सत्यमेव जयते

भारत सरकार Government of India
विद्युत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विद्युत समिति
North Eastern Regional Power Committee
एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
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No.: No. NERPC/SE (O)/OCC/2021/*515-553* May 09, 2023

To
As per list attached

Sub: Minutes of 201st OCC Meeting.

Sir / Madam,

Please find enclosed herewith the minutes of the 201st OCC Meeting held at "Hotel The Lily", Guwahati on 25th April, 2023 for your kind information and necessary action. The minutes 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.

भवदीय / Yours faithfully,

(एस. एम. आइमोल / S. M. Aimol)
निदेशक / Director

Encl: As above

Distribution List:

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
4. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
5. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
6. Director (Transmission), MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Director (Generation), MePGCL, Lumjingshai, Short Round Road, Shillong – 793 001
8. Director (Distribution), MePDCL, Lumjingshai, Short Round Road, Shillong – 793 001
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 (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (Commercial) -cum- CEI, DoP, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
15. Engineer-in-Chief, Department of Power, Govt. of Nagaland, Kohima – 797 001
16. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
17. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
18. Group GM, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
19. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
20. ED, PGCIL/NERTS, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
21. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
22. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
23. Dy. COO, CTUIL, “Saudamini”, 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
25. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
26. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
27. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
28. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
29. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
30. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
31. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
32. Head of SLDC, MSPCL, Imphal – 795001
33. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
34. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
35. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
36. Head of SLDC, TSECL, Agartala – 799001
37. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
38. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
39. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.

(एस. एम. आइमोल / S. M. Aimol)

निदेशक / Director

सत्यमेव जयते

Minutes of 201st OCCM

Azadi Ka Amrit Mahotsav

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

North Eastern Regional Power Committee

Minutes of the

201st Operation Coordination Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 25-04-2023 (Tuesday)

Venue : "Hotel The Lily, Guwahati"

The participants in the 201st OCCM is attached at Annexure-I.

Shri K. B. Jagtap, Member Secretary, NERPC welcomed all participants in the 201st OCC meeting. He stated that Pilot ADMS project has been successfully implemented in NER and suggested that the ADMS scheme should be expanded to cover more Substations/Feeders so that load management can be done effectively.

He then requested Director, NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 200th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 200th meeting of Operation Sub-Committee held on 28th March 2023 at NERPC Conference Hall, Shillong was circulated vide letter No. NERPC/SE (O)/OCC/2021/386-425 dated 13th April, 2023.

The Sub-committee confirmed the minutes of 200th OCCM of NERPC as no comments/observations were received from the constituents.

B. FOLLOW UP AGENDA ITEMS

B.1. Operational Performance and Grid discipline during March, 2023:

NERLDC presented the Operational Performance and Grid Discipline for the month of March, 2023. (**Annexure B.1**)

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 (as on 24/04/2023)	MU content	Present DC (in MU)	No of days as per current generation
Khandong + Kopilistg II	Under outage and restoration process going on	Under outage and restoration process going on	**0**	Will be "0" until further intimation.
Kopili	Under outage and restoration process going on	Under outage and restoration process going on	**0**	Will be "0" until further intimation.
Doyang	**307.35**	**2**	**0.05**	**41**
Loktak	**766.52**	**13**	**0.21**	**62**

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

Deliberation of the sub-committee

The outage of other generating stations was approved considering the present water levels in reservoirs and long-term outage of Kopili and Khandong HEPs. The list of outages of generating stations is provided in **Annexure B.2**

Shutdown of Palatana Unit-1 was proposed by OTPC from 25.05.2023 to 08.06.2023 for License Renewal of GT HRSG and IBR inspection. In this regard, Member Secretary, NERPC stated that as per the guidelines of Ministry of Power, it is advised that no planned shutdown of thermal generating units is to be scheduled during the crunch months of April'23 and May'23. After detailed discussion, the forum decided to defer the proposed shutdown of Unit 1 of Palatana with revised scheduled as 00:00hrs of 01.06.2023 to 23:59hrs of 15.06.2023.

The sub-committee noted as above

B.3. Outage Planning Transmission elements

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

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

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.

The list of shutdowns approved for transmission elements is provided at **Annexure B.2**.

The sub-committee noted as above

B.4. Estimated Transmission Availability Certificate (TAC) for the month of February, 2023:

Transmission Utilities have submitted the outage data for the month of February, 2023. The attributability of outage of the said elements has been finalized by NERLDC and NERPC. The Availability percentage of the transmission elements of ISTS licensees for the month of February, 2023 is as follow:

SN	ISTS Licensee	Availability for Feb'23(%)
1	NETC	To be finalized
2	KMTL	99.7692
3	NER-II TL	99.9864
4	PGCIL	99.8930

The sub-committee noted as above

B.5. Mock Black Start Exercise:

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.

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

Status as updated in the 200th OCCM:

Plant Name	Performed On	Due Date	Schedule of Testing as per 200th OCCM
AGBPP	.....	.....	after upgradation of DG under R&M*
AGTTCCPP	09.04.2019	09.10.2019	Done on 4th Feb. 2023
PareHEP	25.01.2020	25.07.2020	Done on 15th Feb. 2023
Kopili HEP	10.05.2019	NA	NA
Kameng HEP	.....	.....	In Lean Hydro season**
Doyang HEP	-	-	Done on 21st Oct'22
KopiliStg-II	-	-	Under prolonged shutdown
RHEP	-	-	Done on 28th Nov'22

*Regarding AGBPP, GM NEEPCO updated that R&M of the plant is under DPR preparation stage only and will be submitted for approval soon. Further, he informed that although the machine (Frame 6) is capable of Black start, there is high power requirement for the Gas compressor which is beyond the capacity of existing DG, hence requirement of new DG with adequate capacity is essential.

**Regarding Kameng HEP, GM, NEEPCO intimated that M/s BHEL has not yet responded to the concerns raised by NEEPCO regarding the changes in circuitry as proposed by M/s BHEL.

Manager, NERLDC presented the next due dates for each of the ISGS stations for Mock Black start exercise in accordance with IEGC. The due dates are as under:

Plant Name	Last testing date	Due date
AGBPP	.....	.....
AGTTCCPP	04.02.2023	04.08.2023
RHEP	28.11.2022	28.05.2023
PareHEP	15.02.2023	15.08.2023

Kopili HEP	10.05.2019	Under prolonged shutdown
Khandong HEP	09.12.2021	Under prolonged shutdown
DHEP	21.10.2022	21.04.2023
Kameng HEP	……	……
Loktak HEP	16.12.2021	20.06.2022

NERLDC informed that MBS exercise has to be carried out at Loktak HEP as the due date for testing at Loktak HEP has already passed. The forum advised NHPC to schedule & conduct the MBS exercise in coordination with NERLDC.

Deliberation of the sub-committee

Status as updated in 201st OCCM

Plant Name	Last testing date	Due date	Schedule of Testing as per 201st OCCM
AGBPP	……	……	after upgradation of DG under R&M*
AGTTCCPP	04.02.2023	04.08.2023	04.08.2023
RHEP	28.11.2022	28.05.2023	28.05.2023
PareHEP	15.02.2023	15.08.2023	15.08.2023
Kopili HEP	10.05.2019	Under prolonged shutdown	Under prolonged shutdown
Khandong HEP	09.12.2021	Under prolonged shutdown	Under prolonged shutdown
DHEP	21.10.2022	21.04.2023	12.05.2023
Kameng HEP	……	……	**
Loktak HEP	16.12.2021	20.06.2022	Date to be finalized in consultation with NERLDC

*Regarding AGBPP, GM, NEEPCO updated that R&M of the plant has been approved and procurement process will start soon.

**Regarding Kameng HEP, GM, NEEPCO intimated that M/s BHEL has still not responded to the concerns raised by NEEPCO regarding the changes in circuitry as proposed by M/s BHEL. The forum requested NERPC to write a letter to the OEM to expedite the process.

The sub-committee noted as above

Action: NEEPCO & NHPC

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	Enabled & in-operation
TSECL	24-12-2020	Enabled for three substations while yet to be enabled for other three substations

As updated in the 200th OCCM:

1. SLDC, TSECL reiterated that ADMS is yet to be installed at the Takerjhala, Bishalgarh and Badarpur substations as some shifting work is involved. Further tripping logic has been modified for the two substations where ADMS is installed.
2. Arunachal Pradesh and Manipur are yet to revise the tripping logic.
3. Assam updated that logic modification related to change in frequency will be done within a week time.

Deliberation of the sub-committee

DGM, SLDC, TSECL stated that shifting works at the Takerjhala, Bishalgarh and Badarpur substations is completed, however, some issue related to handing over etc remain to be settled. He further informed that ADMS is expected to be installed by August'23.

ED, NERLDC highlighted that event wise reports on operation of ADMS is not being received from any state except Assam. On few occasions, reports have been received from SLDC Meghalaya and SLDC Mizoram. He clarified that a report has to be generated at every SLDC when ADMS tripping condition is satisfied, irrespective of tripping of the feeders. The same has to be then submitted to NERPC/NERLDC.

Member Secretary NERPC exhorted the States to avail PSDF funding for establishing communication links for 66kV and above substations.

The sub-committee noted as above

Action: All States

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

At present NERLDC is reporting 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	190
	Peak			195	5	190
Assam	Off-Peak	220kV Misa-Samaguri I or II	220 kV Balipara-Sonabil	1730	40	1690
	Peak			1600	40	1560
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 – Umiam1	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	250
	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	309

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.

As agreed in previous OCCMs, all the states are requested to provide the respective ATC/TTC to NERLDC on monthly basis.

In 200th OCCM NERLDC apprised the forum that all the states except Arunachal Pradesh are providing the ATC/TTC report regularly to NERLDC. Also, NERLDC appreciated that Meghalaya SLDC is doing extensive ATC/TTC study in case of any major shutdown.

Deliberation of the sub-committee

NERLDC informed that ATC/TTC reports are being sent by all States except Arunachal Pradesh and Manipur. The forum once again requested all States to furnish the ATC/TTC reports to NERLDC on monthly basis.

The sub-committee noted as above

Action: All States

B.8. Issues pertaining to Kopili&Khandong.

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

Khandong & Kopili Power Stations have been under forced outage due to which there has been vulnerabilities in the Meghalaya Power system.

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.

In 196th OCCM it was highlighted that Meghalaya Power system to operate in bifurcation mode (132kV Mawngap-Nongstoin T/L shall be opened and Nongstoin, Nangalbibra, Tura and Ampati to be fed from Agia) with installation of 20MVAR capacitor banks at 132/33kV NEHU SS till the reconductoring of UmiamstgI-stgIII D/C reconductoring work is done. After the reconductoring, it will shift to closed loop mode wherein maximum of 380MW maximum demand can be met with 107 MW Meghalaya internal generation.

B. Restoration works at Khandong and Kopili substations

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, Khliehriat – Khandong – Umrangshu link was charged as an interim special arrangement.

Khandong

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

3. For availability of KhnadongKhleihriat line, POWERGRID was requested to install 1(one) BCU based CRP in Febreuary-2023. Status of the same may kindly be shared with NEEPCO.
4. NERTS, POWERGRID was requested to ensure the installation of PLCC panel for Khandong – Khliehriat line alongwith FOTE panels for digital and analog data/voice, protection and communication to NERLDC before synchronization of the Khandong Stage-II.
5. 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 NEEPCO.

Kopili

1. 48V DC supply for PLCC panels is being undertaken by NEEPCO. PGCIL provided the load requirement of 20A max.

C. Recommissioning of 1X25 MW Khandong Stage-II plant

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 of the unit, the Khandong Switch Yard has to be adequately restored within February – 2023 and for reliable evacuation, any of the Khandong-Khleihriat ckt1 or ckt 2 along with 132kV Khandong-Umrangshu line (with full protection system) is required. And for evacuation of 2 units of Kopili, which are poised to come in May'23, either 220kV Misa-Kopili DC or Kopili-Khandong DC is required.

In 200th OCCM following points were discussed

A. Load Restriction on Meghalaya Power system

i. Regarding Jiribam-Haflong line, DGM NERTS updated that corpus amount has been conveyed by the forest department and NHIDCL has deposited the amount to PGCIL. PGCIL will now deposit the amount to the forest department in next 5days, after which forest department will issue the clearance. After that, clearance for RIO will be applied. Considering all the processes, the line is expected to returnby 15th April 2023.

ii. Regarding reconductoring of Umiam stg I-stg III, Meghalaya updated that the reconductoring has been completed.

iii. NERPSIP stated that RoW issue in Nongpoh section still persists and the matter is being followed up at the highest level.

B&C. Restoration of Khandong&Kopili substations and Recommissioning of 1x25 MW Khandong stg II:

i. Regarding PLCC for Khandong-Umrangshu line, AEGCL updated that PLCC panel has reached Umrangshu end. PLCC will also be supplied to Khandong end soon.

ii. Regarding permanent restoration of Khliehriat-Khandong D/C, DGM NERTS apprised the forum that line part of ckt 1 is ready, however bay of ckt 1 belongs to NEEPCO, so NEEPCO has to make the bay ready in due time. Regarding the ckt II, he apprised that line side work is completed and bay belongs to POWERGRID and some connection changes have to be made in the bay. However, NEEPCO has to complete the SAS and SCADA related works. He also enquired about the readiness of Umrangshu bay at Khandong as the temporary arrangement to charge the Umrangshu line has to be stopped as soon as the Khliehriat-Khandong D/C is restored as per the permanent arrangement.

GM, NEEPCO updated that Umrangshu bay will be ready after the PLCC panels are supplied by AEGCL and added that SAS as well as SCADA related works at Khandong is underway.

Further, DGM NERTS intimated that for bay related works at Khandong, shutdown of the Khliehriat-Khandong-Umransgshu link shall be required for two days. AEGCL raised concern that Outage of the said link will lead to blackout in Haflong and Umrangshu area, hence the outage duration has to be either restricted to one day or day time shutdown be taken.

PGCIL assured to look into the possibility of restricting the shutdown period as suggested by AEGCL.

Regarding Revival schedule of Generating units, GM, NEEPCO updated that dry spinning of Khandong stg II turbine will start at the end of March'23 and the unit is well poised to be recommissioned by 15th April, 2023 subject to completion of permanent restoration of Khandong-Khliehriat D/C by PGCIL. He further added that one unit of Kopili will come by May, 2023 and the 2nd Unit will come by June 2023.

iii. Regarding Evacuation for Kopili:

a. DGM, NERTS updated that for Kopili-Khandong D/C, procurement SAS based panel from OEM is involved and the restoration work may go upto September'23.

b. On the question of restoration status of 220kV Misa bays at Kopili, GM NEEPCO updated that bay equipments are ready, but cabling termination work is still left. He further added that restoration of 220/132kV ICTs has to be ensured by the PGCIL at the earliest so that reliable station and auxiliary power supply can be ensured through the 132/33kV SST and SAT.

iv. NERLDC and SLDC Meghalaya raised concern that restoration of Misa-Kopili-Khandong link in totality is essential for ameliorating the power supply scenario in Meghalaya, specially before the onset of next winter season.

Deliberation of the sub-committee

i) Regarding restoration of Jiribam-Haflong line, DGM, NERTS updated that the line is ready for charging which will be done after getting RIO clearance. He further added that RIO inspection is scheduled along with inspection of POWERGRID & NEEPCO assets at Khandong.

ii) Regarding Mawngap-Killing line, NERPSIP updated that the ROW issue at Nongpoh section was being taken up at the highest level in the government.

iii) Regarding revival schedules, GM, NEEPCO updated that Khandong stg II will come by 30th April'23 subject to RIO and FTC clearance, and Kopili 1st unit by 1st June'23 and 2nd unit by end of June'23.

iv) Regarding permanent restoration of Khandong-Khlieihriat ckt II, GM, NEEPCO updated that PLCC for Khlieihriat and Umrangshu feeder have been commissioned and data telemetry will be established in the next 3-4 days. Regarding OPGW connectivity of the Khandong station, DGM, NERTS updated that OPGW rerouting at the Khandong substation will be done on 27th April '23 and there will be telemetry outage of the Umrangshu feeder.

The sub-committee noted as above

Action: NEEPCO, NERTS, NERPSIP

B.9. Implementation of Guwahati Islanding Scheme:

As per Clause 10 of the Central Electricity Authority (Grid Standards), Regulations, 2010: "Islanding Schemes- (1) The Regional Power Committees shall prepare Islanding schemes for separation of systems with a view to save healthy system from total collapse in case of grid disturbance. (2) The Entities shall ensure proper implementation of the Islanding Schemes"

Pursuant to the above regulation NERPC, through an empowered committee, has finalized the Guwahati Islanding scheme and prepared the DPR. The DPR was presented in 23rd NERPC/TCC meeting to get approval for funding through PSDF.

