAMAST project at MIRZA end	Normal Maintenance related shutdown.
47	220 kV Samaguri-Jawaharnagar T.L	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
48	220 kV Samaguri-Jawaharnagar T.L	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
49	220 kV Samaguri-Jawaharnagar T.L	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
50	220 kV Sonapur-Sarusajai T.L	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
51	221 kV Sonapur-Sarusajai T.L	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
52	219 kV Samaguri- Sonapur	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
53	220 kV Samaguri- Sonapur	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
54	220 kV Samaguri- Sonapur	07:00-15:00	PREVENTIVE MAINTENANCE & CORRIDOR CLEANING	Normal Maintenance related shutdown.
55	220KV BTPS-RANGIA CKT 1	9:00-11:00	Installation of Energy meters under SAMAST project at RANGIA end	Normal Maintenance related shutdown.
56	220KV BTPS-RANGIA CKT 2	11:00-13:00	Installation of Energy meters under SAMAST project at RANGIA end	Normal Maintenance related shutdown.
57	220kV Balipara-Sonabil	07:00-15:00	For FTC work for 220 kV Balipara –Sonabil II	Construction Related Shutdown

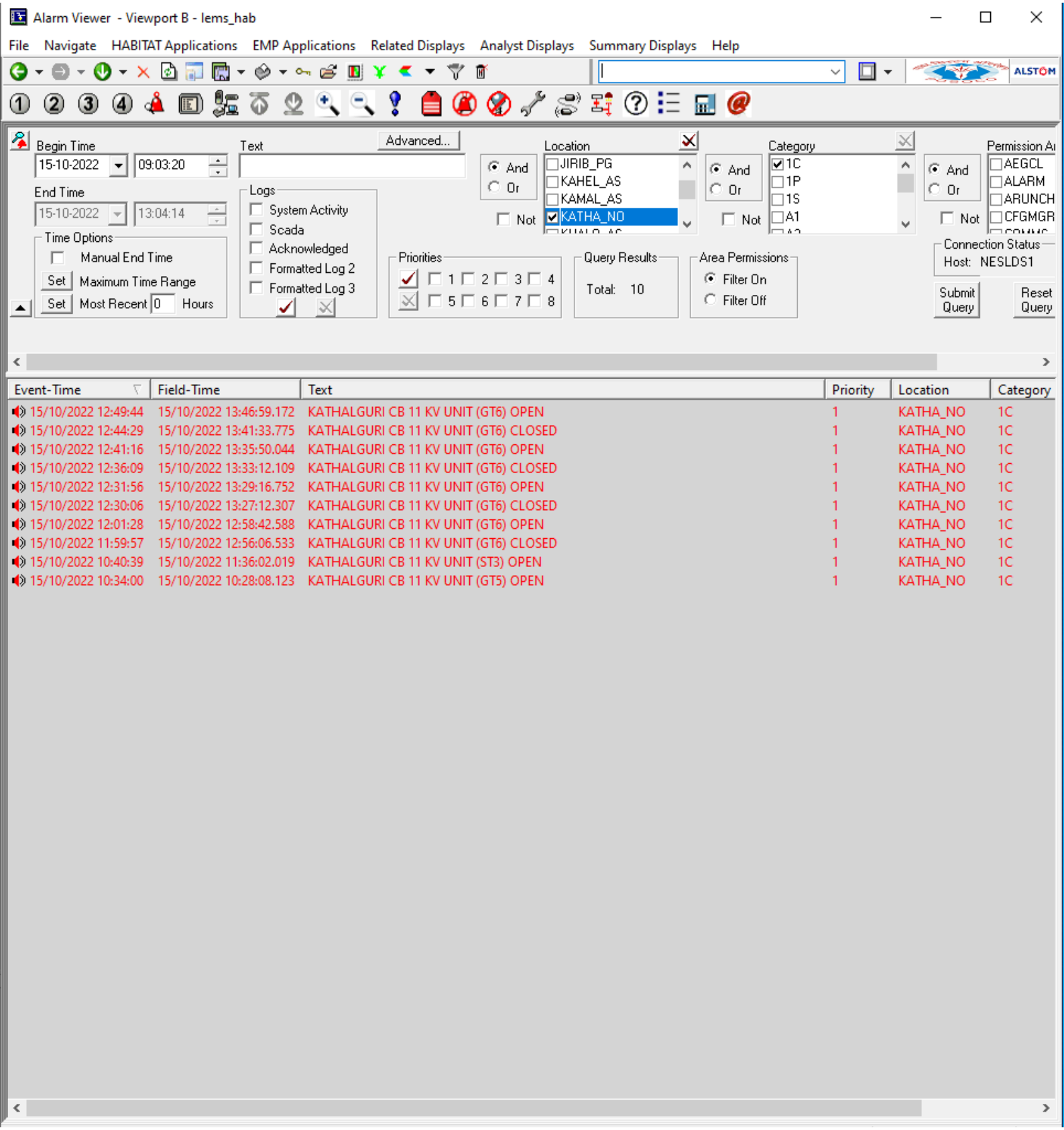
	Name of Element	Time	Remarks	Category
	Tripura			
1	132 KV P.K. Bari - Missiontilla (Dharmanagar)	CSD 08:00-15:00	Routine maintenance and work under NERSIP project.	Normal Maintenance related shutdown.

	Name of Element	Time	Remarks	Category
	KMTL			
1	400 KV DC Imphal to New Kohima Transmission Line I (Line A)	07:00-15:00	TL Maintenance	Normal Maintenance related shutdown.
2	400 KV DC Imphal to New Kohima Transmission Line II (Line A)	07:00-15:00	TL Maintenance	Normal Maintenance related shutdown.
3	400 KV DC Imphal to New Kohima Transmission Line I (Line A)	07:00-15:00	TL Maintenance	Normal Maintenance related shutdown.
4	500 MVA ICT#1 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
5	500 MVA ICT#2 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
6	400 KV DC New Kohima to Mariani Transmission Line I (Line B)	07:00-15:00	TL Maintenance	Normal Maintenance related shutdown.
7	400 KV DC New Kohima to Mariani Transmission Line II (Line B)	07:00-15:00	TL Maintenance	Normal Maintenance related shutdown.
8	125 MVAR Bus Reactor #1 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
9	125 MVAR Bus Reactor#2 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
10	500 MVA ICT#1 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
11	500 MVA ICT#2 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
12	125 MVAR Bus Reactor #1 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.
13	125 MVAR Bus Reactor#2 at New Kohima	07:00-15:00	Substation equipment Testing	Normal Maintenance related shutdown.