In 196th OCCM, Member Secretary NERPC updated that the finalized DPR was discussed in 23rd NERPC meeting and issue of high cost was flagged. So, re-estimation of project cost will be done at the earliest.

In the 198th OCCM, AEGCL was requested to re-examine the cost estimates in the DPR and intimate the subcommittee.

In the 199th OCCM, AEGCL updated that the substations identified under the Guwahati islanding scheme are mostly devoid of OPGW connectivity with the SLDC and thus OPGW requirement is high. However, other OPGW suppliers are being consulted to reduce the cost implication.

After detailed deliberation, the forum decided that the empowered committee on islanding scheme will reassemble and explore the option of using existing fiber optic links, wherever present (on bandwidth sharing basis) and mull over the ways to reduce total cost of the islanding scheme. The report of the committee will be regularly discussed in the NeTEST meetings.

In the 200th OCCM, Director, NERPC stated that in the 24thNETeST meeting, Assam has informed that there are no OPGW links on existing lines covered under the proposed Guwahati Islanding Scheme.

It was suggested in the meeting that AEGCL may apply for PSDF funding under Reliable communication scheme state sector for installing OPGW and include these lines which are covered in the proposed Islanding scheme.

It was decided that special meeting of the empowered committee members will study in totality and finalize the proposed scheme.

Deliberation of the sub-committee

Director, NERPC apprised the forum that an online meeting was organized to discuss the ways and means to reduce the cost of the proposed scheme. To further resolve the issues an offline meeting will be organized with the concerned stakeholders soon.

The sub-committee noted as above

Action: NERPC, NERLDC, Assam, NERTS & NTPC

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

Status as updated in the 200th OCC 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	Coordination with M/S GE is ongoing, tentative completion by March'23
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. ADMS and UFR feeder segregation to be done for Stage-I by next OCCM	To be done
Meghalaya	Submitted	17 out of 17 feeders completed. Forum requested to share the points with RLDC SCADA	Done
Mizoram	submitted	Completed	SCADA display has been made at SLDC but real time data is not reporting. The SCADA display is to be shared with NERLDC.
Nagaland	Submitted	Completed	Completed
Tripura	Submitted	Stage-1(49.4Hz), Stage-2 (49.2Hz), Stage-3(49Hz) require installation of UFR. Stg I UFR installed	Mapping by Feb'23 for P K Bari and Ambassa. For Badarghat(33kV ss), mapping not possible as no RTU available

Deliberation of the sub-committee

Status as updated in the 201st OCC 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. UFRs have been procured and the same have reached the site. Installation will be completed by 1st week of May'23	Coordination with M/S GE is ongoing, tentative completion by May'23
Assam	Submitted	Installation Completed.	Done
Manipur	Not submitted	No extra shedding required only Stage upward revision to be done. ADMS and UFR feeder segregation to be done for Stage-I by next OCCM	To be done
Meghalaya	Submitted	17 out of 17 feeders completed. Forum requested to share the points with RLDC SCADA	Done
Mizoram	submitted	Completed	SCADA display has been made at SLDC but real time data is not reporting as no communication link is available for most of the substations where UFRs are installed. The SCADA display is to be shared with NERLDC.
Nagaland	Submitted	Completed	Completed

Tripura	Submitted	Stage-1(49.4Hz), Stage-2 (49.2Hz), Stage-3(49Hz) require installation of UFR. Stg I UFR installed	Mapping by May'23 for P K Bari and Ambassa. For Badarghat(33kV SS), mapping not possible as no RTU available

SLDC Mizoram intimated that visibility of most of the UFR enabled feeders is not available in SLDC SCADA as no RTUs are available at 33kV substations. The forum requested Mizoram to ensure the visibility of UFR enabled feeders connected at 132kV substations, which have RTUs and communication link, in the SCADA at SDLC. Mizoram agreed.

AD, NERPC requested all the state utilities to send monthly UFR reports to NERPC and NERLDC in compliance with IEGC regulations.

Member Secretary NERPC exhorted the States to avail PSDF funding for establishing communication links for 66kV and above substations.

The sub-committee noted as above

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 200thOCC 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	Done on 20th, 21st Oct, 2022
NER	OTPCL-Palatana	2 (by M/s Solvina)	Nov'22	Nov'22	To be done*
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 199th OCCM, OTPC intimated that M/s BHEL has raised concern about the standard procedure that in case the change in actual grid frequency opposes the simulated frequency input, the governor action will be unpredictable and might be dangerous also which in turn will compromise the safety of the machine. Consequently, BHEL has proposed for some modification in the software procedure, which will abort the testing procedure when a mismatch is detected. The modified procedure will be tested within 1 month and the machine is expected to be ready for PFR test procedure by the end of June, 2023. OTPC however added that details of the suggested modifications is yet to be received from M/s BHEL and assured that the same shall be provided to NERLDC and NERPC once received from M/s BHEL.

In the **200th OCCM**, NERLDC updated that M/s BHEL has intimated through email about the readiness of the software block (to ensure the safety of the machine) which is to be incorporated in the plant controller. A meeting, to discuss the functionality of the software block and further usage of the same for conducting the PFR test at OTPC as per NLDC approved procedure will be held soon.

**Regarding testing at Doyang HEP, NERLDC highlighted that due to insufficient water at Doyang, conducting PFR testing might not be possible at all for the present season, so testing of other unit of Kameng by M/s Siemens can be mooted. GM, NEEPCO expressed hope that Doyang might get sufficient water for the testing soon and requested the forum to keep the PFR testing schedule at Doyang as per the original plan for the time being. Therefore, it was decided that PFR testing at Doyang HEP will still be explored.

Deliberation of the sub-committee

Regarding PFR testing at Palatana, OTPC intimated that a meeting was held with NERLDC on 4th April 2023 in presence of NLDC and testing agencies (M/s Solvina and M/s Seimens) regarding the additional software block which has been developed by OEM (M/s BHEL) for injecting simulated frequency signals during the PFR Test. Further, OTPC highlighted that once the aforementioned logic block is approved, the same has to be configured in the machine Controller. In this regard, the OEM has stated that such configuration in the controller cannot be done online and hence requires the shutdown of the machine. OTPC stated that a meeting will be organized shortly with NERPC, NERLDC, NLDC, BHEL, Solvina, Seimens and OTPC to finalize the PFR testing procedure along with approval of the additional software logic block

and utilization of the facilities available in controller for injection of simulated frequency signals in place of the external test kit of the testing agencies.

The sub-committee noted as above

Action: NEEPCO & OTPC

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 lines in the NERLDC tripping portal in line with Cl.5.2 R of IEGC 2010 Regulations.

In 200th OCCM, Manager, NERLDC informed that line patrolling reports have not been submitted by SLDCs of Manipur, Mizoram and Tripura. MS, NERPC strongly advised all SLDCs to seriously take-up the matter of regular line patrolling with their respective state utilities and submit the patrolling reports to NERLDC/NERPC on regular basis.

Deliberation of the sub-committee

Manager, NERLDC informed that most of the States are regularly submitting the Patrolling report. However few States like Arunachal Pradesh, Manipur and Mizoram are still not following the same. MS, NERPC strongly advised all SLDCs to seriously take-up the matter of regular line patrolling with their respective state utilities and submit the patrolling reports to NERLDC/NERPC on regular basis.

The sub-committee noted as above

Action: All States

B.13. Monthly Review of LGBR

PARTICULARS (Peak Demand in MW as per LGBR vs Actual)	Jan-23 (LGBR)	Jan-23 (Actual)	Feb-23 (LGBR)	Feb-23 (Actual)	Mar-23 (LGBR)	Mar-23 (Actual)
Arunachal Pradesh	128.42	166	164.59	159	153.31	172
Assam	1533.00	1643	1550.00	1572	1680.00	1670.32
Manipur	287.00	248	239.00	225	227.00	212.32
Meghalaya	384.00	404	381.00	394	354.00	373.99
Mizoram	132.99	159	143.49	139	119.27	128.82

Nagaland	165.00	139	160.00	148	155.00	156.4
Tripura (exc. Bangladesh)	230.00	247.71	227.80	252	250.00	263.9
NER DEMAND (exc. Bangladesh)	2680.00	2866	2709.00	2801	2686.32	2915

PARTICULARS (Energy Requirement in MU as per LGBR vs Actual)	Jan-23 (LGBR)	Jan-23 (Actual)	Feb-23 (LGBR)	Feb-23 (Actual)	Mar-23 (LGBR)	Mar-23 (Actual)
Arunachal Pradesh	72.81	75.01	65.79	68.87	71.99	77.54
Assam	770.53	814.320	713.23	735.650	862.52	837.76
Manipur	107.70	104.6	88.92	78.24	79.03	81.08
Meghalaya	213.03	223.25	185.66	190.97	191.76	193.22
Mizoram	65.63	65.33	56.55	53.02	55.48	53.45
Nagaland	68.16	65.81	61.70	59.19	66.11	70.54
Tripura (excl. Bangladesh)	110.21	118.43	100.63	108.86	118.05	122.97
NER DEMAND (exc. Bangladesh)	1368.52	1467.423	1264.84	1295.493	1473.94	1437.192

Deliberation of the sub-committee

The sub-committee noted the LGBR projected demand vis-à-vis actual demand as above.

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 Weather Station (AWS) in NER. As per the proposed list of stations by the constituents, IMD has survey the stations and has mentioned the requirement of NoC for the suitable stations.

NERLDC vide emails dated 10.01.2023 to all the states requested to facilitate for signing of MoU with IMD Guwahati for installation of AWS in NER substations.

In 198th OCCM, NERLDC intimated that modified MoU by IMD has been shared with all the States by e-mail.

Arunachal Pradesh mentioned that the draft MoU has been sent to Government of Arunachal Pradesh for approval. The forum requested all States to sign the MoUs at the earliest.

In 200th OCCM, AEGCL updated that the draft MoU, as finalized by AEGCL, has been sent to IMD, Guwahati in January'23 itself for signing. The later will respond soon.

Deliberation of the sub-committee

NERLDC stated that as updated by the IMD, the MoU has been signed from their end and the same is pending from Assam end.

After detailed deliberation, the forum decided that a special VC/online meeting will be held by NERLDC with the presence of all concerned States and stakeholders.

The sub-committee noted as above

Action: NERLDC & All States

B.15. Status of implementation of SPS in Assam Power System:

As per the minutes of Sub-group meeting held on 27.09.22, SPS for load reduction in capital area of Assam power system on tripping of 220 kV Azara-Sarusajai D/C or 220 kV Misa-Samaguri D/C was recommended for safe and reliable operation with the following tripping conditions:

Triggering condition 1: Tripping of 220kV Azara – Sarusajai D/C SPS action: Tripping of 132kV Kahilipara – Kamalpur and 132 kV Sarusajai – Kamakhya lines. For tripping of 132 kV Kahilipara – Kamalpur line, OPGW connectivity between Sarusujai and Kahilipara will be used to send the tripping signal for tripping Kamalpur feeder at Kahilipara.

Triggering condition 2: Tripping of 220kV Misa - Samaguri D/C SPS action: Tripping of 132kV Samaguri-Sankardevnagar Line.

AEGCL may update on the latest status regarding implementation status of the proposed SPS.

In 199th OCCM, NERLDC intimated that a bilateral meeting with SLDC Assam was held on 1st Feb'23 and Assam agreed to the proposed SPS scheme for tripping condition 1 with additional load cutting of 20MW at Narengi S/S.

AEGCL intimated that disconnection of Narengi GSS, trip signal will have to be sent from Kahilipara GSS which is not possible as there is no OPGW connectivity in 132 kV Kahilipara- Narengi line. Hence, SLDC informed that additional 20 MW load disconnection at Sarusajai / Kahilipara GSS will be explored after consultation with DISCOM.

Regarding tripping condition 2, AEGCL agreed to implement the scheme without any modification and the work will start after obtaining their administrative approval.

In 200th OCCM, AEGCL updated that distribution feeders for disconnection of 20MW at Sarusajai/Kahilipara has been identified and logic is being finalized for tripping condition 1. AEGCL further informed that, in order to implement the SPS, some communication equipment would be required at Kahilipara.

Regarding Tripping condition 2, AEGCL informed that they will implement the same.

Deliberation of the sub-committee

AEGCL updated that for tripping condition 1, administrative approval is awaited and for tripping condition 2, SPS will be implemented by May, 2023.

The sub-committee noted as above

Action: Assam

B.16. 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 Hon'ble President of India, Grid disturbance occurred in Kohima area 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 MVAR capacity 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.

In 196thOCCM the forum had approved for installation of 10MVAR switchable line reactor at Meluri s/s to address high voltage scenario as highlighted by NERLDC and requested Nagaland to complete the upgradation of 66kV Mokokchung-Tuensang-Kiphire link to 132kV at the earliest. Also, the matter was referred to CMETS meeting, but CTU pointed out that concerned substations and lines are intra-state elements, so planning related to these elements is beyond its ambit. Therefore, the matter is referred to sub-committee for further deliberation.

In 200th OCCM, DoP Nagaland updated that proposal for installation of Bus Reactor will be proposed for PSDF funding and for upgradation of bay equipments at Mokochung and Kiphire substations, funding will be requested from North Eastern Council (NEC).

Member Secretary, NERPC requested NERPSIP to explore the option of covering the upgradation woks under NERPSIP projects. NERPSIP stated that they will look into it.

Deliberation of the sub-committee

SE, DoP Nagaland intimated that installing 10MVAR reactor at Meluri substation is practically challenging owing to manpower and space issues. Instead, installing 5MVAR reactors at Kiphire and Kohima each can be looked into.

Regarding funding for upgradation of Bay equipments at Mokokchung and Kiphire, NERPSIP updated that as per Ministry of Power's guidelines, inclusion of the work under NERPSIP is difficult.

After detailed deliberation the forum asked NERLDC to conduct system study for the alternate arrangement as suggested by Nagaland and present the study result in next OCCM.

The sub-committee noted as above

Action: NERLDC & Nagaland

B.17. Regarding construction Power 132KV line for upcoming TATO -I, II and HEO Hydro Electric Power Project.

NEEPCO is all set to start the Project activity of Tato - I, II and Heo H.E Project at Shi Yumi district of Arunachal Pradesh from this financial year. In order to execute the following point may be looked into.

1 Power Evacuation point: NEEPCO shall initially harness 1125 MW from these three projects and two more project namely Naying and Hirong is in pipeline. Therefore, power evacuation point for all the project may be located at Tato-II Power Site.

2 Initially to start the project activity it is required to have 132 KV at Tato Shi Yumi district which will be initially utilized for construction power and after that it can be utilized for power evacuations.

It is understood that there is one 132KV line under construction from Kamba to Mechoka via Tato under the Comprehensive Scheme. One sub-station either at Heo or Tatao I power house can also be planned under that Scheme. Else, the line please be constructed at a faster pace and NEEPCO can make a LILO at a suitable location at Tato Shi Yumi district to cater the construction power of the said upcoming H. E. Projects in coordination with DoP, Arunachal Pradesh.

In 199th OCCM, GM, NEEPCO requested DoP Ar. Pradesh to set up one substation at Tato II area at Tato under the scope of comprehensive scheme or make a LILO of the Kamba Mechoka line at Tato II so that construction power can be provided for the upcoming HEP projects of NEEPCO in the area. SE SLDC, DoP Ar. Pradesh apprised the forum that Kamba Mechoka line will be initially charged at 33kV as load requirement is low in the Mechoka area and suggested that LILO of the line would be a better option. He asked GM NEEPCO to write a request letter to CE (Transmission) DoP Ar. Pradesh for LILO of the line at Tato.

The forum appreciated the need for timely provision of the dedicated feeder for construction power to NEEPCO and exhorted PGCIL Comprehensive Scheme to expedite the commissioning of Kamba-Mechoka line.

In 200th OCCM, GM, NEEPCO apprised the forum that they have written to transmission circle of DoP Arunachal Pradesh and the matter is under deliberation.

The forum urged Comprehensive Scheme to expedite the construction of 132kV Kamba-Mechoka line so that LILO can be made at Tato area on time.

Deliberation of the sub-committee

GM, NEEPCO updated that the matter is under consideration of DoP Arunachal Pradesh, however, Comprehensive Scheme (PGCIL) has not provided the timeline for construction and commissioning of the 132kV Kamba-Mechoka line.

Member Secretary, NERPC informed that review meeting for NERPSIP and Comprehensive Scheme will be held on regular basis to monitor the progress of the projects under the schemes.

The sub-committee noted as above

B.18. RPCs are requested to consider following agenda in the OCC/RPC meeting(s) to popularize and explain the PUShP portal to the constituents/stakeholders.

PUShP portal (For Flexibilization of PPA for Optimal Utilization of Resources and Reduction in cost of Power for Consumers) has been launched on 09th March, 2023 by Hon'ble Minister of Power and NRE.

The Portal would be a single window system providing services to diverse domains of all the entities involved and to reallocate and transfer the power in minimum time from one surplus entity to deficit entity. In recent past years, difficulties are observed in meeting the demand and some states do resort to power cuts, especially during April, May, September and October months the crisis is observed while other states have surplus power capacity. The States which have surplus power continue to bear the fixed charge burden without using it which leads to high cost of power to the consumers. Regional diversity makes some states surplus. Like Peak in Northern region is during summer whereas Peak in Southern region is during winter. Similarly, there is diversity in the time at which the peak occurs in the States. Such regional diversity in the load demand was not able to address even though the generation capacity is available in the country. The reasons behind were many like one-to-one Power Purchase Agreements, some procedural constraints, non-availability of easy match making arrangements etc.

This portal will provide a platform for optimal utilization of generating capacity and will resolve the above issues. The scheme will not disturb the existing arrangements rather an additional avenue shall be provided to stakeholders for optimal use of generating capacity. The scheme envisages paperless working for temporary allocation/transfer of power from surplus (Seller) entity to deficit (buyer) entity. The

benefits of the portal also include Flexibilization of Power Purchase Agreement, Availability of power to DISCOMs, reduction in power cuts, reduction in fixed charge burden on the states having surplus power, Allocation /Transfer of Power at regulated tariff in a minimum time.

Key Benefits of the scheme: -

i. Flexibilization of Power Purchase Agreement

ii. Optimal Utilization of Power due to regional diversity and their increasedavailability.

iii. Availability of power to DISCOMs improves and reduction in power cuts.

iv. Meet the power demand of the country especially during the crisis situation in the month of April, May, September and October.

v. Reduction in fixed charge burden on the states having surplus power.

vi. Allocation /Transfer of Power at regulated tariff.

vii. Reallocation of power in minimum time with automated process.

viii. The scheme envisages a paperless working.

ix. None of the existing arrangements shall be disturbed, rather an additional avenue has been provided.

x. The portal envisages temporary allocation/transfer of power; subjected to willingness of seller and Buyer, confirmation of transmission corridor by concerned agencies and confirmation of payment security on portal by the new Buyer/Gencos before scheduling of such power.

In 200th OCCM, Member Secretary, NERPC briefly explained the benefit of the Scheme and requested all concerned constituents to participate and fully utilize the portal. He also informed that further training or workshop can be organized (if necessary) in the coming days.

Deliberation of the sub-committee

Member Secretary NERPC exhorted the utilities to actively participate on the PUShP portal and avail the benefits provided by it.

After detailed deliberation, the forum decided that any utility surrendering power on this platform should inform all other utilities in NE region about the same to help ensuring early requisition of the surrendered power.

The sub-committee noted as above

B.19. Preparedness for implementation of Resource Adequacy Framework and requirement of Data

As per the draft resource adequacy guidelines published in September 2022, CEA is required to prepare long term National Resource Adequacy Plan (LT-NRAP). For preparing the LT-NRAP, State-wise information Viz: Demand, Installed Capacity, Generation (both RE and Conventional), Financial data, etc. are required to be furnished (as per the format circulated by NERPC through mail dated 21.03.2022) **(Annexure B.19).**

In 200th OCCM, Member Secretary, NERPC requested all States to furnish the requisite information at the earliest.

Deliberation of the sub-committee

Member Secretary NERPC strongly urged the state utilities to provide required data for preparing Resource Adequacy Plan in the format as shared by NEPRC.

The sub-committee noted as above

Action: All States

B.20. Annual Maintenance Contract for ADMS:

The "Go Live" dates in ADMS implementation for NER states is as below:

Sl.No.	Name of SLDC	System "Go Live"
1	Meghalaya SLDC	04.09.2020
2	Manipur SLDC	24.11.2020
3	Nagaland SLDC	01.12.2020
4	Arunachal Pradesh SLDC	01.02.2021
5	Mizoram SLDC	01.03.2021
6	Assam SLDC	10.03.2021
7	Tripura SLDC	16.03.2021

It may be mentioned that ADMS scheme is having a three (3) year Warranty Period following which, there is a provision for an Annual Maintenance Contract after the Warranty Period. Given the regulatory mandate for compliance of ADMS and the benefits of its continued operation, it becomes imperative for a collective Annual Maintenance Contract which among other things would bring about a reduction in the financial involvement vis-à-vis higher rates with separate / individual AMCs. Since the timelines mentioned are spread over a few months only, the SLDCs may

deliberate on a collective Annual Maintenance Contract which can be approved (with same terms and conditions immediately on expiry of individual Warranty Periods) given the collective reduced charges and lack of expertise in maintaining the system.

In 200th OCCM, Director, NERPC informed that considering the regulatory mandate for compliance of ADMS and the benefits of its continued operation, all the State Utilities have agreed to have a combined AMC for ADMS during the 24th NETeST meeting for cost effectiveness vis-à-vis individual AMC. Member Secretary NERPC stated that AMC of the ADMS, after the warranty period, may not be covered under PSDF funding and States have to pay for the same. The State Utilities requested NERPC to take up with original vendor M/s Orbit Techsol India Private Limited regarding the matter.

Deliberation of the sub-committee

All the States requested NERPC to initiate tendering for combined AMC of ADMS for all the states. Director, NERPC suggested that a tendering committee may be formed that will look into tendering and related work of the AMC. The forum agreed and decided that members would be nominated from all States, NERLDC & NERPC and coopted members if necessary.

The sub-committee noted as above

Action: All States, NERLDC & NERPC

C. NEW AGENDA ITEMS

Agenda from NEEPCO

C.1. Methodology to determine the of Ex-Bus calculation of 1x25MW Khandong Stage-II Unit after its synchronization to the grid.

1x25MW Khandong Stage-II Unit is expected to be synchronised at the end of this month. At present NEEPCO is in agreement with APDCL for drawing construction power for 4x50MW Kopili P.S and 2x23MW Khandong Power Station R&M activities. This construction power is being drawn through 7.5MVA, 132/33KV Station Supply Transformer installed at Khandong 132KV/33KV SY. The power is being distributed to Kopili PS &Umrongso Colony and Khandong PS construction activity through 33KV lines charged from 33KV PS-I & PS-II Lines and downstream network.

In view of the above, NEEPCO desires to device the methodology for calculation of Ex-Bus calculation after synchronization of the 1x25MW Khandong Stage-II Unit.

Deliberation of the sub-committee

After detailed deliberation, the forum advised NEEPCO to convene a special meeting with the members from NERPC and NERLDC for deliberation and finalization.

The sub-committee noted as above

Action: NEEPCO

Agenda from NERLDC

C.2. Non-operation of SPS for tripping of Umiam Stg II – Stg I D/C:

At around 20:25 Hrs of 01-04-2023, 132 kV Umiam III - Umiam I D/C along with 132 kV Umiam III - Umiam IV ckt I. Multiple Units also tripped as mentioned in the Unit Tripping list below. This led to increase in loading of 132 kV Panchgram - Lumshnong and 132 kV Badarpur - Khleihriat(PG) to 86 MW and 72 MW respectively. Also, Voltage at Khleihriat(PG) bus reached 124 kV. Tripping of any of the aforementioned lines would likely have caused brownout in Garo Hills, East Khasi Hills and Jaintia Hills and might also have led to partial Grid disturbance in the aforementioned areas.

Generating Unit	Reason for tripping
Umaim Stg I Unit 2	Tripped on Overcurrent & Earth fault
Umaim Stg I Unit 3	Tripped on Overcurrent & Earth fault
Umiam Stg II Unit 2	Differential relay optd.
Umiam Stg III Unit 1	Negative Ph. Sequence relay optd.

New Umtru Unit 1	Negative ph. sequence relay optd, GT Overcurrent/Earth fault

To tackle the same, an SPS scheme was designed to shed load in Mawphlang area of Meghalaya (load shedding of 25 MW). However, the SPS scheme did not operate on the said date as informed by SLDC Meghalaya which could have alleviated the issue of overloading of lines.

This event is a near miss incident which otherwise could have resulted in a major Grid disturbance in NER.

MePTCL & MePGCL is requested to share the reason for non-operation of SPS and its remedial measures taken to forum.

Deliberation of the sub-committee

MePTCL intimated that tripping could not be generated owing to some issues in Programable scheme Logic of relay. However, the problems have been identified and PSL rectified with the support of NERLDC.

The sub-committee noted as above

C.3. Frequent Tripping of Monarchak and Rokhia Units:

Below is the list of trippings with reasons for the same:

S.No	Unit	Tripping Date and Time	Revival date and Time	Tripping Indication
1	Rokhia Unit 9	29-03-2023 09:09	29-03-2023 09:30	Earth fault, Stg-II
2	Rokhia Unit 9	31-03-2023 01:11	31-03-2023 01:25	Earth fault, Stg-II
3	Rokhia Unit 9	31-03-2023 01:57	31-03-2023 02:45	Earth fault, Stg-II
4	Rokhia Unit 9	01-04-2023 05:38	01-04-2023 09:51	No indications provided
5	Rokhia Unit 9	03-04-2023 00:13	03-04-2023 00:39	Earth fault, Stg-II
6	Rokhia Unit 9	16-04-2023 13:41	16-04-2023 17:15	Under frequency relay operated
7	Monarchak GTG	29-03-2023 10:37	29-03-2023 15:30	Rotor E/F
8	Monarchak STG	29-03-2023 10:37	29-03-2023 18:10	Due to tripping of GTG
9	Monarchak GTG	31-03-2023 13:35	31-03-2023 18:32	GT tripped due to E/F

10	Monarchak STG	31-03-2023 13:35	31-03-2023 19:52	Due to tripping of GTG
11	Monarchak GTG	06-04-2023 11:13	06-04-2023 12:15	Voltage Jerk
12	Monarchak STG	06-04-2023 11:13	12-04-2023 04:58	Due to tripping of GTG
13	Monarchak GTG	06-04-2023 12:35	11-04-2023 18:52	High exhaust Temperature
14	Monarchak GTG	11-04-2023 22:58	12-04-2023 01:48	Tripped due to issue in Control system
15	Monarchak STG	12-04-2023 06:45	12-04-2023 07:08	LP drum level high
16	Monarchak GTG	15-04-2023 11:11	12-04-2023 19:53	Rotor Earth fault

Such frequent tripping leads to instability in the system. Due to frequent tripping of the aforementioned units, overloading of 132 kV SurajmaniNagar (TE) – SurajmaniNagar (ISTS) was observed in many instances which in turn led to restriction of Bangladesh (Comilla) load.

The tripping of aforementioned units along with outage of 132 kV Agartala – RC Nagar I has led to vulnerability in Tripura system. Moreover, in one instance Planned Shutdown of 132 kV Surajmani Nagar (TS) – Surajmani Nagar (ISTS) was also cancelled in view of grid security.

TSECL & NEEPCO are requested to look into the matter and rectify issues related to aforementioned units and line.

Deliberation of the sub-committee

Regarding tripping of Monarchak units, NEEPCO informed the forum that various issues has been identified and rectified in the plant between 6th to 13th April 2023. After the said rectifications, number of trippings of Monarchak units is expected to substantially reduce.

Regarding multiple tripping of Rokhia Unit 9, Tripura assured to check the issues and revert at the earliest.

Regarding long outage of 132 kV Agartala – RC Nagar I, NEEPCO informed that requisite spares have been delivered and the said line shall be restored by end of May 2023.

The sub-committee noted as above

Action: NEEPCO & Tripura

C.4. Outage of Important 400 kV bays at OTPC:

a. 400 kV GT-1 &Silchar 1 Tie Bay at OTPC is under outage from 31/12/2022.

b. 400 kV GT-2 & 400/132 kV ICT 2 Tie Bay at OTPC is under outage from 10/02/2023

Palatana is requested to furnish the timeline for restoration of the above-mentioned bays for maintaining reliability and security in NER Grid and expedite the same for meeting the increased power demand smoothly in the upcoming months ahead.

Deliberation of the sub-committee

OTPC intimated that the mentioned bays are out due to faulty LBB relays, which are under procurement. Expected charging is by the end of June'23

The sub-committee noted as above

Action: OTPC

C.5. Multiple tripping in Along-Daporijo-Pasighat Corridor of Arunachal Pradesh:

Table underneath shows the list of trippings in the aforementioned corridor:

SL No.	Element Name	Tripping Date & Time	Relay Indication Main(S)	Relay Indication Main(R)
1	132 kV Along - Pasighat Line	26-03-2023 14:43	No Tripping	No indication
2	132 kV Along - Daporijo Line	01-04-2023 17:45	No Tripping	Zone-2, 68.9Km, BY-Phase
3	132 kV Along - Pasighat Line	02-04-2023 17:35	Earth Fault	No Tripping
4	132 kV Roing - Pasighat Line	10-04-2023 21:45	No Tripping	DP, ZI, B-E, FD:50.2 km
5	132 kV Along - Daporijo Line	14-04-2023 10:10	DP, Y-E	DP, ZI, Y-E,FD: 07 kms
6	132 kV Along - Daporijo Line	14-04-2023 20:36	No Tripping	DP, ZI, R-E,FD:1.9 kms
7	132 kV Daporijo - Ziro Line	16-04-2023 15:39	DP, ZI, B-E, 18.58 Kms	No Tripping

Multiple trippings such as the ones shown above has led to poor reliability of power in the radial links of Daporijo-Along-Pasighat-Roing-Tezu-Namsai areas of Arunachal Pradesh.

DoP, AP and NERTS are therefore requested to look into the matter at the earliest to prevent such occurrences in the near future.

Deliberation of the sub-committee

DoP Ar. Pradesh intimated that rain and manpower shortage issues are hampering patrolling activities along the lines.

After detailed deliberation, the forum urged the DoP Arunachal Pradesh to ensure healthiness of the lines before coming monsoon season.

The sub-committee noted as above

Action: Arunachal Pradesh

C.6. Regarding unprotected feeder at Rokhia Substation:

Multiple disturbances affecting Rokhia & Monarchak generating station from 2020 onwards till now are due to the unprotected feeder at Rokhia Substation. Due to non-availability of protection and switchgear, any fault in the above section leads to clearing of fault from Agartala & Monarchak which may lead to Blackout of entire Rokhia Plant. As per 55th PCC meeting held in Nov 2020, it was suggested to install circuit breakers at both ends of link feeder along with line differential protection at Rokhia.

As per the minutes of special review meeting for various works in Tripura System held on 19th May'22, DGM, TPGL informed that 4 panels and two CBs procurement for both ends of link feeder is under tendering stage with target completion by Sep'22 and proposal for LDP for the link feeder has been put up for approval. Also, GM, TSECL intimated that it shall be combined along with other short lines and DPR shall be prepared shortly.

TSECL to share the updated status for CB procurement and installation of LDP in the link feeder.

Deliberation of the sub-committee

TSECL updated that CBs for LDP of Rokhia- N. Rokhia line has to be procured. Further, estimate has been prepared and tendering will take place in May'23

The sub-committee noted as above

Action: Tripura

C.7. Ensuring Cyber Security Compliance during First Time Charging:

It is seen that many cyber vulnerabilities and non-compliance of Cyber Security measures have been observed in the past causing threat to the security of the Grid.

In line with the CEA (Cyber Security in Power Sector) Guidelines, 2021, undertaking pertaining to compliance related to Cyber Security requirement has been incorporated in the FTC procedure. NERLDC vide email dated 10.04.23 requested all the utilities to adhere to and submit the undertaking to NERLDC prior to first time charging of new elements.

First Time Charging Clearance from NERLDC shall be issued only after receipt of the same.

Deliberation of the sub-committee

The sub-committee noted as above

C.8. Long Outage of 400/220 kV ICT-1 at Byrnihat S/S:

400/220 kV 315 MVA ICT-1 at Byrnihat is under outage since 13:32 Hrs of 02-02-2023 due to SF6 gas leakage in Y-phase line chamber on HV side of said ICT. The Outage of said ICT has decreased reliability of Meghalaya system considerably.

MePTCL is thereby requested to furnish the timeline for restoration of the aforementioned ICT for maintaining reliability and security of Meghalaya system and expedite the same for meeting the increased power demand smoothly in the upcoming months ahead.

Deliberation of the sub-committee

MePTCL stated that consultation with the OEM and PGCIL, to rectify the issues related to the ICT, is underway and the same is expected to be restored by 15th May'23.