	Name of Element	Time	Remarks	Category
	NEEPCO			
1	AGBP Unit # 3 (GTG # 3)	CSD 00:00 Hrs of 15.12.2022 till 23:59 Hrs of 22.12.2022	for renovation of the CO2 flooding system (Fire Suppression System)	Normal Maintenance related shutdown.
2	AgGBPS HRSG (Boiler) # 3	CSD 00:00 Hrs of 10.12.2022 till 23:59 Hrs of 16.12.2022	shutdown of Boilers for hydrotest	Normal Maintenance related shutdown.
3	AgGBPS HRSG (Boiler) # 4	CSD 00:00 Hrs of 16.12.2022 till 23:59 Hrs of 22.12.2022	shutdown of Boilers for hydrotest	Normal Maintenance related shutdown.
4	Ranganadi Unit # 3	CSD 00:00 Hrs of 01.12.2022 till 23:59 Hrs of 21.12.2022	Annual Planned Maintenance	Normal Maintenance related shutdown.
5	TGBPS, Monarchak (Complete Plant)	CSD 00:00 Hrs of 12.12.2022 till 20:00 Hrs of 21.12.2022	Maintenance Activity	Normal Maintenance related shutdown.
6	Kameng HPS Unit # 2	CSD 00:00 Hrs of 01.12.2022 till 23:59 Hrs of 20.12.2022	Annual Planned Maintenance (APM) Activities.	Normal Maintenance related shutdown.



	Name of Element	Dec-22																													Time	Remarks	Category
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
7	Kameng HPS Unit # 1	CSD 00:00 Hrs of 01.11.2022 till 23:59 Hrs of 15.06.2023 (7.5 months) Already Approved in 195th OCCM																													CSD 00:00 Hrs of 01.11.2022 to 23:59 Hrs of 15.06.2023 (total 7.5 months)	for completion of E & C works.	Normal Maintenance related shutdown.
8	Doyang HPS Unit # III											Already Approved in 195th OCCM																				CSD 00:00 Hrs of 11.11.2022 till 23:59 Hrs of 05.12.2022 (25 days)	APM	Normal Maintenance related shutdown.
	NTPC (BgTPP)																																		
1	315MVA ICT1 at BgTPP																																0700 hrs to 17:00 (cts)	Bushing replacement, OLTC work, breaker work etc	Normal Maintenance related shutdown.
2	400kV Line 2 bay 1 at BgTPP																																0700hrs to 1700 hrs (daytime)	Breaker and Bus isolator related works	Normal Maintenance related shutdown.
3	400KV BUS-1 & 400KV Bus Coupler BAY 406 at BgTPP																																0700hrs to 1600 hrs (daytime)	Bus 1, Bay 408, 406 Pantograph Isolator 408-89A,40689A 408-89G PM/ Alignment & Bay tightness and bay Protection testing	Normal Maintenance related shutdown.
4	400KV BUS-1 & 400KV Bus Coupler BAY 406 at BgTPP																																0700hrs to 1100 hrs (daytime)	Bus 1, Bay 408, 406 Pantograph Isolator 408-89A,40689A 408-89G PM/ Alignment & Bay tightness and bay Protection testing	Normal Maintenance related shutdown.
5	400KV BUS-2 & 400KV Bus Coupler BAY 406 at BgTPP																																1100hrs to 1600 hrs (daytime)	Bus 2, Bay 408, 406 Pantograph Isolator 408-89A,40689A 408-89G PM/ Alignment & Bay tightness and bay Protection testing	Normal Maintenance related shutdown.
6	400KV BUS-2 & 400KV Bus Coupler BAY 406 at BgTPP																																0700hrs to 1600 hrs (daytime)	Bus 2, Bay 408, 406 Pantograph Isolator 408-89B,40689B 408-89G PM/ Alignment & Bay tightness and bay Protection testing	Normal Maintenance related shutdown.
7	BgTPP Unit # 1	CSD 00:00 Hrs of 05.11.2022 till 23:59 Hrs of 19.12.2022 Already Approved in 195th																													CSD 00:00 Hrs of 05.11.2022 till 23:59 Hrs of 19.12.2022	U#1 Overhauling	Normal Maintenance related shutdown.
	OTPC Palatana																																		
1	132KV Palatana – SM nagar line											Consent received from Tripura							Consent required from NLDC														0700hrs to 1500 hrs (daytime)	R-Phase line hotspot rectification	Normal Maintenance related shutdown.
2	400KV OTPC Palatana Bus-2																																0700hrs to 1500 hrs (daytime)	Isolator hotspot rectification.	Normal Maintenance related shutdown.
3	400KV Palatana-Silchar Line-1																																0700hrs to 1500 hrs (daytime)	Relay (Micom Relay P442) A/R Testing.	Normal Maintenance related shutdown.
4	400KV Palatana- Silchar Line-2																																0700hrs to 1500 hrs (daytime)	Relay (Micom Relay P442) A/R Testing.	Normal Maintenance related shutdown.
	NETC																																		
1	400 kV Azara-Bongaigaon TL (Ckt.-I)				Consent received from Assam																												0700hrs to 1500 hrs (daytime)	To replace the broken insulator due to severe lightning strike at 966.	Normal Maintenance related shutdown.
	Meghalaya																																		
1	Umtru - EPIP-I																																9:30-12:30	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
2	Umtru - EPIP-II																																14:00-17:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
3	Umtru - New Umtru Line I																																9:00- 13:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
4	Umtru - Sarusajai Line I																		Consent received from Assam														9:00 -13:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
5	Umtru - Sarusajai Line II																		Consent received from Assam														14:00-17:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
6	Umtru - KSS(Kahilipara) Line I																		Consent received from Assam														9:00-13:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
7	Umtru - KSS(Kahilipara) Line II																		Consent received from Assam														14:00-17:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts, replacement of damaged conductors for preventive Maintenance work.	Normal Maintenance related shutdown.
8	132 KV Umtru Bus Bar																									Consent received from Assam							9:00 - 15:00	Checking,tightening or replacement of terminal equipments clamps & acessories,isolator contacts,conductors of Bus side etc.	Normal Maintenance related shutdown.
	Approved																																		
	Not Approved																																		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HABITAT Applications
EMP Applications
Related Displays
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Summary Displays
Help
ALSTOM
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End Time
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ARUNCH
CFGMGR
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Submit Query
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Event-Time
Field-Time
Text
Priority
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15/10/2022 12:49:44 15/10/2022 13:46:59.172 KATHALGURI CB 11 KV UNIT (GT6) OPEN 1 KATHA_NO 1C
15/10/2022 12:44:29 15/10/2022 13:41:33.775 KATHALGURI CB 11 KV UNIT (GT6) CLOSED 1 KATHA_NO 1C
15/10/2022 12:41:16 15/10/2022 13:35:50.044 KATHALGURI CB 11 KV UNIT (GT6) OPEN 1 KATHA_NO 1C
15/10/2022 12:36:09 15/10/2022 13:33:12.109 KATHALGURI CB 11 KV UNIT (GT6) CLOSED 1 KATHA_NO 1C
15/10/2022 12:31:56 15/10/2022 13:29:16.752 KATHALGURI CB 11 KV UNIT (GT6) OPEN 1 KATHA_NO 1C
15/10/2022 12:30:06 15/10/2022 13:27:12.307 KATHALGURI CB 11 KV UNIT (GT6) CLOSED 1 KATHA_NO 1C
15/10/2022 12:01:28 15/10/2022 12:58:42.588 KATHALGURI CB 11 KV UNIT (GT6) OPEN 1 KATHA_NO 1C
15/10/2022 11:59:57 15/10/2022 12:56:06.533 KATHALGURI CB 11 KV UNIT (GT6) CLOSED 1 KATHA_NO 1C
15/10/2022 10:40:39 15/10/2022 11:36:02.019 KATHALGURI CB 11 KV UNIT (ST3) OPEN 1 KATHA_NO 1C
15/10/2022 10:34:00 15/10/2022 10:28:08.123 KATHALGURI CB 11 KV UNIT (GT5) OPEN 1 KATHA_NO 1C