The sub-committee noted as above

Action: MePTCL

Agenda from NERTS

C.9. **Upgradation of 132kV Badarpur & 132kV Khlerihat (PG) substations from single main and transfer bus scheme to double main bus scheme by converting from AIS to GIS**

Upgradation of 132kV Badarpur & 132kV Khlerihat (POWERGRID) Substations from single main and transfer bus scheme to double main bus scheme by converting from AIS to GIS was approved in 23rd NERPC meeting

Subsequently agenda was discussed in 16th CMETS of NER wherein the project was approved in NERES XXI with Badarpur &Khlerihat (POWERGRID) S/s as Double Bus GIS.

In this regard, it is to mention here that at 132KV Khlerihat (POWERGRID) Sub Station, the ownership of 132kV Khliehriat (MeECL) # 2 Bay of 132kV Khliehriat (POWERGRID) – Khliehriat (State) # 2 Line lies with MeECL.

As the complete Khlerihat (POWERGRID) Station is to be upgraded to GIS, hence, 132kV Khliehriat (MeECL) # 2 Bay also need to be converted to GIS. Modalities in this regard viz. under ISTS or by MeECL may be deliberated.

Deliberation of the sub-committee

MePTCL provided in principle approval for conversion of 132kV Khliehriat 2 bay to GIS under ISTS. However, final approval will be provided after analyzing financial implications of handing over the ownership to PGCIL and obtaining administrative approval.

The sub-committee noted as above

Action: MePTCL

Agenda from NETC

C.10. Installation of TLSA in 400 kV Silchar-Azara & Silchar-Byrnihat lines.

The 400 kV Silchar-Azara and Silchar-Byrnihat lines are traversing through the State of Meghalaya covering almost 200 kms. Due to the high soil resistivity coupled with high isokeraunic level within the States of Meghalaya, both of these lines have experienced excessive tripping(s) because of lightning strikes since commissioning. In effort to reduce such type of tripping(s), NETC has taken up the Tower Footing Resistance Improvement work by using the shield earthing, Bantonite treatment,

Marconite treatment etc. and have been able to reduce the tower footing resistance (TFR) quite below 10 ohms resolving insignificant reduction of such trippings. However, during monsoon, at the time of heavy thunderstorm, these lines are still getting tripped due to lighting strikes, even in the stretches where the tower footing resistance are quite low because of high density of lightning arc.

Therefore, to counter such disturbances due to the lightning strikes, the 22nd TCC and NERPC forum had approved for installation TLSA in the identified stretch of 400 kV Silchar-Azara & Silchar-Byrnihat lines. Accordingly, NETC through a standard tendering procedure has placed supply and work supervision work order with M/s Raychem RPG Pvt. Ltd. on 15.02.2023 with the Contract Period of Six Month i.e., up to 14.07.2023 for supply and delivery.

Now, on delivery of the items, installation plan shall be placed before OCC forum for availing the shutdown of the subject transmission line elements. As discussed earlier in 183rd OCC Forum. Target completion of the entire work is 2023.

Deliberation of the sub-committee

The forum acknowledged the importance and necessity of installing TLSAs on the mentioned lines and asked NETC to apply for the shutdown to OCC meeting according to the shutdown schedule.

The sub-committee noted as above

Agenda from MePTCL

C.11. Declaration of the following lines of Meghalaya as Deemed ISTS lines:

1. 220 KV Killing-Misa D/C line.
2. 132 KV Mendipathar-Agia S/C line
3. 132 KV Nangalbibra-Agia S/C line
4. 132 KV Khliehriat-Khliehriat (PG) line 2

It may be mentioned that 132 KV Umtru-Sarusajai D/C line, 132 KV Umtru-Kahilipara D/C line and 132 KV Lumshnong-Panchgram S/C line had earlier been declared as Deemed ISTS lines.

The forum may please deliberate on inclusion of the above lines listed as Sl.no.1 to 4.

Deliberation of the sub-committee

MePTCL apprised the forum that the 220kV Killing-Misa D/C line has already been approved as Deemed ISTS line in the 17th TCC/RPC meeting. Member Secretary, NERPC stated that if deemed ISTS line is approved in RPC meeting based on study, State may file petition to Hon'ble CERC citing the relevant portion of the Minutes of the meeting.

Director, NERPC highlighted that after the sharing regulation of 2020, deemed ISTS certification by NERPC has been discontinued and the utility may directly approach implementing agency and CERC for inclusion under PoC tariff. However, for truing up of lines for 2014-19 tariff block, NERPC can consider for according certification as per the relevant regulations, pertaining to the said period. For certification, NERLDC was requested to ascertain the power flow pattern on the line for the relevant period in consultation with NLDC.

Member Secretary, NERPC asked MePTCL to approach the Implementing Agency i.e. NLDC to establish the power flow pattern on the lines in respect of tariff period covered under Sharing Regulations 2020.

The sub-committee noted as above

Action: NERLDC, MePTCL and NERPC

Agenda from NERPC

C.12. Preparation of Rolling plan for 2028-29-time frame:

CTU has initiated activities for next planning cycle viz; April'23 to September'23 for 2028-29 time-frame. Accordingly, it is requested that STUs, POSOCO, MNRE may provide necessary input for the April'23 to Sept 23 cycle by 30-04-2023, so that same may be considered for the system studies in the present cycle. (**Annexure C.12**)

Deliberation of the sub-committee

The concerned utilities/Organizations were requested to furnish necessary inputs as sought.

The sub-committee noted as above

Action: All States & concern stakeholders

C.13. CBIP presentation on capacity Building for RDSS and NERPSIP projects

CBIP made detail ppt presentation on Capacity Building on RDSS and NERPSIP etc **(Annexure C.13)**

The sub-committee noted as above

C.14. PSCT and PDMS training program by M/s PRDC

M/s PRDC has prepared the training schedule as given below. Each state has to opt for suitable dates (for two slots, preferably with a gap of two months or more) as per their convenience. Also, each utility has to provide contact details for nodal officers assigned for PDMS and PSCT.

PRDC TENTATIVE TRAINING PROGRAMME OF MiP-PSCT AND MiP-PDMS FOR THE YEAR OF 2023-2024				
SL. NO.	Date of Training	Content of Training	Name of The State	Remarks
1	08 May 2023	MiP-PSCT		Online
	09 May 2023	MiP-PDMS & MiP-DMNS		
2	23 May 2023	MiP-PSCT		Online
	24 May 2023	MiP-PDMS & MiP-DMNS		
3	05 June 2023	MiP-PSCT		Online
	06 June 2023	MiP-PDMS & MiP-DMNS		
4	15 June 2023	MiP-PSCT	ALL SEVEN STATES AND CENTRAL UTILITY	Central Training
	16 June 2023	MiP-PDMS & MiP-DMNS		
5	03 July 2023	MiP-PSCT		Online
	04 July 2023	MiP-PDMS & MiP-DMNS		
6	24 July 2023	MiP-PSCT		Online
	25 July 2023	MiP-PDMS & MiP-DMNS		
7	07 August 2023	MiP-PSCT		Online
	08 August 2023	MiP-PDMS & MiP-DMNS		
8	21 August 2023	MiP-PSCT		Online
	22 August 2023	MiP-PDMS & MiP-DMNS		
9	11 September 2023	MiP-PSCT		Online
	12 September 2023	MiP-PDMS & MiP-DMNS		
10	25 September 2023	MiP-PSCT		Online
	26 September 2023	MiP-PDMS & MiP-DMNS		
11	04 October 2023	MiP-PSCT		Online
	05 October 2023	MiP-PDMS & MiP-DMNS		
12	30 October 2023	MiP-PSCT		Online
	31 October 2023	MiP-PDMS & MiP-DMNS		
13	06 November 2023	MiP-PSCT		Online
	07 November 2023	MiP-PDMS & MiP-DMNS		
14	04 December 2023	MiP-PSCT		Online
	05 December 2023	MiP-PDMS & MiP-DMNS		
15	18 December 2023	MiP-PSCT		Online
	19 December 2023	MiP-PDMS & MiP-DMNS		

C.15. Bid Evaluation Committee Members for NERES-XVI

Director, NERPC informed that CEA has requested to nominate 2 (two) members from NERPC for constitution of Bid Evaluation Committee (BEC) for North Eastern Region Expansion Scheme-XVI (NERESXVI) through TBCB.

The forum suggested that one member each from Assam and Meghalaya may be nominated for the same.

Shri H. F. Shangpliang, ACE, MePTCL was nominated from Meghalaya. Assam agreed to send the nomination to NERPC Secretariat at the earliest.

The sub-committee noted as above

C.16. NERPC Establishment Fund

As per directive of the central government, a committee was formed for streamlining the process of Fund Utilization/Budgetary provision of all RPCs. As envisaged vide MoP letter dated 23.02.2006, wherein it is specified that activities of RPCs are to be fully financed by the constituent members, the said committee have recommended that RPCs budget head of Salary, Leave Encashment, Allowances, LTC, etc may be taken from CEA/MoP as it is done currently. However, expenditure under other heads like office expenses, procurement, civil and electric works, training, workshop, meetings etc. may be financed from the RPC Fund to be provided by RPC.

The detail procedure for contribution by the constituent members is under finalization by CEA/MoP.

Deliberation of the sub-committee

Director, NERPC apprised the forum regarding financing of RPCs by constituent members. He informed that the proposal of funding of NERPC by the constituents shall be put up in the next TCC/NERPC meeting with detailed procedure as finalized by CEA/MOP for approval.

The sub-committee noted as above

D. ITEMS FOR STATUS

D.1. Implementation of projects funded from PSDF:

The status as informed in 201st OCCM:

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. Amount not received in the TSA account.	-
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-Luangmualand 132kV Khamzawl-Khawiva to be submitted.
Manipur	Package-II: completed Package-I: all	Work completed in all respects.	WIP.	10% disbursed for IT portion, no disbursement	Revised DPR for LDP of 132kV Imphal-

	stations complete except Ningthoukhong. By May'22.	UC submitted in Oct'21.		for Meter, AMR portion. 20% disbursement for IT portion after completion of 3rd milestone. 30% to be disbursed for Meter, AMR portion	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% successfully disbursed. 20% fund reversed back from vendor account. Will be resolved soon.	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.	-	90% works completed. Communication pending.	All works except OPGW done

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

Sl. No	Element	Owner	Status up to the 200th OCCM	Latest Status (201st OCCM)
1	132kV Mariani – Mokokchung (*out since April'2008*)	AEGCL	Non clearance due to persisting funding issue	Same status
2	132kV Roing-Pasighat (*charged through ERS tower*	NERTS	1st tower by April'23 while 2nd tower requires tendering, tentative completion by June'23	Nov'23
3	220kV Misa-Kopili D/C, 220/132kV ICTs at Kopili, 132kV Khandong –Kopili D/C(*out since Oct'19*)	NEEPCO/ NERTS	Refer to item B.8	September'23
4	132kV Srikona – Panchgram	AEGCL	LOA issued on 18.02.2023, Work in progress, tentative completion within 8 months	WIP
5	400kV Imphal – Thoubal-I and 315MVA 400/132kV ICT at Thoubal	MSPCL	RoW, litigation pending in court.	RoW, litigation pending in court.
6	63MVAR Bus Reactor at Byrnihat to be replaced with 80MVAR Reactor	MePTCL	Coordination issues with the vendor. WIP	Same status
7	LR2- BNC at Balipara ss (50MVAR, 400kV)	PGCIL	Replacement with spare LR, tentatively by the end of March'23	New Spare Reactor has been charged on 22nd April'23. Faulty reactor shall be repaired at site and after repairing, the same shall be charged in place of New LR.

D.3. Status of commissioning for upcoming projects:

Sl. No	Name of the element	Utility	Status up to the 200th OCCM	Latest Status (201st OCCM)
1	132kV Monarchak-Surjamaninagar	TSECL	July'23	July'23
2	PLCC for 132kV Loktak-Ningthoukong	MSPCL	Under R&M by NHPC. July'23	Same status

	and 132kV Loktak-Rengpang(existing lines)			
3	Commissioning of 220kV Balipara-Sonabil-2ckt 2	AEGCL	Auto-recloser integration work is pending at Sonabil end. Assam shall coordinate regarding SIO clearance for potion of the line owned by AEGCL. Forum advised NERTS to apply for FTC for the whole line to NERLDC.	AEGCL intimated to M/s Siemens for Auto-Reclosure integration work.
4	Upgradation of 132kV Lumshnong – Panchgram line	MePTCL	Work has started, tentative completion by June'23	Work has started, tentative completion by June'23
5	PLCC for 132kV Karong-Kohima. PLCC at Kohima	DoP Nagaland	Awaiting sanction from PSDF	Awaiting sanction from PSDF
6	132kV Loktak-Ningthoukhong-II	MSPCL		
7	132kV Roing-Chapakhowa	NERTS	2 foundation pending owing to RoW issues. Vegetation clearance in forest area started, stringing will be completed in 15days.	Foundation completed. 14kM Stringing left. Tentative charging by end of May'23.
8	Re-conductoring 220kV BTPS-Salakati D/C	NERTS	Ckt 2 reconductored and ckt 1 reconductoring underway	Final reconductoring of ckt-2 scheduled on 28th to 30th April'23. Reconductoring of ckt-1 in May'23
9	420kV 80MVAR Bus Reactor	NEEPCO	Transportation and logistics issue, by Dec'23	Dec'23
10	220kV Killing – Mawngap	NERPSIP	April'23 subject to resolution of long pending RoWs in Ri-Bhoi and East Khasi Hills district.	Refer to item B.8. June'23
11	220kV Samaguri – Mariani-I	AEGCL	FC for Samaguri-Khumtai section is still awaited.	Same status
12	PLCC/DTPC for 220kV Balipara- Sonabil	AEGCL	WIP to be completed by April'23	WIP

13	220kV AGBPP –Namsai D/C	TBCB	Tentative completion by Oct'25	Oct'25
14	Upgradation of 132kV Surjamaninagar-Surjamaninagar(ISTS), 132kV Bodhjungnagar-SMNagar, 132kV P.K.Bari-Ambassa, 132kV P.K. Bari-P.K.Bari(ISTS)	TSECL	New tender has been floated for joint venture of PGCIL and STU.	
15	LILO of 132kV Leshka-Khliehriat-I at Mynkre and Mynkre SS and 33kV downstream at Mynkre.	NERPSIP	LILO ready. Substation WIP-April'23.	LILO ready, Substation WIP - June'23
16	220kV Tinsukia-Behiating D/C	NERPSIP	WIP-March'23	WIP - May'23 due to ROW
17	LILO of 132kV Kamalpur-Kamakhya& 132kV Kamalpur-Sishugram at Amingaon	NERPSIP	Completed. Ready for charging.	Completed. Ready for charging.
18	220kV Rangia – Amingaon D/C and 220/132kV 2x160MVA Amingaon S/S	NERPSIP	March'23	May'23 due to ROW
19	132kV Rengpang-Tamenglong and 132/33kV 4x6.67MVA at Tamenglong at Manipur	NERPSIP	March'23	May'23 due to ROW
20	132/33kV 2x20MVA Gamphazol at Manipur	NERPSIP	Test charged in Dec'22	Test charged in Dec'22.
21	132/33kV West Phaileng S/S at Mizoram	NERPSIP	Ready for charging. Line WIP.	Ready for charging. Line WIP.
22	132/33kV 2x12.5MVA Marpara S/S at Mizoram	NERPSIP	March'23	May'23
23	132/33kV 2x12.5MVA Lungsen S/S at Mizoram	NERPSIP	March'23	May'23
24	132kV Lungsen-Chawngte S/C at Mizoram	NERPSIP	Ready for charging.	Ready for charging.
25	132kV Chawngte – S.Bungtlang S/S at Mizoram	NERPSIP	March'23	May'23
26	132kV W.Phaileng-Marpara S/C at	NERPSIP	March'23 subject to RoW clearance in	June'23 subject to RoW clearance in

	Mizoram		Pukzing village in Manit district.	Pukzing village in Mamit district
27	220kV Zhadima – Mokokchung at Nagaland	NERPSIP	March'23	Completed in Mar'23
28	LILO of 132kV Wokha – Kohima at 132/33kV New Kohima at Nagaland	NERPSIP	Ready for charging.	Ready for charging.
29	132kV Wokha-Zunheboto – Mokokchung at Nagaland	NERPSIP	March'23	May'23
30	132kV Tuengsang – Longleng at Nagaland	NERPSIP	Tuengsang substation upgradation under tendering.	Tuensang SS upgradation under tendering.
31	132/33kV Amarpur S/S at Tripura	NERPSIP	March'23	June'23
32	132/33kV Manu(new) S/S at Tripura	NERPSIP	March'23	June'23
33	132kV Dharmanagar-Kailashor	NERPSIP	March'23	May'23
34	132kV Ziro-Yazali and 132/33kV Yazali S/S	POWERGRID-Comprehensive	March'23	
35	132kV Yazali – Palin and 132/33kV Palin S/S	POWERGRID - Comprehensive	No forest clearance achieved. Work under process. Estimated to be completed in 12 months.	132kV Yazali - Palin Line - Stage I Forest Clearance Obtained a) 3 foundation work completed . 132/33kV Palin S/s- a) CRB WIP. b) Electrical Works to be started.
36	132kV Palin- Koloriang and 132/33kV Koloriang S/S	POWERGRID - Comprehensive	No forest clearance achieved. Work under process. Estimated to be completed in 12 months.	132 kV Palin - Koloriang Line - No Forest Clearance Obtained a) Not Yet Charged. 132/33kV Koloriang S/s- a) CRB First Slab (to be completed within this month)
37	132kV Khonsa –	POWERGRID -	Khonsa substation	132 kV Khonsa -

	Deomali and 132/33kV Khonsa S/S	Comprehensive	completed.	Deomali Line - a) Foundation, Erection and Earthing WIP. 71/87 Foundation Complete 50/87 Erection Complete Target for completion: June 2023 132/33kV Khonsa S/s- a) CRB Finishing Work b) Cabling , Foundation, Retaining Wall WIP
38	132kV Miao – Namsai and 132/33kV Miao S/S	POWERGRID - Comprehensive	Next year i.e 2024	132kV Miao - Namsai - a) No Work due to ROW issue at Miao. b) No Work due to sand boiling and ROW issue at Namsai. 132/33kV Miao S/s- a) Gravel Spreading b) Water Proofing for exposed area of Transit Camp first Floor c) Testing of Isolators Completed d) Electrification WIP e) Site Levelling WIP.
39	132kV Chimpu – Holongi and 132/33kV Holongi S/S	POWERGRID - Comprehensive	Ready for charging	Waiting for Electrical Inspection Clearance
40	Lower Subansiri HEP	NHPC	Unit 1 and 2 by June'23	Unit 1 and 2 by June'23
41	400kV Lower Subansiri-BNC line2	PGCIL	June'23	June'23

42	Conversion of MT to DM at (i)132kV Khliehriat, (ii)132kV Badarpur, (iii)132kV Nirjuli, (iv) 132kV Imphal	NERTS	Nirjuli- March'23 Imphal- April'23 Badarpur &Khliehriat - In tendering stage	Nirjuli - May'23 Imphal – Badarpur & Khlerihat – Cost estimate under preparation by CTUIL
43	Construction of Pare-N.Lakhimpur DC along with LIO at Nirjuli	Sterlite (TBCB)	WIP, shutdown taken	
44	LILO of BNC-Chimpuckt II at Gohpur	Indigrid	Technical work completed. Signing of supplementary-connection agreement remaining	Signing of the agreement under process
45	220kV New Shillong-NangalBibra(ISTS 220/132kV) TL	MEPTCL	Survey completed, tendering to start soon	Same status
46	400kV Bongaigaon-Nangalbibra (ISTS) DC (to be charged at 220kV initially)	Sterlite	By Dec'23	Dec'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 in NER

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 201st 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	Line stringing completed, PLCC works to be completed by May'23. For OPGW, PGCIL is requested to Install it.

3	Nangalbibra (TBCB)	Meghalaya	220/132kV, 2x160MVA	132	2	Under construction (Dec'23)	Nangalbibra (ISTS) – Nangalbibra (MePTCL) 132kV D/c (HTLS,800A) Line:about 5km	DPR prepared and survey completed. Approval awaited.	Dec'23

B. Status of 400kV substations and other important elements being implementedby 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/c line (line works under ISTS through 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	JV formation, between PGCIL and STU by Mar'23	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.	LILO completed for 400kV ckt 2 (by PGCIL) without bay readiness, LILO to be charged, total completion subjected to Sub-station readiness at Surajmaninagar
C	**NEEPCO (to be implemented by NEEPCO)**			
I	**Extension works at RanganadiHEPend**			
a)	420kV 80MVAR Bus Reactor at Ranganadi Generation Switchyard		LOA on 11.01.2022	Dec'23 (Logistics and Transportation issue)
II	**Extension works at PareHEP end**			

a)	Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi-Naharlagun / Nirjuli132 kV S/c line	132kV	Regarding bypassing of LILOat (a), work has been awarded in Dec, work to be completed in 4 months from LoA, The LILO portion is about2.2km & the cost estimates have been received by NEEPCO. Upon approval ofthe same, work shall be awarded. Expected to be awarded shortly.	The work is being undertaken by M/s Sterlite. Shutdowns have been availed, tentative completion by April end. The work is undertaken by M/s Sterlite. Tentative completion by May'23
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	132kV		

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

SL. No.	Item for Discussion	Status as per 200th OCCM	Latest Status (201st OCCM)
1.	Introduction of SPS in Leshka S/Sn of Meghalaya (Agenda No. C4 of 189th OCCM)	Communication with M/s Hitachi underway	Communication with M/s Hitachi underway
2.	Voltage and MVAR issues at 400kV Kameng S/Sn (Agenda No. C7 of 189th OCCM)	Discussion with OEM M/s BHEL is underway	Discussion with OEM M/s BHEL is underway
3.	Difficulty in test synchronization at Ningthoukhong S/Sn (installation of line CVT) (Agenda No. C11. of 189th OCCM)		
4.	Outage of 400kV Imphal (PG) – Thoubal-I (Agenda B.15 of 184th OCCM)	RoW, litigation pending in court	Same status
5.	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	NEEPCO work done, Only OPGW stringing by Comprehensive to be completed by 15th April	End equipments for OPGW communication to be installed. The OPGW communication will be ready by 15th May'23

	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)		
6.	Synchronization issue of 220kv AGBPP – Tinsukia 1 & 2 at AGBPP end. (NEEPCO to update the status of CVT procurement and other relevant details.) Item B.24 of 190th OCCM.	Tender floated in the month of August'2022.	Same status
7.	Grid Disturbance in Dhaligaon area of Assam Power System (C.18 of 191st OCCM)	Revised estimate submitted to Disaster Risk reduction Works, 2022-2023, yet to be approved	Work for replacement and repairing of damaged earthing will start from 2nd week of May.
8.	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)	Will be provided before OPGW installation in N Kohima -Zhadima Line.	Same status
9.	Occurrence of Multiple grid disturbance in Gohpur and radially connected areas of Assam Power System (C.10 of 194th OCC)	SEM meters provided by PGCIL, both lines bays commissioned from AEGCL end. AEGCl scope of work done, Sterlite scope of work remaining	Same status
10.	Status of Installation of TLSA in 400kV Silchar-Azara T/L & 400 kV Silchar-Byrnihat T/L (C.12 of 194th OCCM)	LoA placed, expected completion of the delivery by June'23	Refer to item C.10. June'23
11.	PLCC & protection related issues at 132kV Tipaimukh S/s (C.15 of 194th OCC) & (C.8 of 197th OCC)	PLCC engineer to visit the SS. (MSPCL)	

12.	48V System reliability at Pasighat end (C.16 of 194th OCC)	April'23	
13.	Construction of Anchor tower at location 433 by PGCIL and reconductoring of 220kV Mariani-Mariani SC with Moose conductors(B.16 of 196th OCCM)	Shutdown taken, WIP	
14.	Early Restoration of Y-pole Circuit Breaker at AGTCCPP for 132 kV Agartala I Line (Agenda C.11 of 198th OCCM)	CB spares to be supplied by April'23	Spares delivered. Tentative charging of the line by 1st week of May'23
15.	Commissioning of 400kV Bus-B at Ranganadi Power Station (C.14 of 192ndOCCM)	In 193rd OCCM, forum requested NEEPCO to put forth agenda for upgradation of 400 kV switchyard to GIS and implementation of 400 kV Bus–B together. Status of the same may be provided by NEEPCO	Same status
16.	Implementation of Bus Bar Protection at 132 kV Kahilipara (AEGCL) Substation (C.8 of 196th OCCM)	AEGCL to update	Estimate submitted for procurement of CT available with core for Bus bar protection.
17.	Furnishing of data as per Detailed Procedure on interim methodology for estimation of Reserves under CERC (Ancillary Services) Regulations, 2022(item C.4 pf 198th OCCM)	NERLDC thanked SLDC Nagaland for furnishing the data for estimation of reserves. Other NER states assured to provide the data at the earliest. NERLDC mentioned that the states may contact Manager NERLDC for clarifications (if any).	Same status
18.	TLSA installation on 132kV Leshka-Khleihriat DC	DPR prepared, to be submitted by MEPTCL, for PSDF sanction	DPR prepared and sent
19.	Long Outage of 132KV Agartala-RC Nagar-1 since 18.12.2022due to severe SF6 leakage from CB at RC Nagar end (C.11 of 200th OCCM)	GM, NEEPCO intimated the forum that the OEM, M/s Hitachi has been communicated for procurement of CB spares and it will be supplied by the end of April, 2023.	Spare delivered on 28th March. Tentative restoration be 1st week of May'23

E. METERING ITEMS

E.1. Issues regarding SEM Data Processing:

a. Non-receipt of SEM data from 132 kV Pailapool Substation:

Weekly SEM data of 132 kV Pailapool (As) Substation is important for accounting of Assam drawal. However, SEM data from the said substation is not being received.

In 200th OCCM, SLDC AEGCL stated that laptop has been procured and DCD issue rectification is underway.

b. Non-receipt of SEM data from 132 kV Rengpang (Man) Substation:

Weekly SEM data of 132 kV Rengpang (Man) Substation is important for accounting of Manipur drawal. However, SEM data from the said substation is not being received. Issue with CMRI has been reported by the concerned substation.

Deliberation of the sub-committee

a. Issues in Pailapool Substation: Assam requested for support from OEM for rectification of DCD issues. Forum requested NERTS, POWERGRID to help in coordination with the OEM.

b. Issues in Rengpang Substation: Could not be discussed due to absence on representative from Manipur.

The sub-committee noted as above

E.2. 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	TIME DRIFT
1	ASSAM	220 kV TINSUKIA END OF KTG FDR-I	NP-9654-A	Time drift display not functional
2	ASSAM	220 kV TINSUKIA END OF KATHALGURI FDR-II	NP-9658-A	16 mins
3	ASSAM	132 kV UMRANGSOO END OF KHLEIRIAT (PG)	NP-5290-A	16 mins
4	ASSAM	132 kV UMRANGSOO END OF HAFLONG	NE-0019-A	4 mins
5	MIZORAM	132 kV KOLASIB END OF AIZAWL(PG) FDR	NE-0087-A	8 mins

6	POWERGRID	400/132 kV SILCHAR ICT-3 (HV SIDE)	NP-6946-A	33 mins
7	POWERGRID	400 kV BONGAIGAON END OF NTPC_BgTPP-2	NP-9477-A	7 mins

In 200th OCCM, forum advised the utilities to correct the time drift through DCDs wherever possible and replace the SEMs if correction through DCD is not possible.

It is also requested to update status of replacement of SEM for SL. No. 6

Deliberation of the sub-committee

NERTS, POWERGRID informed that SEM mentioned in sl. no. 6 in above table has been replaced. Also, the time drift in SEM mentioned in sl. no. 7 in above table has been corrected.

Assam mentioned that they are coordinating with site personnel for correction of the time drifts.

Mizoram requested for handholding from NERTS, POWERGRID for correction of time drift in SEM mentioned in sl. no. 5.

The sub-committee noted as above

E.3. Non-receipt of Quarterly RPO Compliance details from Arunachal Pradesh & Tripura:

As per MoP RPO Order vide 29th January 2021, POSOCO will maintain data related to compliance of RPOs. In line to that necessary communication had been sent to all SLDCs and we are receiving data on regular basis from all SLDCs except SLDC, Arunachal Pradesh & SLDC, Tripura.

In 199th OCCM, DoP Ar. Pradesh and SLDC Tripura assured the forum that they will start providing the required data regularly to NERLDC. However, data from DoP, Ar. Pradesh is yet to be received by NERLDC and data that has been received from SLDC Tripura is not in accordance with MoP order.

Deliberation of the sub-committee

Arunachal Pradesh informed that the RPO data pertaining to FY 2022-23 shall be submitted within a week. Tripura also assured that they are in process of compiling the data and shall be submitting in requisite format soon.

The sub-committee noted as above

E.4. Procurement of SEMs for future requirements:

100 no. of SEMs may be procured to take care of future requirement and to maintain spares. Estimation of the requirements is given below:

A. As per record received from CTU (up to schemes approved in 17th CMETS-NER)

Sl. No.	Name of Elements	SEMs reqd.
1	400 kV LOWER SUBANSIRI – BNC 2 x D/C	6
2	132 kV ROING (PG) – CHAPAKHOWA D/C	4
3	400 kV BONGAIGAON (PG) – NANGALBIBRA D/C (initially operated at 220kV)	4
4	132 kV HATSINGHMARI (ASM) – AMPATI (MEG) D/C	4
5	2x160MVA ICTs at 220 kV NAMSAI (PG) SS	4
6	220 kV AGBPP - NAMSAI (PG) D/C	6
7	400/220kV, 2x500MVA ICTs at 400/220/132kV GOGAMUKH	4
8	220/132kV, 2x200MVA ICTs at 400/220/132kV GOGAMUKH	4
9	LILO of one D/C of 400 kV LOWER SUBANSIRI – BNC 2x D/C at GOGAMUKH	4
11	132kV GOGAMUKH – GERUKAMUKH (A.P) D/C	4
13	400 kV DIBANG (NHPC) – GOGAMUKH 2xD/C (Quad)	12
14	400 kV GOGAMUKH - BNC D/C	4
	Total	**60**

B. As per Ongoing discussions in OCC Forum

Sl. No.	Name of Elements	SEMs reqd.
1	LOWER SUBANSIRI UNITS & SATs & 132 kV FEEDERS	16
2	Restoration of KHANDONG & KOPILI HEP	23
	Total	**39**

C. As per Minutes of Transmission Planning (NERPC-TP/ NERSCT/ SCPSP-NER)

Sl. No.	Name of Elements	SEMs reqd.
1	220 KV NEW KOHIMA - KOHIMA D/C	4
2	220 KV ALIPURDUAR - GOSSAIGAON D/C	2
3	220 KV SALAKATI - GOSSAIGAON D/C	2
4	220 KV DHALIGAON - RANGIA D/C	2
5	220 KV DHALIGAON - SALAKATI D/C	2
6	132 KV RANGIA (ISTS)- RANGIA (ASM) D/C	4
7	132 KV RANGIA (ISTS)- AMINGAON (ASM) D/C	4
8	2x500 MVA 400/220 kV ICTs at RANGIA (ISTS)	4
9	400 KV BALIPARA- RANGIA (ISTS) D/C	2
10	400 KV BONGAIGAON - RANGIA (ISTS) D/C	2
11	400 KV SONAPUR - SILCHAR	2
12	400 KV SONAPUR - KILLING	2
13	400 NEW SHILLONG TOWNSHIP - AZARA	2
14	400 NEW SHILLONG TOWNSHIP - SILCHAR	2

Sl. No.	Name of Elements	SEMs reqd.
15	220 KV MISA - SHANKARDEB NAGAR D/C	4
16	765 KV KATIHAR - PARBOTIPUR - BORNAGAR D/C	2
17	400 KV ALIPURDUAR - BORNAGAR D/C	2
18	400 KV BONGAIGAON - BORNAGAR D/C	2
19	400 KV BALIPARA- BORNAGAR D/C	2
20	220 KV ALIPURDUAR- AGAMONI D/C	2
21	220 KV BONGAIGAON- AGAMONI D/C	2
22	132 KV KAHILIPARA - KILLING D/C	2
23	400 KV BNC- KHUMTAI D/C	4
24	220 KV NEW MARIANI - DIPHU D/C	4
25	220 KV NANGALBIBRA (ISTS) - NEW SHILLONG D/C	4
	Total	**66**

Total SEM estimated	165
Spare estimation	15
Total SEM required	**180**
Availability at Storage	80 (appx)
Total SEM to be Procured	**100**

Deliberation of the sub-committee

CTU stated that as procurement of 5-minute SEM shall commence soon, procurement of large number of new SEMs at present may not be necessary. Thus, only those SEMs may be procured which shall be required in near future.

Forum advised all utilities to provide list of required SEMs to NERLDC/NERPC. Further, the forum advised NERLDC to re-estimate the SEM requirement based on the inputs received from the utilities.