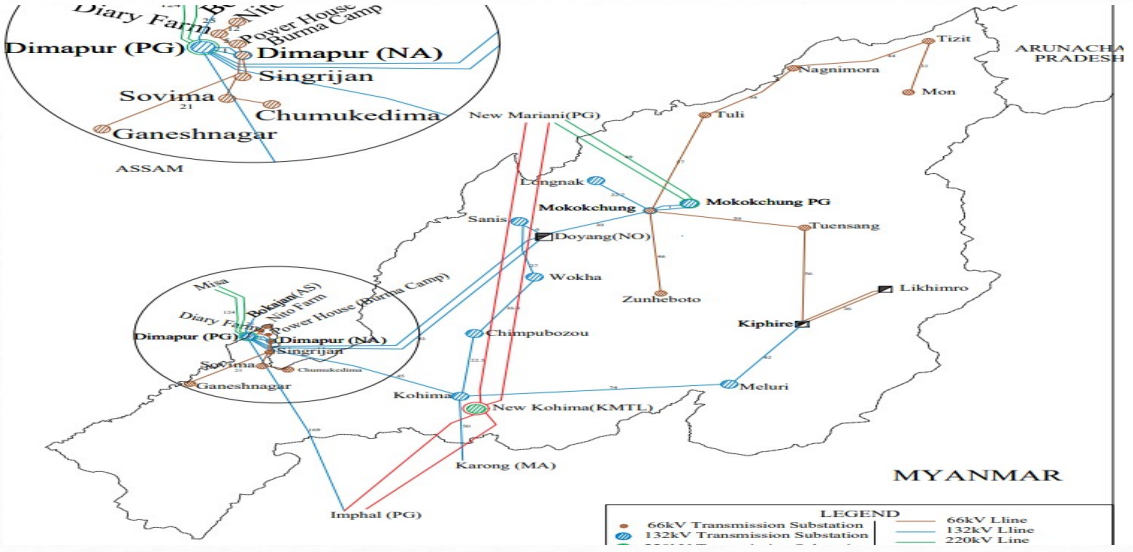
Annexure C.3

Meeting N	Request T	Element Name	Cont/Daily	Requester	RPC Approved From Date	RPC Approved From Time	RPC Approved To Date	RPC Approved To Time	Reasons	Tag / Category	Outage Satrt Date	Outage Satrt Time	Revival Date	Revival Time	Availing delay(Hrs: Min)	Returning Delay(Hrs:Min)		Impact on Grid
OCC_195	PLANNED	132KV/33KV ZIRO-ICT-1	Daily basis	POWERGRID	08/Nov/2022	08:00	08/Nov/2022	16:00	LBB relay retrofitting works		08/Nov/2022	08:22	08/Nov/2022	17:12	00:22	01:12		Dark in Ziro area of AP having load around 10 MW
OCC_195	PLANNED	132KV-DAPORIJU-ZIRO-1	Daily basis	POWERGRID	07/Nov/2022	08:00	07/Nov/2022	16:00	LBB relay retrofitting works		07/Nov/2022	08:19	07/Nov/2022	19:10	00:19	03:10		Dark in Ziro, Along, Pasighat, Roing, Tezu and Namsai area beyong approved time by 3 Hrs(peak hours)
	POST OCC	132KV-KARIMGANJ (AS)-KUMARGHAT-1	Daily basis	POWERGRID	06/Nov/2022	05:00	06/Nov/2022	11:00	REASON : for OPGW works in		06/Nov/2022	05:28	06/Nov/2022	12:42	00:28	01:42		
	POST OCC	132KV-BADARPUR-KARIMGANJ (AS)-1	Daily basis	POWERGRID	06/Nov/2022	05:00	06/Nov/2022	11:00	REASON : for OPGW works in		06/Nov/2022	05:31	06/Nov/2022	12:44	00:31	01:44		
	POST OCC	220KV/132KV SALAKATI-ICT-1	Daily basis	POWERGRID	29/Oct/2022	08:00	29/Oct/2022	16:00	REASON : For extension of 13		29/Oct/2022	09:30	29/Oct/2022	17:38	01:30	01:38		
	POST OCC	132KV-SALAKATI-GELEPHU-1	Daily basis	POWERGRID	29/Oct/2022	08:00	29/Oct/2022	16:00	REASON : For extension of 13		29/Oct/2022	09:28	29/Oct/2022	17:38	01:28	01:38		
OCC_194	PLANNED	132KV-BISWANATH CHARIALI-PAVOI-2	Daily basis	POWERGRID	28/Oct/2022	06:00	28/Oct/2022	15:30	for replacement of insulator		28/Oct/2022	08:59	28/Oct/2022	18:39	02:59	03:09		
	POST OCC	400KV-BISWANATH CHARIALI-BALIPARA-1	Daily basis	POWERGRID	27/Oct/2022	08:00	27/Oct/2022	16:00	REASON : For Relay retrofi		27/Oct/202	09:18	27/Oct/2022	20:22	00:08	01:45		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-2	Daily basis	POWERGRID	21/Oct/2022	07:00	21/Oct/2022	17:00	For upgradation of CAG typ		21/Oct/202	07:15	21/Oct/2022	19:13	00:15	02:13		
	POST OCC	400KV/220KV MISA-ICT-3	Daily basis	POWERGRID	21/Oct/2022	09:00	21/Oct/2022	16:00	Laying of new cables & MF		21/Oct/202	09:34	21/Oct/2022	17:24	00:34	01:24		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-1	Daily basis	POWERGRID	20/Oct/2022	07:00	20/Oct/2022	17:00	For upgradation of CAG typ		20/Oct/202	10:31	20/Oct/2022	19:58	03:31	02:58		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-1	Daily basis	POWERGRID	19/Oct/2022	07:00	19/Oct/2022	17:00	For upgradation of CAG typ		19/Oct/202	08:17	19/Oct/2022	20:21	01:17	03:21		
OCC_194	PLANNED	132KV-AIZWAL-KOLASIB-1	Daily basis	POWERGRID	19/Oct/2022	08:00	19/Oct/2022	16:00	LBB Relay retrofitting at bo		19/Oct/202	08:57	19/Oct/2022	19:15	00:57	03:15		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-4	Daily basis	POWERGRID	18/Oct/2022	07:00	18/Oct/2022	17:00	For upgradation of CAG typ		18/Oct/202	09:47	18/Oct/2022	19:46	02:47	02:46		
OCC_194	PLANNED	400 KV BALIPARA II & 50 MVAR BUS REACTOR IIAT BC	Daily basis	POWERGRID	17/Oct/2022	08:00	17/Oct/2022	16:00	AMP of Bay Equipments		17/Oct/202	09:50	18/Oct/2022	17:23	01:50	01:23		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-4	Daily basis	POWERGRID	17/Oct/2022	07:00	17/Oct/2022	17:00	For upgradation of CAG typ		17/Oct/202	08:13	17/Oct/2022	20:07	01:13	03:07		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-3 L/R@ BALIPARA - 400KV	Daily basis	POWERGRID	15/Oct/2022	07:00	15/Oct/2022	17:00	For upgradation of CAG typ		15/Oct/202	09:35	15/Oct/2022	19:02	02:35	02:02		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-3	Daily basis	POWERGRID	15/Oct/2022	07:00	15/Oct/2022	17:00	For upgradation of CAG typ		15/Oct/202	09:35	15/Oct/2022	19:02	02:35	02:02		
	POST OCC	132KV-BADARPUR-KOLASIB-1	Daily basis	POWERGRID	14/Oct/2022	08:00	14/Oct/2022	16:00	For Relay retrofitting work		14/Oct/202	09:10	14/Oct/2022	17:56	01:10	01:56		
OCC_194	PLANNED	400KV-BALIPARA-BONGAIGAON-3	Daily basis	POWERGRID	14/Oct/2022	07:00	14/Oct/2022	17:00	For upgradation of CAG typ		14/Oct/202	08:32	14/Oct/2022	20:01	01:32	03:01		
OCC_194	PLANNED	400KV-BONGAIGAON-NEW SILIGURI-2	Daily basis	POWERGRID	13/Oct/2022	08:00	13/Oct/2022	18:00	For Retrofitting of CAG typ		13/Oct/202	10:24	13/Oct/2022	19:44	02:24	01:44		
OCC_194	PLANNED	132KV-SILCHAR-BADARPUR-2	Daily basis	POWERGRID	13/Oct/2022	08:00	13/Oct/2022	16:00	For installation and commi		13/Oct/202	09:54	13/Oct/2022	18:01	01:54	02:01		
OCC_194	PLANNED	400KV-BONGAIGAON-NEW SILIGURI-1	Daily basis	POWERGRID	11/Oct/2022	08:00	11/Oct/2022	18:00	For Retrofitting of CAG typ		11/Oct/202	09:35	12/Oct/2022	02:05	01:35	08:05		
OCC_194	PLANNED	132KV-SILCHAR-BADARPUR-1	Daily basis	POWERGRID	10/Oct/2022	08:00	10/Oct/2022	16:00	For installation and commi		10/Oct/202	09:49	10/Oct/2022	17:29	01:49	01:29		
	POST OCC	400KV/132KV BISWANATH CHARIALI-ICT-1	Daily basis	POWERGRID	10/Oct/2022	10:00	10/Oct/2022	14:00	Addition of supplied functi		10/Oct/202	10:10	10/Oct/2022	17:05	00:10	03:05		
OCC_194	PLANNED	132KV-DIMAPUR-DIMAPUR(PG)-2	Daily basis	POWERGRID	07/Oct/2022	08:00	07/Oct/2022	16:00	AMP of Bay Equipments		07/Oct/202	08:12	07/Oct/2022	16:52	00:12	00:52	Requested extention upto 17:00 Hrs but denied by NERLDC	Overloading of other circuit and load curtailment in Dimapur area during peak hours.
OCC_194	PLANNED	132KV-BADARPUR-KHLIEHRIAT-1	Daily basis	POWERGRID	05/Oct/2022	08:00	05/Oct/2022	16:00	LBB Relay retrofitting at bo		05/Oct/202	09:41	05/Oct/2022	22:31	01:41	06:31		Overloading of 132kV Lumshnong-Panchgram and load curtailment by Meghalaya in Lumshnong area
	POST OCC	132KV-BISWANATH CHARIALI-ITANAGAR-2	Daily basis	POWERGRID	01/Oct/2022	10:00	01/Oct/2022	16:00	REASON : For SCADA upgra		01/Oct/202	10:30	01/Oct/2022	17:47	00:30	01:47		
	POST OCC	132KV-BISWANATH CHARIALI-ITANAGAR-2	Daily basis	POWERGRID	30/Sep/2022	10:00	30/Sep/2022	16:00	REASON : For SCADA upgra		30/Sep/202	10:15	30/Sep/2022	18:24	00:15	02:24		
	POST OCC	132KV-BADARPUR-KOLASIB-1	Daily basis	POWERGRID	30/Sep/2022	08:00	30/Sep/2022	16:00	Replacement of old BPL m		30/Sep/202	08:18	30/Sep/2022	20:27	00:18	04:27		
	POST OCC	132KV-BISWANATH CHARIALI-ITANAGAR-1	Daily basis	POWERGRID	29/Sep/2022	10:00	29/Sep/2022	16:00	REASON : For SCADA upgra		29/Sep/202	10:07	29/Sep/2022	23:45	00:07	07:45		
	POST OCC	400KV/220KV MISA-ICT-1	Daily basis	POWERGRID	29/Sep/2022	08:00	29/Sep/2022	12:00	REASON : MFT installation		29/Sep/202	09:14	29/Sep/2022	13:58	01:14	01:58		
	POST OCC	132KV-BISWANATH CHARIALI-ITANAGAR-1	Daily basis	POWERGRID	28/Sep/2022	10:00	28/Sep/2022	16:00	REASON : For SCADA upgra		28/Sep/202	10:55	28/Sep/2022	17:47	00:55	01:47		
	POST OCC	400KV/220KV BONGAIGAON-ICT-1	Daily basis	POWERGRID	26/Sep/2022	08:00	26/Sep/2022	16:00	REASON : Connection of Bi		26/Sep/202	08:33	26/Sep/2022	17:36	00:33	01:36		
OCC_193	PLANNED	400 KV BALIPARA 4 BAY (WITH 63 MVAR LINE REACTOR) A	Daily basis	POWERGRID	23/Sep/2022	08:00	23/Sep/2022	16:00	AMP of Bay Equipments		23/Sep/202	13:37	23/Sep/2022	18:02	05:37	02:02		
OCC_193	PLANNED	132KV-AIZWAL-KUMARGHAT-1	Daily basis	POWERGRID	23/Sep/2022	08:00	23/Sep/2022	16:00	For product Warrenty cont		23/Sep/202	08:45	23/Sep/2022	17:24	00:45	01:24		
OCC_193	PLANNED	220KV-MISA-DIMAPUR (PG)-1	Daily basis	POWERGRID	23/Sep/2022	08:00	23/Sep/2022	16:00	Changing of damaged Insu		23/Sep/202	10:02	23/Sep/2022	18:08	02:02	02:08		
OCC_193	PLANNED	132KV-BADARPUR-KHLIEHRIAT-1	Daily basis	POWERGRID	22/Sep/2022	08:00	22/Sep/2022	16:00	CC ring & Arcing horn rem		22/Sep/202	08:34	22/Sep/2022	20:20	00:34	04:20		Overloading of 132kV Lumshnong-Panchgram and load curtailment by Meghalaya in Lumshnong area
OCC_193	PLANNED	400KV/132KV SILCHAR-ICT-1	Daily basis	POWERGRID	20/Sep/2022	09:00	20/Sep/2022	16:00	AMP of ICT		20/Sep/202	08:21	20/Sep/2022	23:23	00:21	07:23		
	POST OCC	400KV/220KV BALIPARA-ICT-2	Daily basis	POWERGRID	08/Sep/2022	07:00	08/Sep/2022	16:00	REASON : AMP of ICT		08/Sep/202	08:49	09/Sep/2022	04:49	01:49	12:49		
OCC_193	PLANNED	220KV-AGBPP-MARIANI (AS)-1	Daily basis	POWERGRID	06/Sep/2022	09:00	06/Sep/2022	16:00	AMP of Bay Equipments		06/Sep/202	09:28	06/Sep/2022	18:48	00:28	02:48		
	POST OCC	400KV-BISWANATH CHARIALI-BALIPARA-2	Daily basis	POWERGRID	02/Sep/2022	10:00	02/Sep/2022	18:00	Dismantling of all three HV		02/Sep/202	11:09	02/Sep/2022	19:19	01:09	01:19		