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Annexure-I

List of Participants in the 201st OCC Meeting held on 25.04.2023

SN	Name & Designation	Organization	Contact No.
1	Sh. Aniyang Tatung, JE (E), SLDC	Ar. Pradesh	07005378029
2	Sh. Nillutpal Baruah, AGM (O), SLDC	Assam	07002885719
3	Sh. Rodali Khaund, DGM, SLDC	Assam	06901255808
4	Sh. Dhrubajyoti Goswami, JM (O), SLDC	Assam	09435355692
	No Representative	**Manipur**	-
5	Sh. H.Jyrwa, ACE (CZ), MePDCL	Meghalaya	09436103558
6	Sh. H.Shangpliang, ACE (T&T), MePTCL	Meghalaya	09863315562
7	Sh. A.Kharpan, Director (T), MePTCL	Meghalaya	09436117802
8	Sh. M.Dkhar, SE (T&T), MePTCL	Meghalaya	09436164967
9	Sh. D.J.Lyngdoh, EE (SM), MePTCL	Meghalaya	-
10	Sh. A.Shullai, AEE (GSPD), SLDC, MePGCL	Meghalaya	-
11	Sh. H.Lalruatkima, Sr.EE, SLDC	Mizoram	09862925462
12	Sh. V.Lalhmingliana, JE, SLDC	Mizoram	09612763052
13	Sh. Rukongutuo Suohu, SE (SLDC)	Nagaland	08575000019
14	Sh. Shuwatho Katiry, JE (E), SLDC	Nagaland	07005584689
15	Sh. Anil Debbarma, DGM (SLDC)	Tripura	09612589250
16	Sh. Joypal Roy, GM	NEEPCO	08837200069
17	Sh. M. Talukdar, DGM	NEEPCO	09435339690
18	Sh. N.Roy, ED	NERLDC	09869080265
19	Sh. Biswajit Sahu, Sr.GM	NERLDC	09425409539
20	Sh. Sourav Mandal, Manager	NERLDC	09402102354
21	Sh. Sachin Singh, Manager	NERLDC	-
22	Sh. Pranjal Borkataki, Manager	NERLDC	09402196313
23	Sh. P.Kanungo, CGM (AM)	PGCIL	09436302883
24	Smt. Sangita, Ch.Manager, CTUIL	PGCIL	09560850202
25	Sh. K.K.Medhi, Sr.GM	PGCIL	06901261814
26	Sh. Ankit Vaish, DGM (AM)	PGCIL	09409305725
27	Sh. Chayanika Das, AM, NERPSIP	PGCIL	08486161373
28	Sh. M. Muvali Mohan, DGM	NTPC	09440901781
29	Sh. Anil R. Sah, DGM	NETC	09999055047
30	Sh. Niranjan Rabha, AM	NETC	07002022736
31	Sh. Harish Dhir, Head-Transmission	KMTL	09987222567
32	Sh. Manoj Gupta, Sr. GM	KMTL	09996789264
33	Sh. Dimesh Laha, Shift I/C	OTPC	08918720645

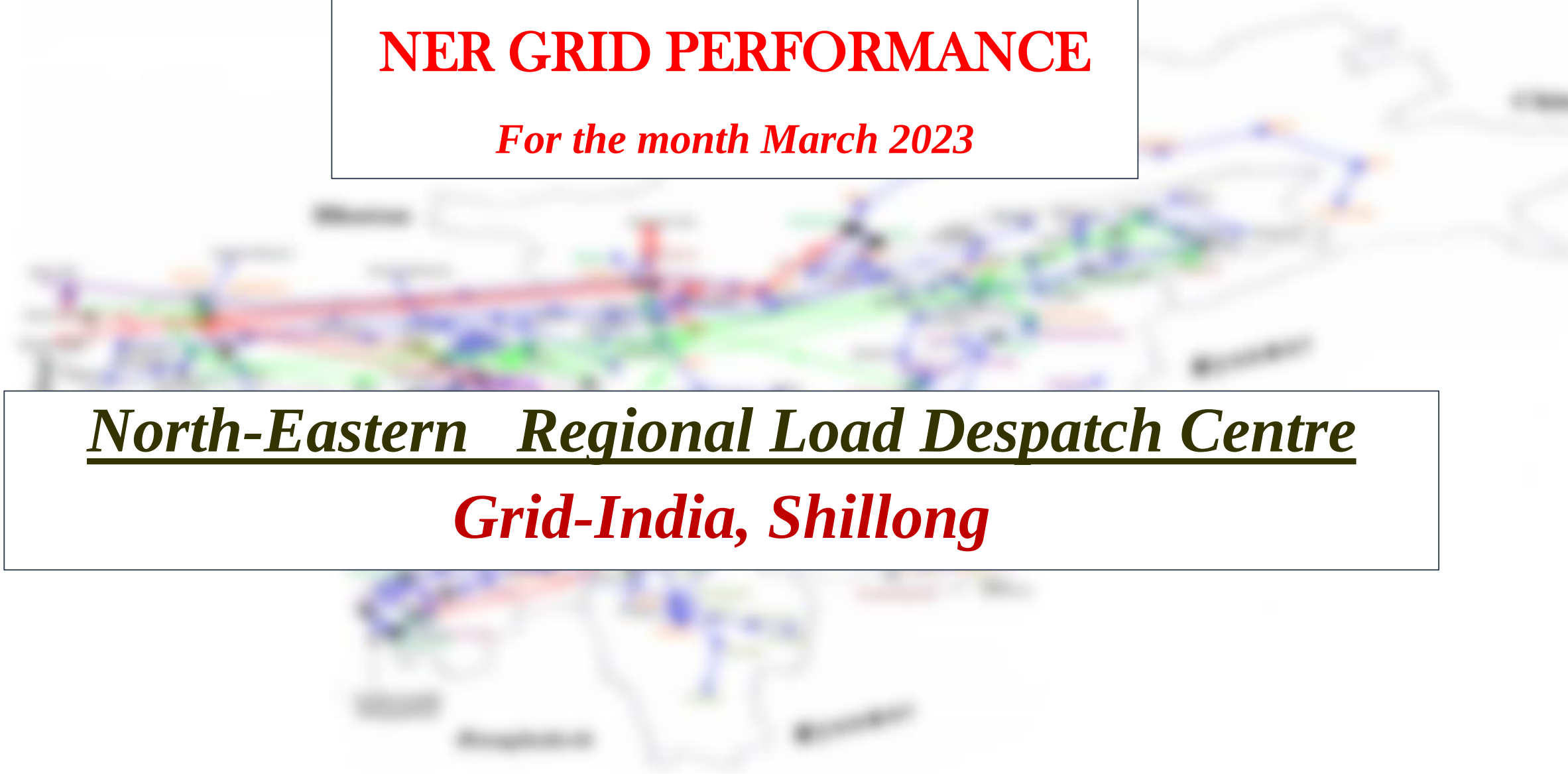
34	Sh. N.K.Gupta, Head-EMD	OTPC	09774233426
35	Smt. Neha Aggarwala, MD	APPCPL	09871519510
36	Sh. Mukesh Maharaj, GM	APPCPL	09863039280
37	Sh. Anand Shankar Raj, Sr. Mgr	APPCPL	-
38	Sh. Sanjeev S., Director	CBIP	09910378012
39	Sh. Kamal Sharma,	CBIP	-
40	Sh. K.B.Jagtap, Member Secretary	NERPC	09436163419
41	Sh. S.M.Aimol, Director	NERPC	08974002106
42	Sh. Vikash Shankar, AD-I	NERPC	09455331756
43	Sh. Ashim Kumar Goswami, AD-II	NERPC	08638966481

Annexure B.1

उ.पू.क्षे ग्रिड प्रदर्शन

NER GRID PERFORMANCE

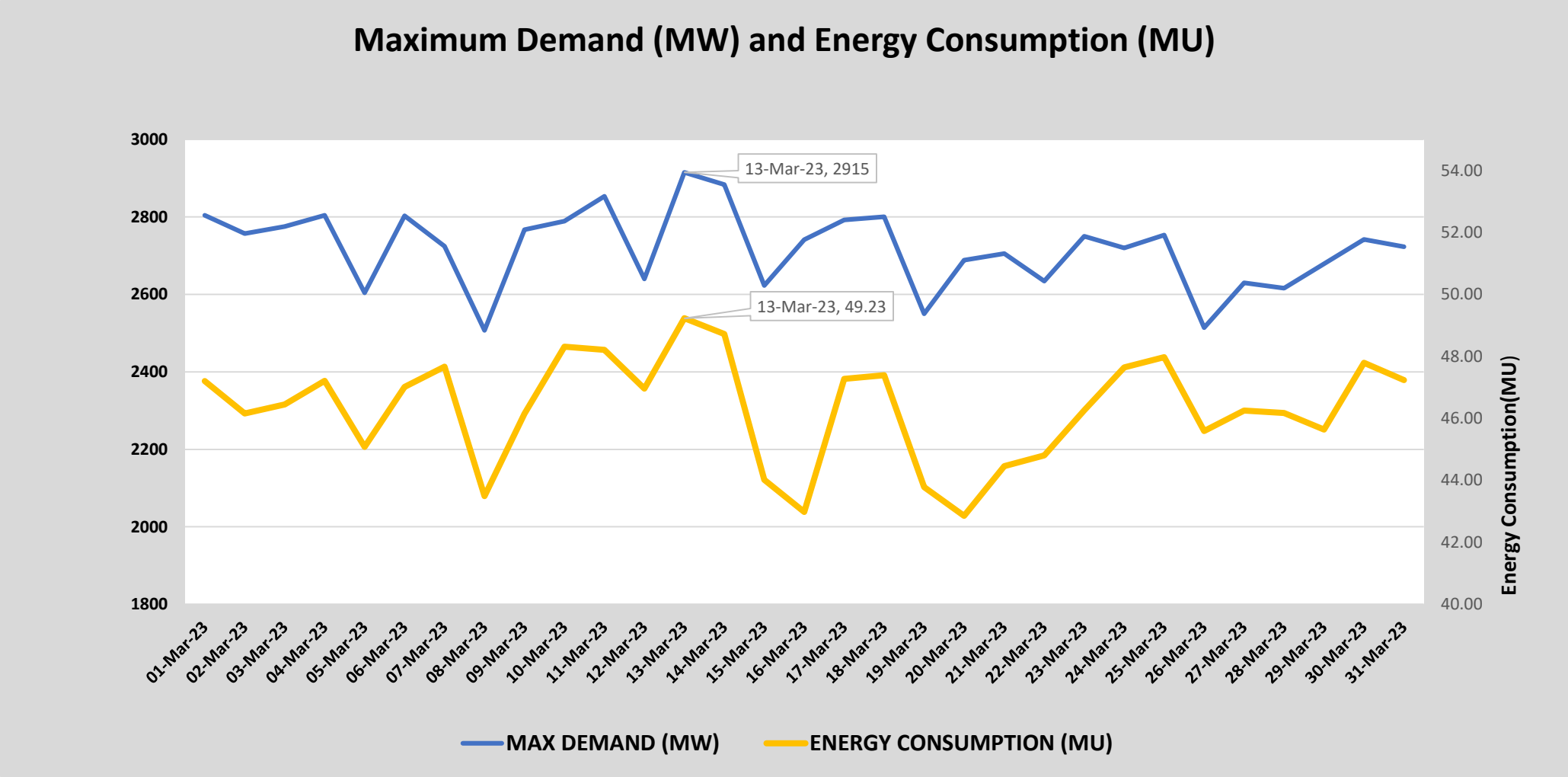
For the month March 2023



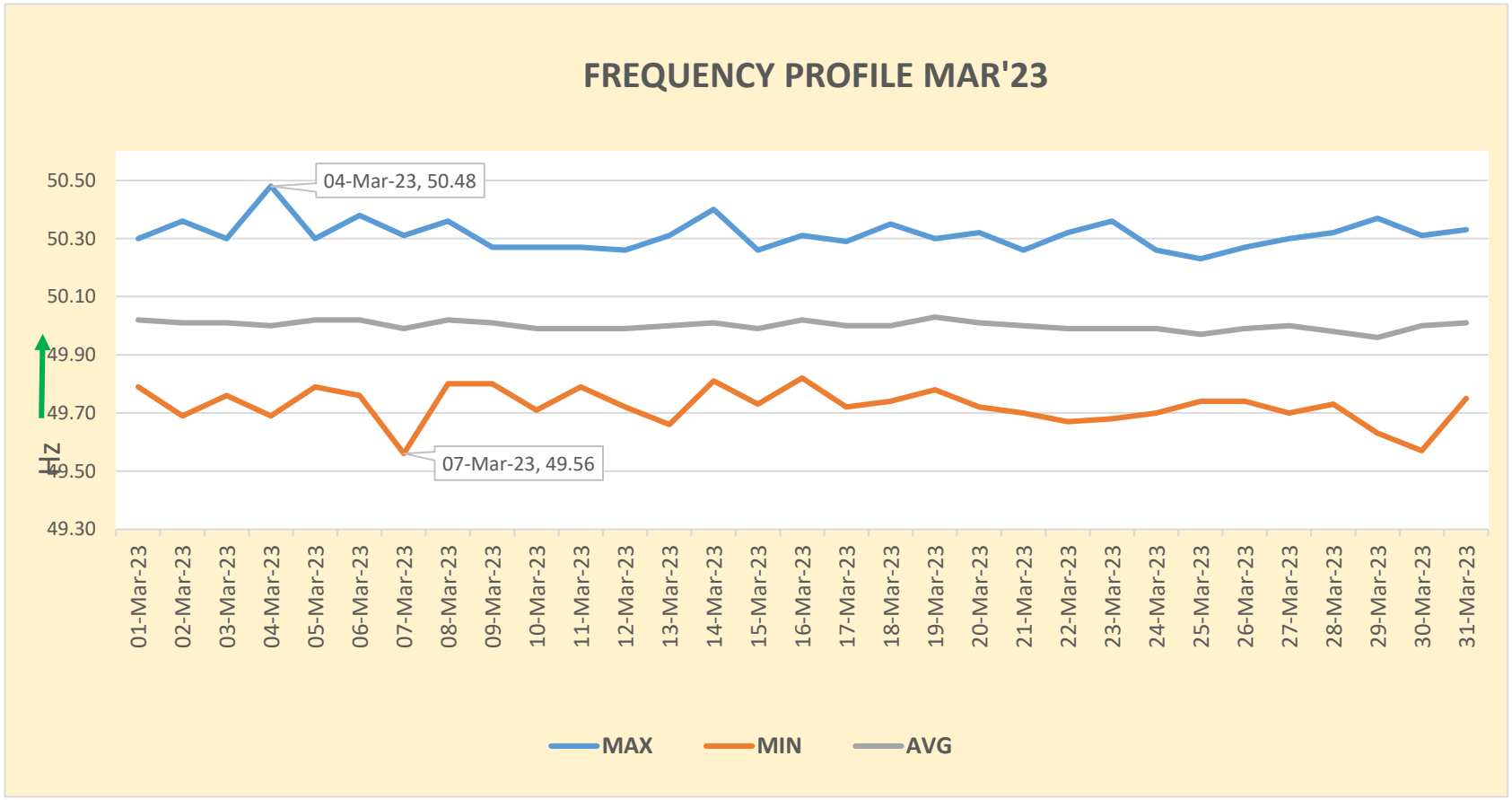
North-Eastern Regional Load Despatch Centre