Closed loop operation of Kohima-Meluri-Kiphire-Mokokchung link

Grid Controller of India Limited
(Grid-India)

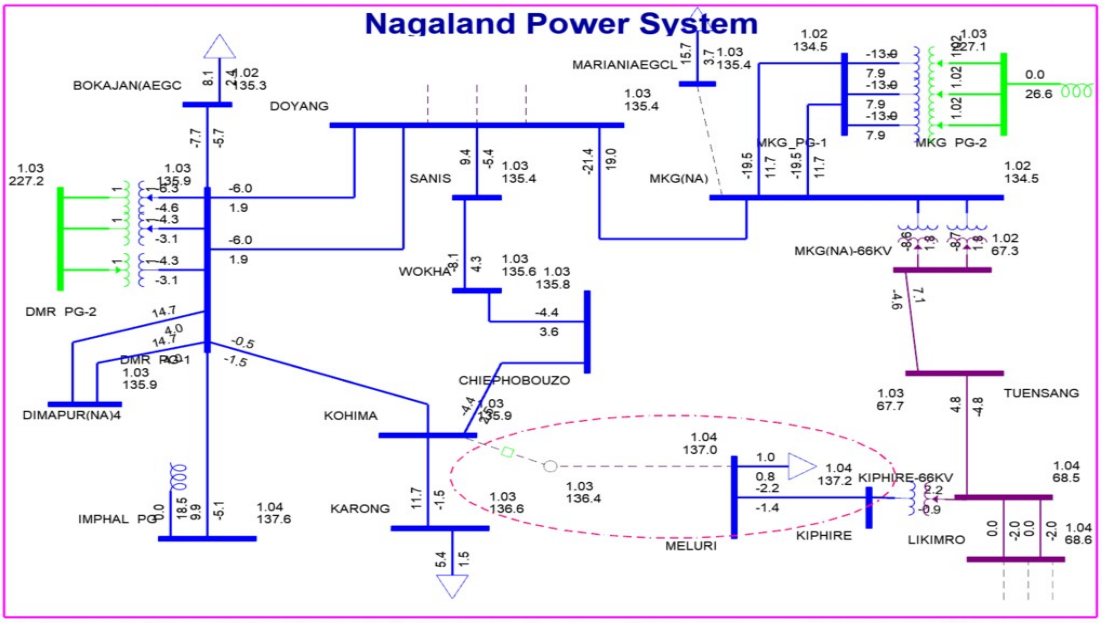
Power Map of Nagaland Power system



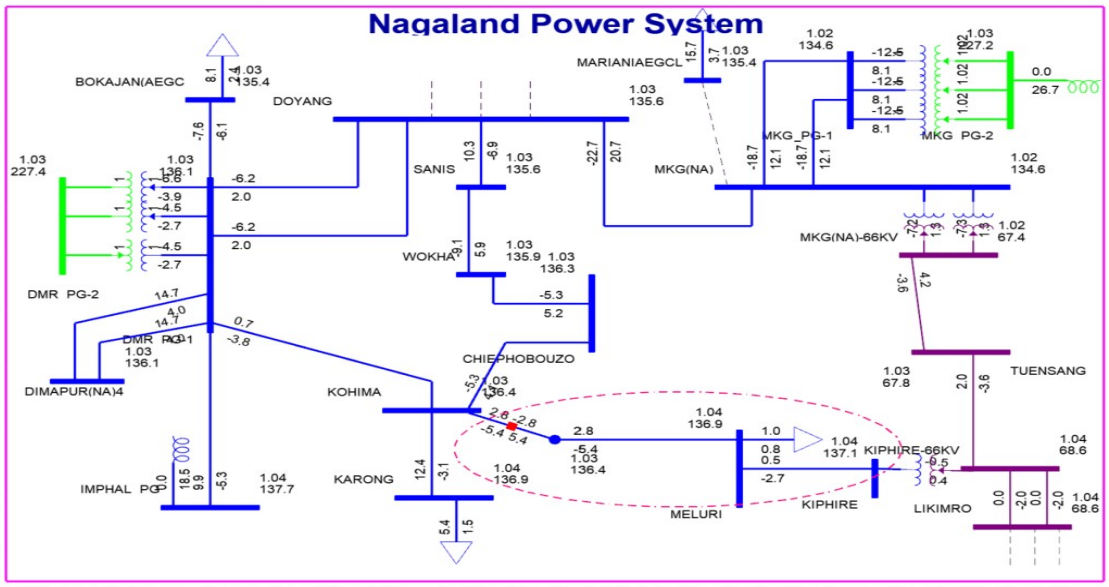
GDs in Nagaland Power system

- On 26-10-22, at 08:41 hrs, all 132 kV transmission lines connected with 132 kV Kohima SS went under force outage due to inclement weather condition in Nagaland state.
- The supply to Kohima substation could have been extended by charging of 132 kV Kohima-Meluri line, but the line was not attempted for charging due to high voltage issue faced earlier along the 132 kV Kohima-Meluri line (as informed by SLDC Nagaland).
- Power to Kohima SS was extended at 14:21 hrs by charging the 132kV Karong – Kohima.
- Kohima, The Capital area of Nagaland power system was under blackout for almost six hours.
- Another GD also occurred in Kohima area of Nagaland power system on 2nd Nov'22 during the visit of Honorable President of India.

Base Case

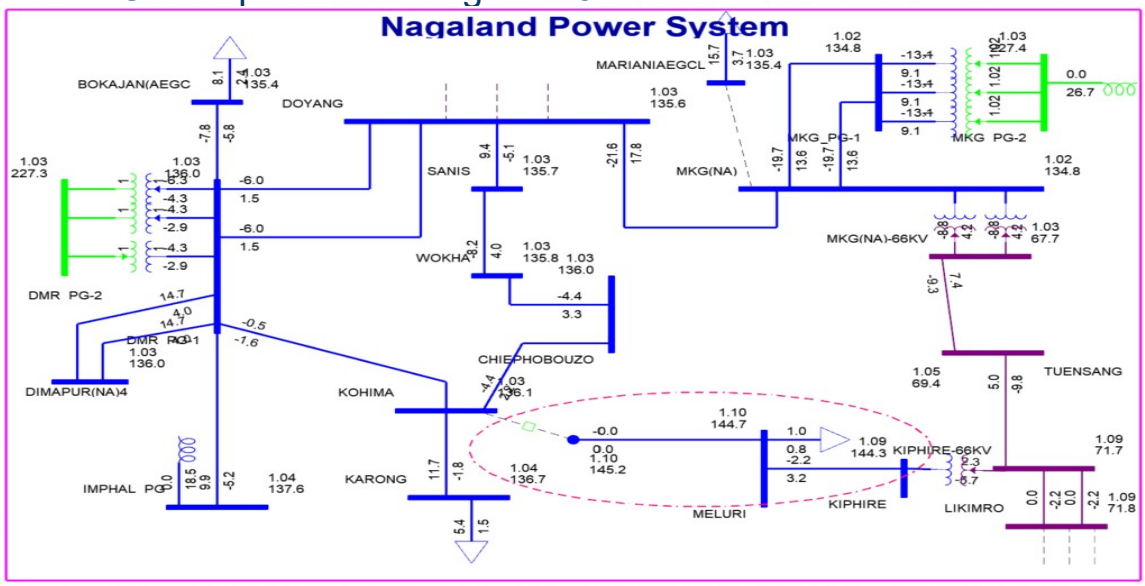


Case- Closed loop system



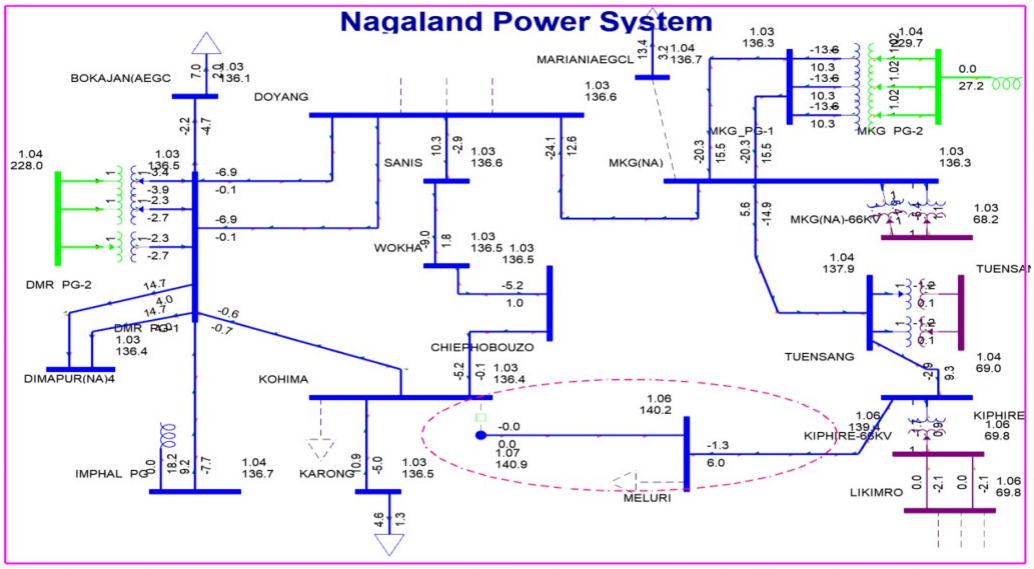
Voltage at 132 kV Meluri is 137 kV when 132 kV Kohima-Meluri-Kiphire-Tuensang link is in closed loop condition.

Case-open end voltage in 132 kV Kohima-Meluri line



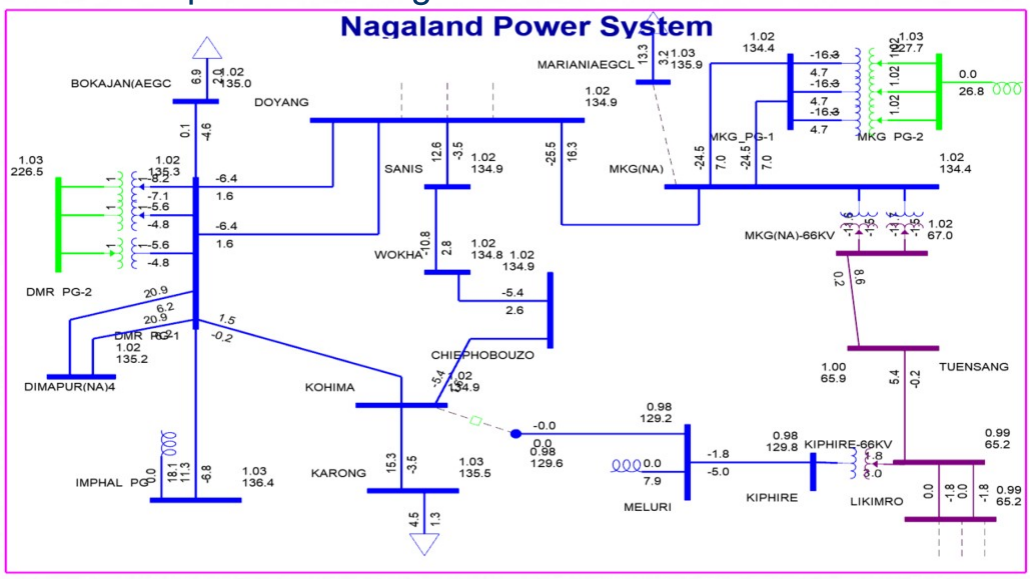