Grid-India, Shillong

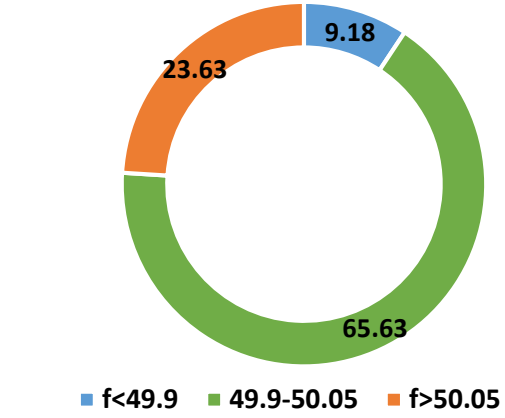
Maximum MW and MU in NER: March 2023



Frequency Profile

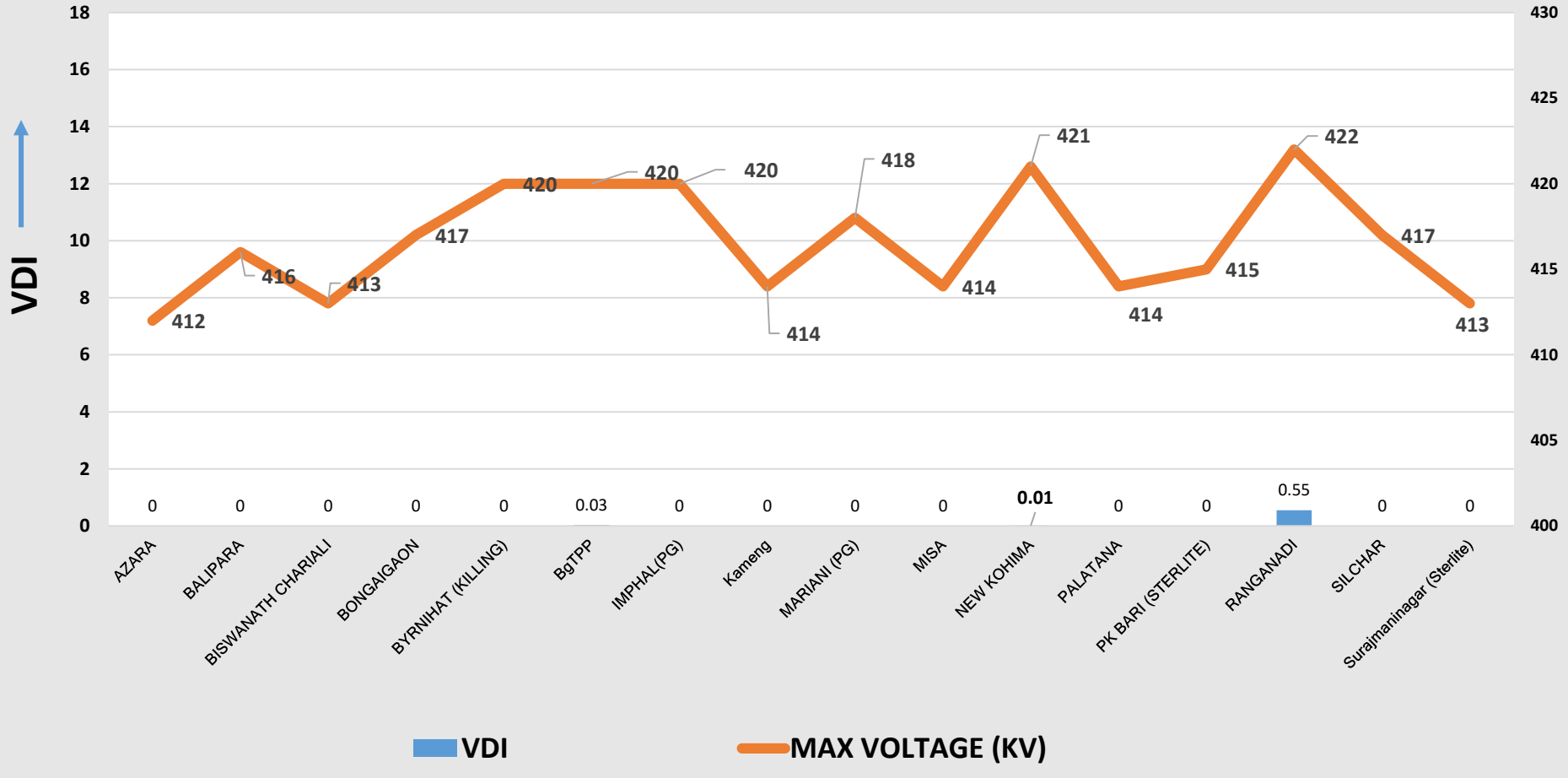


FREQ PROFILE FOR MAR'23

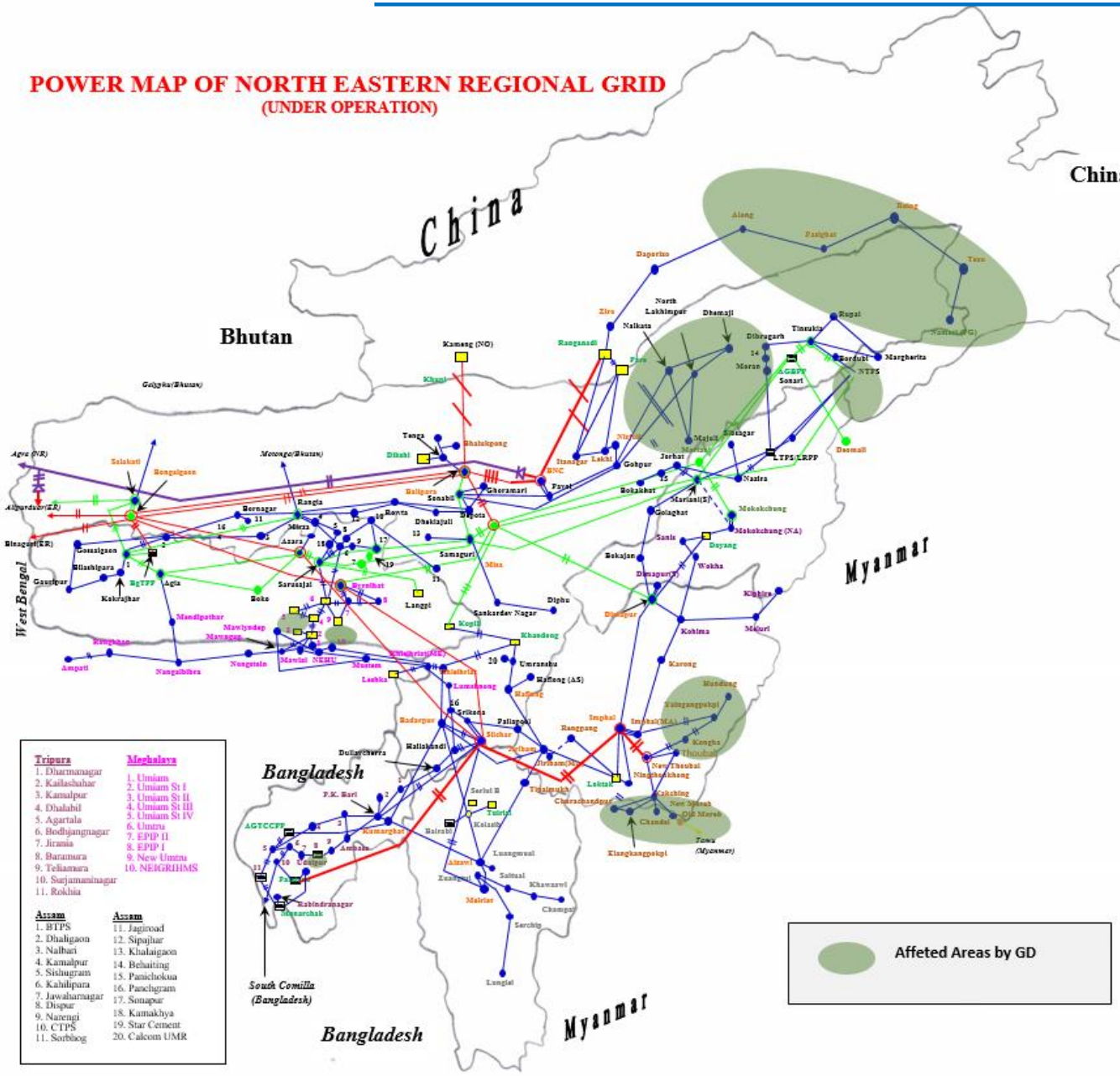


VDI (400 KV) FOR MARCH 2023

No. of 400 kV lines kept open for over voltage : 0



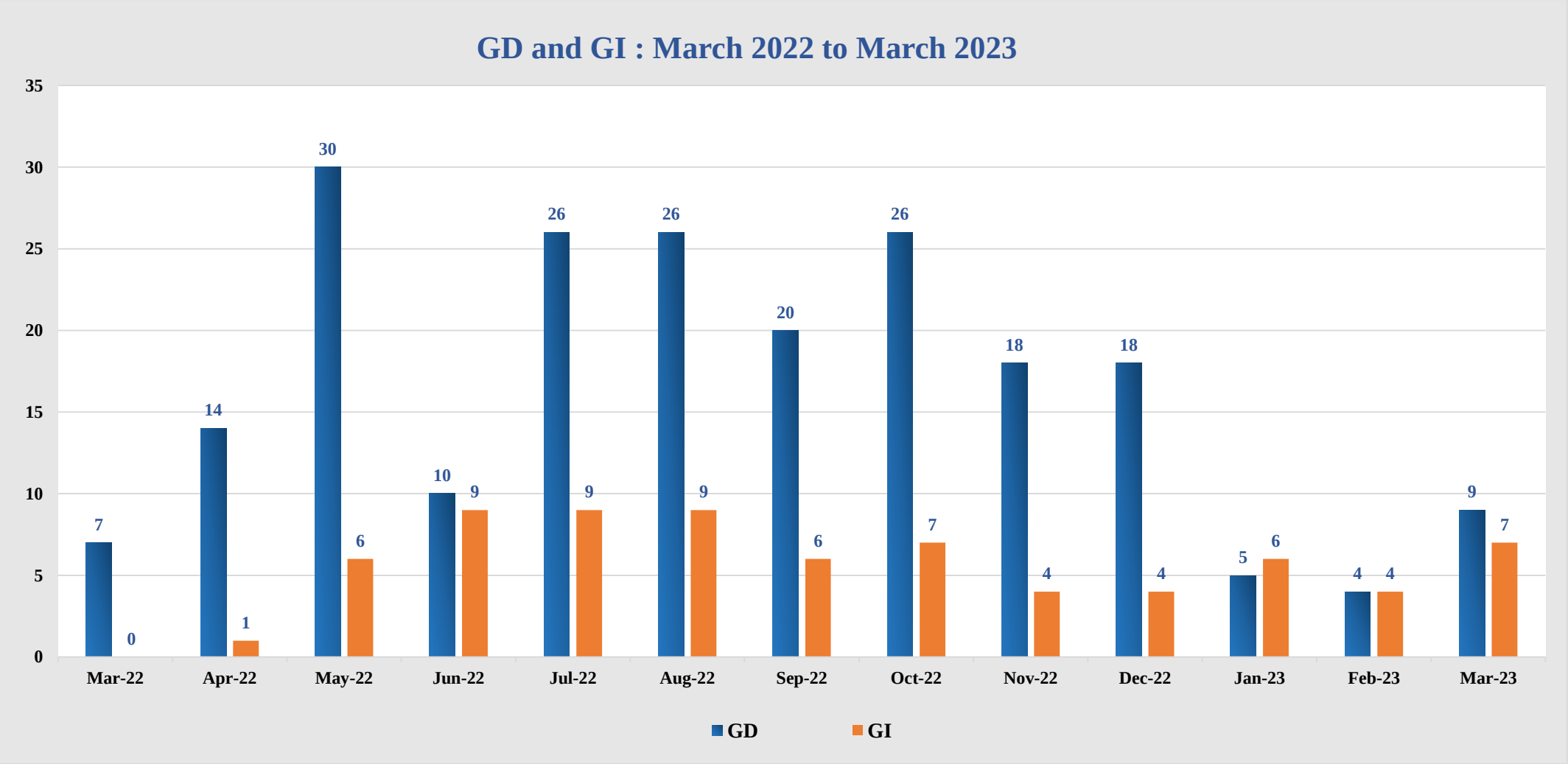
Grid Disturbance during March 2023



No. of GD	9
No. of GI	7

Sl. No.	Element	Number of times
1	132 kV Along - Daporijo Line	caused GD 1 time
2	132 kV New Thoubal-Kongba 2 Line	caused GD 1 time
3	132 kV EPIP II - New Umtru & 132kV Umtru - New Umtru Lines	caused GD 1 time
4	220 kV NRPP - NTPS, 220 kV NTPS- Tinsukia and 220 kV NRPP - Tinsukia Lines	caused GD 1 time
5	132 kV Umtru - Umiam St. IV- 2 and 132 kV Umiam St III - Umiam St. IV D/C Lines	caused GD 1 time
6	132 kV Baramura-Gamaitila and 132 kV Baramura-Jirania Lines	caused GD 1 time
7	132 kV Umtru - Umiam St. IV - 1,132 kV Umtru - Umiam St. IV - 2,132 kV Umiam St III - Umiam St. IV - 1 and 132 kV Umiam St III - Umiam St. IV - 2 Lines	caused GD 1 time
8	132 kV Gohpur-BNC (Pavoi) D/C Lines	caused GD 1 time
9	132 kV Ningthoukhong - Churachandrapur D/C lines, 132kV Thoubal New - Kakching line, 132kV Loktak - Ningthoukhong, 132 kV Jiribam-Rengpang and 132 kV Loktak-Rengpang Lines	caused GD 1 time

Grid Disturbance/Incidences for last 12 Months



Projected Hydro Generation Availability

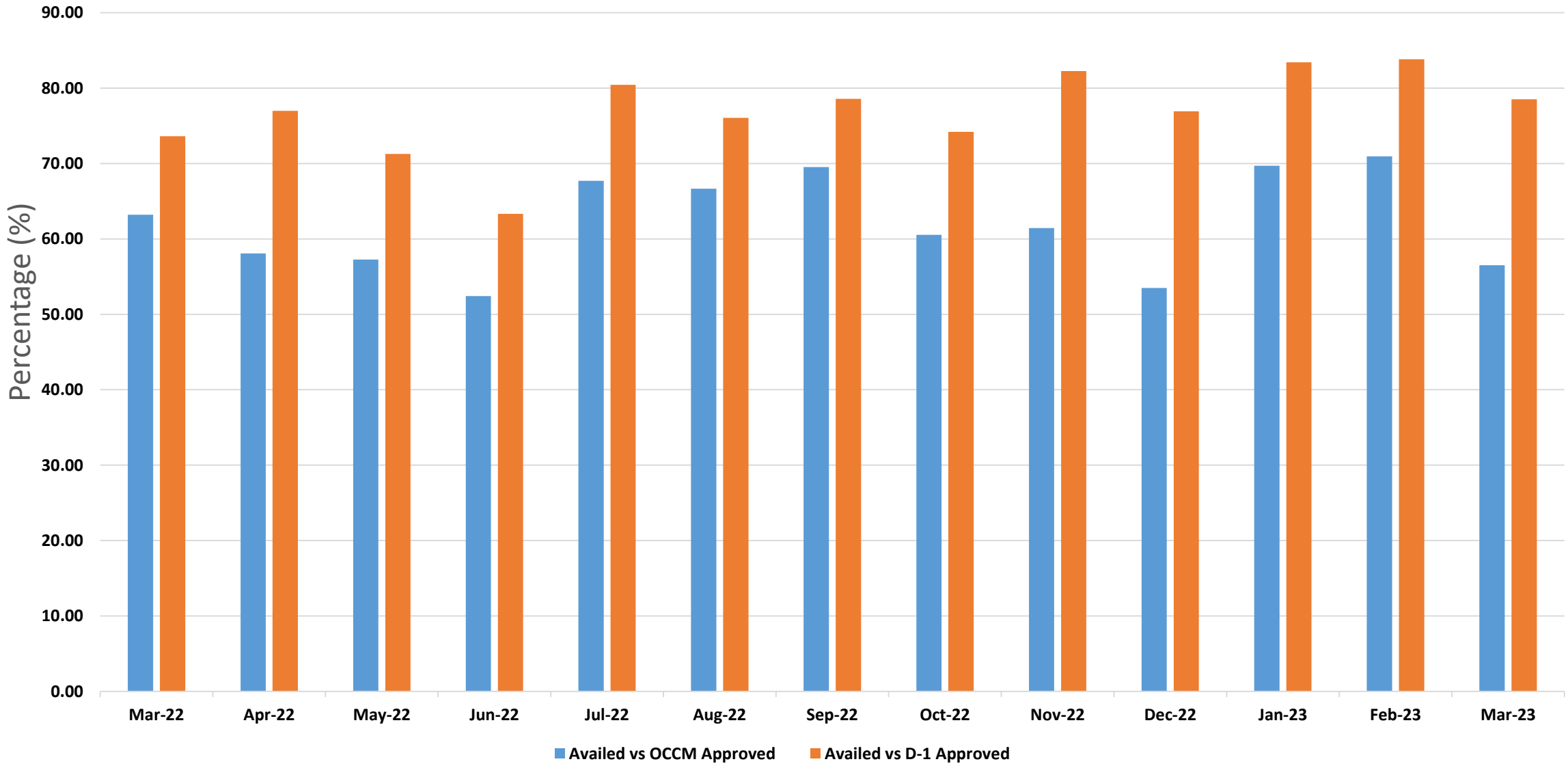
Plants	Reservoir Level in meters (as on 24/04/2023)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	-	-	-	-
Kopili	-	-	-	-
Doyang	307.35	2	0.05	41
Loktak	766.52	13	0.21	62

OCC approved shutdown availing status for the month of March 2023

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
Mar-23	246	177	139	56.50%	78.53%	4