Voltage at 132 kV Meluri is 145 kV when 132 kV Kohima-Meluri line is open from Kohima side only. (Present case-Mokokchung-Tuensang –Kiphire link ia at 66 kV)

Case-Open end voltage in 132 kV Kohima-Meluri line (loop is at 132 kV



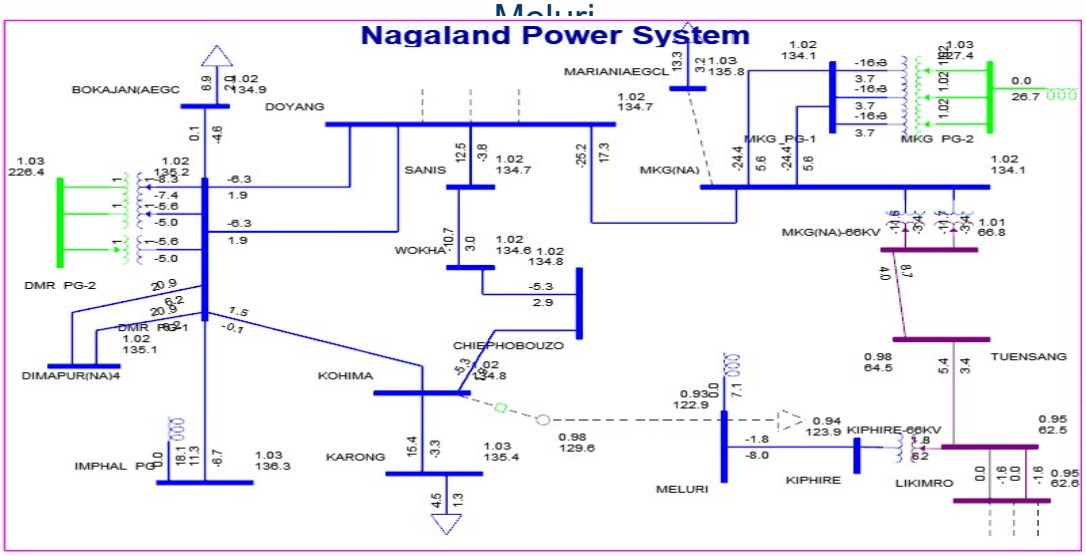
Voltage at 132 kV Meluri is 141 kV when 132 kV Kohima-Meluri line is open from Kohima side only. (Mokokchung-Tuensang –Kiphire link upgraded with 132 kV)

Case-open end voltage in 132 kV Kohima-Meluri line



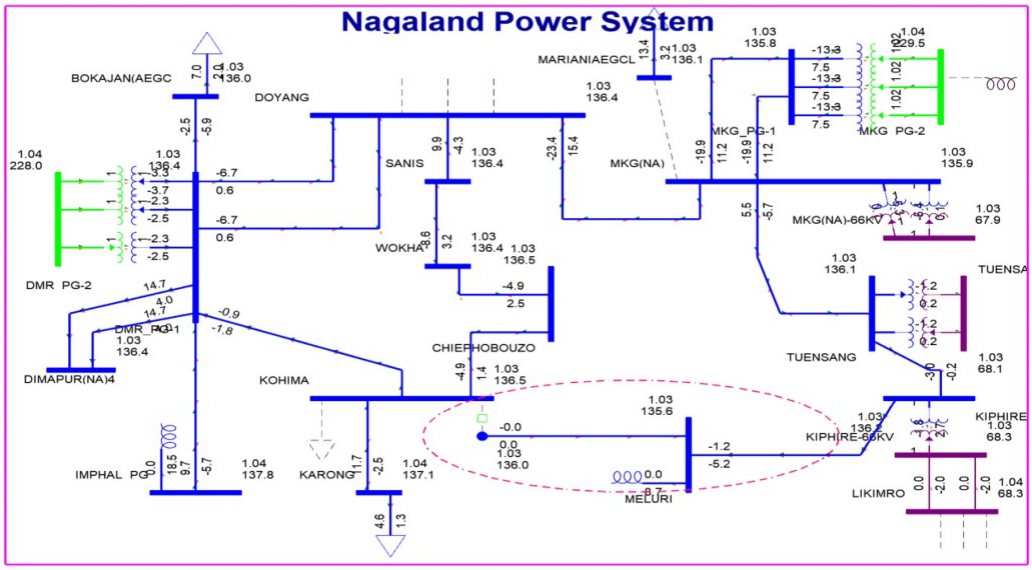
Voltage at 132 kV Meluri is 129 kV when 132 kV Kohima-Meluri line is open from Kohima side only with 10 MVAR Bus reactor at Meluri. (Mokokchung-Tuensang –Kiphire link with 66kV)

Case- Tripping of 132 kV Kohima-Meluri line with 10 MVAR BR at Meluri



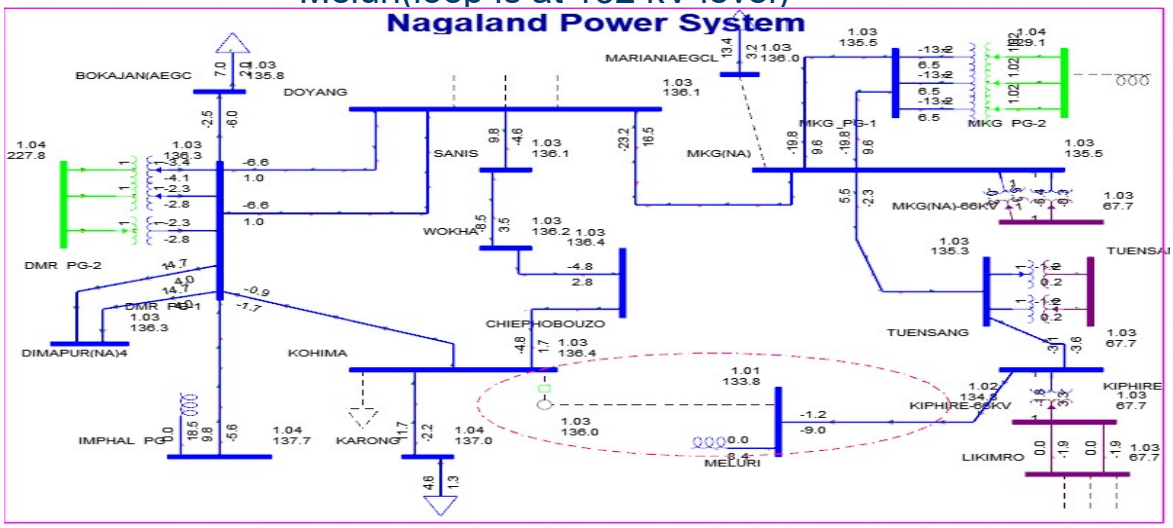
Voltage at 132 kV Meluri is 123 kV with 10 MVAR Bus Reactor at 132 kV Meluri is in service after tripping of 132 kV Kohima-Meluri line both end

Case-open end voltage in 132 kV Kohima-Meluri line (loop is at 132 kV



Voltage at 132 kV Meluri is 135 kV when 132 kV Kohima-Meluri line is open from Kohima side only with 10 MVAR Bus reactor at Meluri. (Mokokchung-Tuensang –Kiphire link upgraded with 132kV)

Case-Tripping of 132 kV Kohima-Meluri line with 10 MVAR BR at Meluri(loop is at 132 kV level)



Voltage at 132 kV Meluri is 134 kV with 10 MVAR Bus Reactor at 132 kV Meluri is in service after tripping of 132 kV Kohima-Meluri line both end

Observations

- **High voltage issue at Meluri S/S(upto 145 kV) is observed in the present condition during Off-Peak hours when 132 kV Meluri-Kohima line is opened from Kohima end.**
- **Installation of Bus reactor of 10 MVAr capacity at Meluri S/S will resolve the voltage issue, thus Kohima-Meluri-Kiphire-Tuesang-Mokokchung link can be kept in closed loop connection permanently.**
- **Voltage at 132 kV Meluri is 123 kV (6 kV Voltage change) with 10 MVAR Bus Reactor at 132 kV Meluri is in service after tripping of 132 kV Kohima-Meluri line both end**
- **Forming closed loop connection of Kohima-Meluri-Kiphire-Tuesang-Mokokchung will strengthen the connectivity of Kohima S/S and upgradation of 66kV Kiphire-Tuensang-Mokokchung link to 132 kV will enhance the reliability and security of the Capital area of Nagaland Power System.**
- **It will also enhance the reliability and securityKiphire-Tuensang, Likimro area of Nagaland Power System**
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