	OCC Approved	D-1 Approved	Availed	Not Availed	RLDC Deferred
NER	246	177	139	34	21
NERTS	80	63	45	17	4
ASSAM	85	59	48	10	10
MANIPUR	0	0	0	0	0
MEGHALAYA	1	1	1	0	0
NAGALAND	2	1	0	1	0
MIZORAM	0	0	0	0	0
TRIPURA	53	43	37	4	5
ARUNACHAL PRADESH	0	0	0	0	0
NETC	0	0	0	0	0
KMTL	0	0	0	0	0
NEEPCO	15	2	2	0	0
NTPC	3	3	1	2	0
OTPC	1	1	1	0	0
INDIGRID	6	4	4	0	2
NHPC	0	0	0	0	0

Approved Shutdown availing trend in percentage



RMSE of Load forecast for Mar'23

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

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

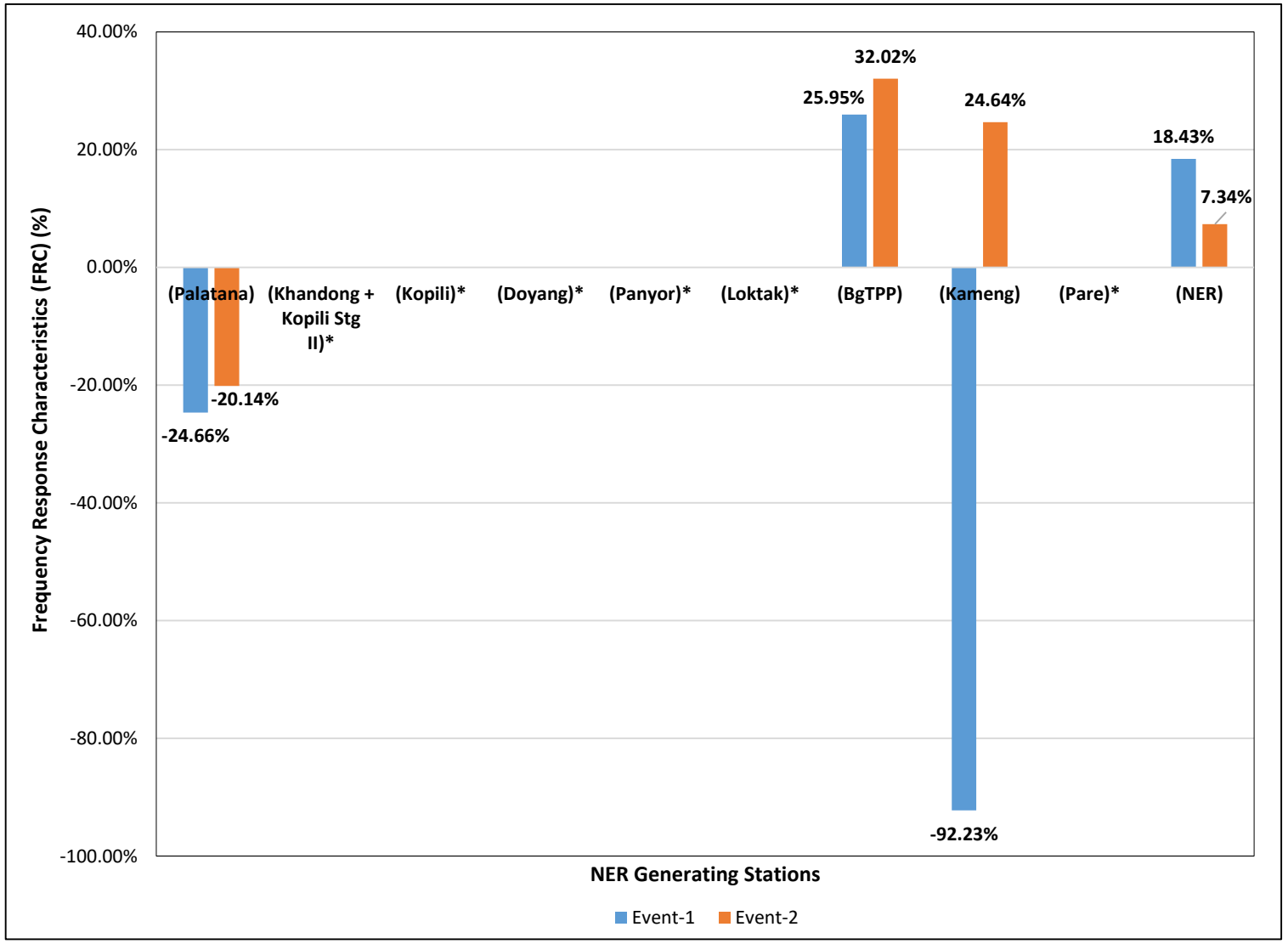
Where,
Predicted$_i$ = Forecasted Value
Actual$_i$ = Actual value
N = Total number of observations.

	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Median	12	6	12	11	15	10	11

FRC of NER Generating Stations for the month of March, 2023:

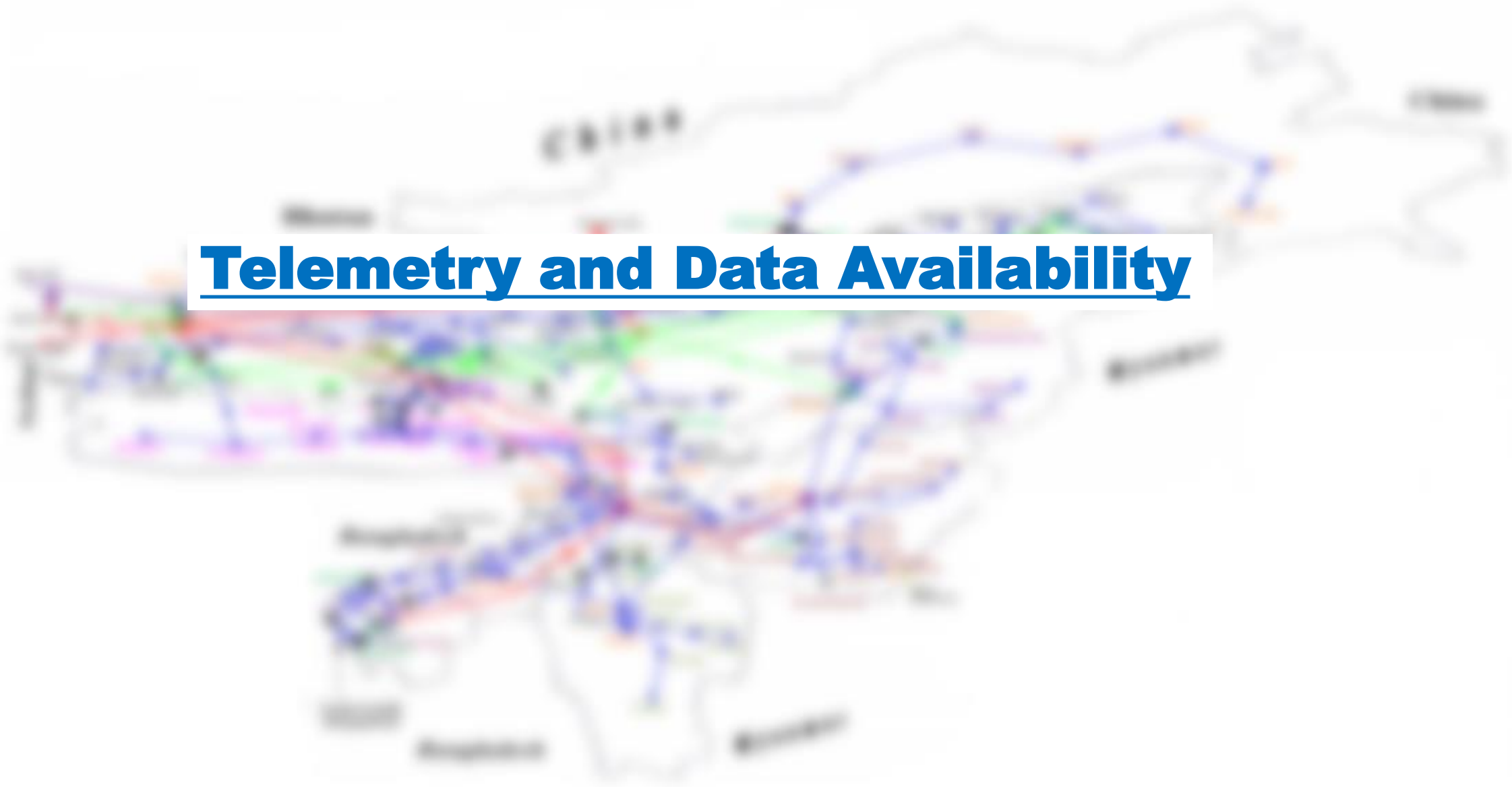
Event-1: Generation loss of around 1102 MW at MB Power of Western Region on dated 16th March, 2023 at 09:16 Hrs.

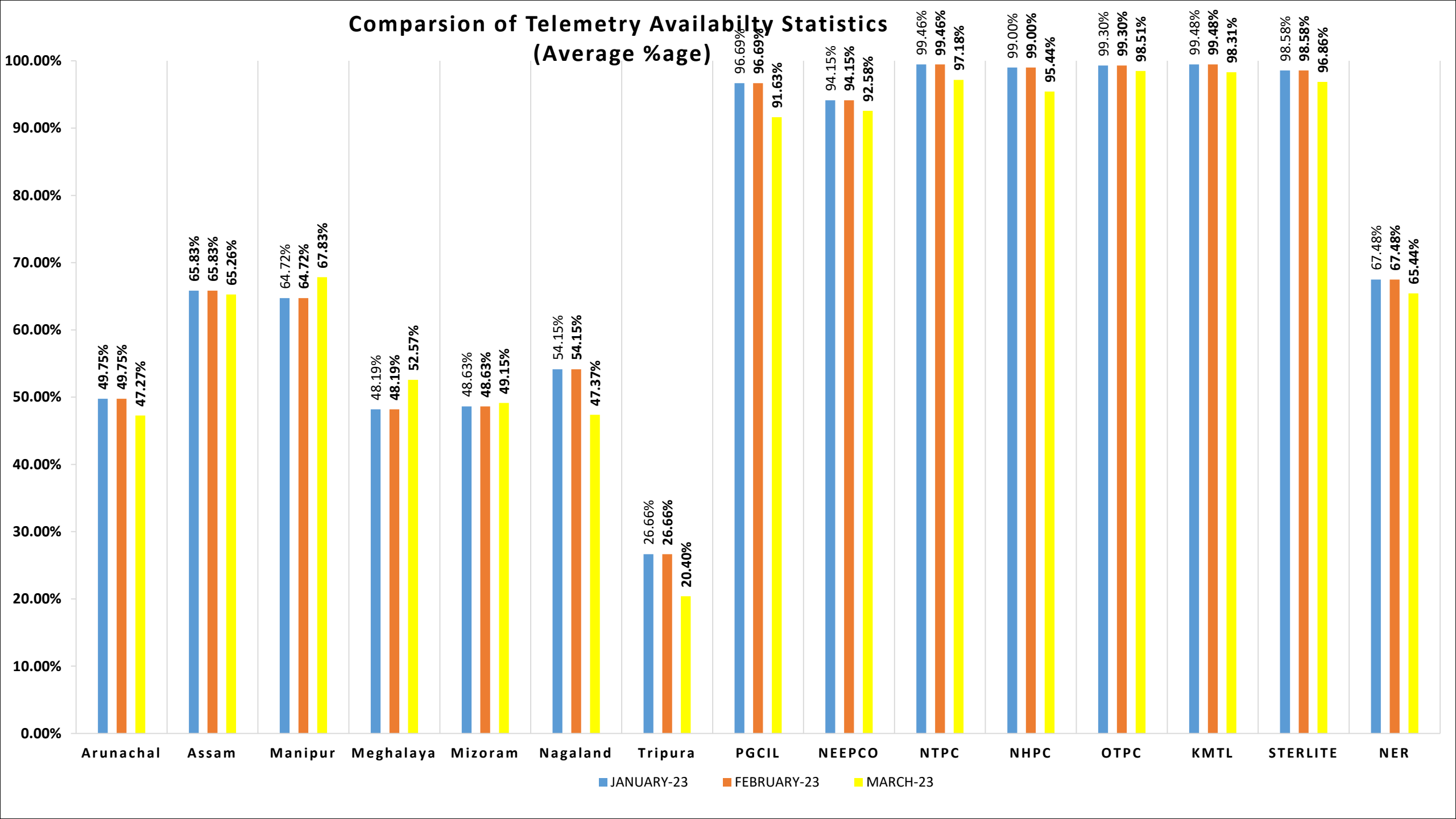
Event-2: Generation loss of around 2416 MW at Korba STPS of Western Region on dated 28th March, 2023 at 10:37 Hrs.



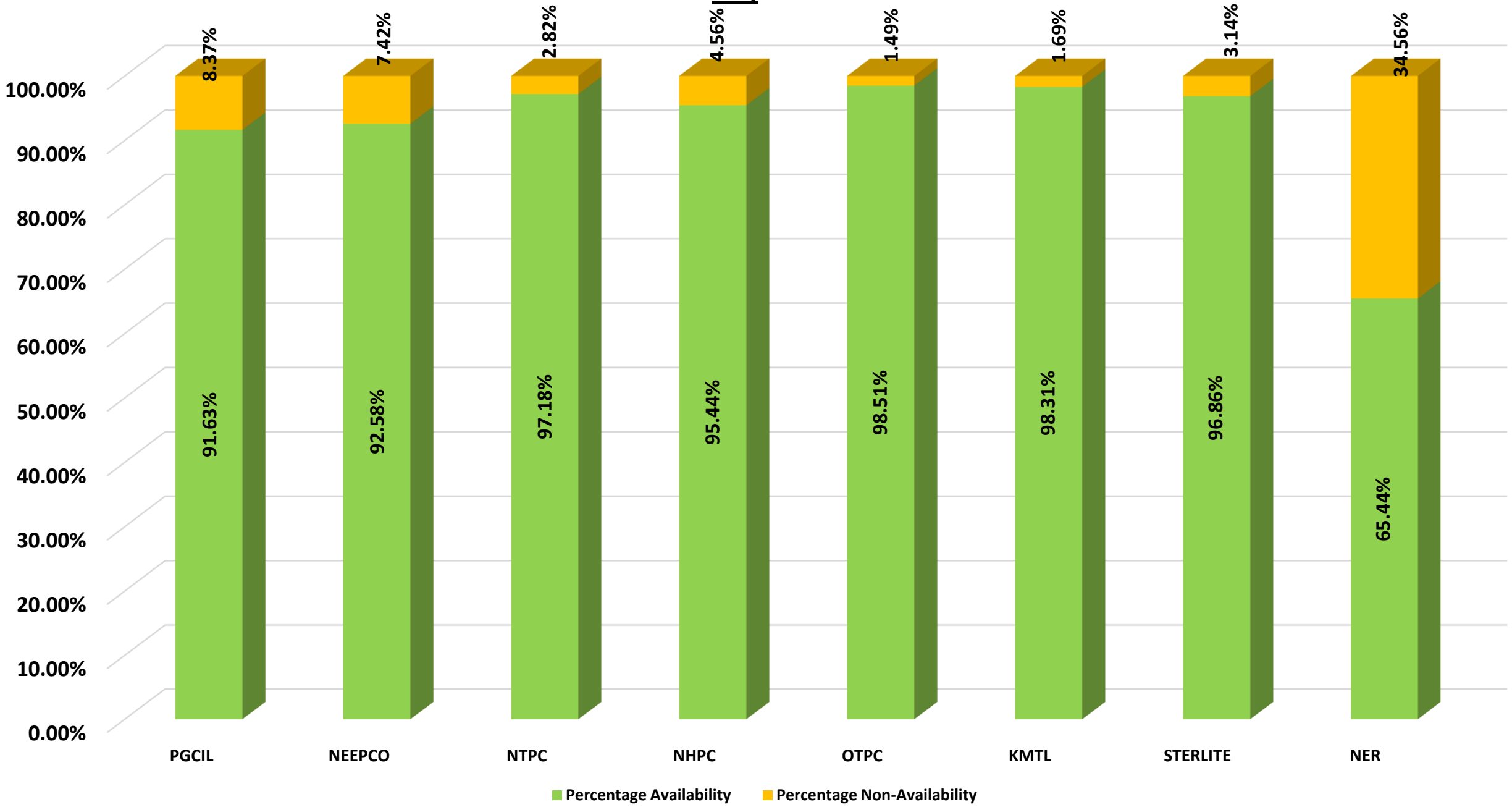
*Generation Stations not in service during the both the event.

Telemetry and Data Availability

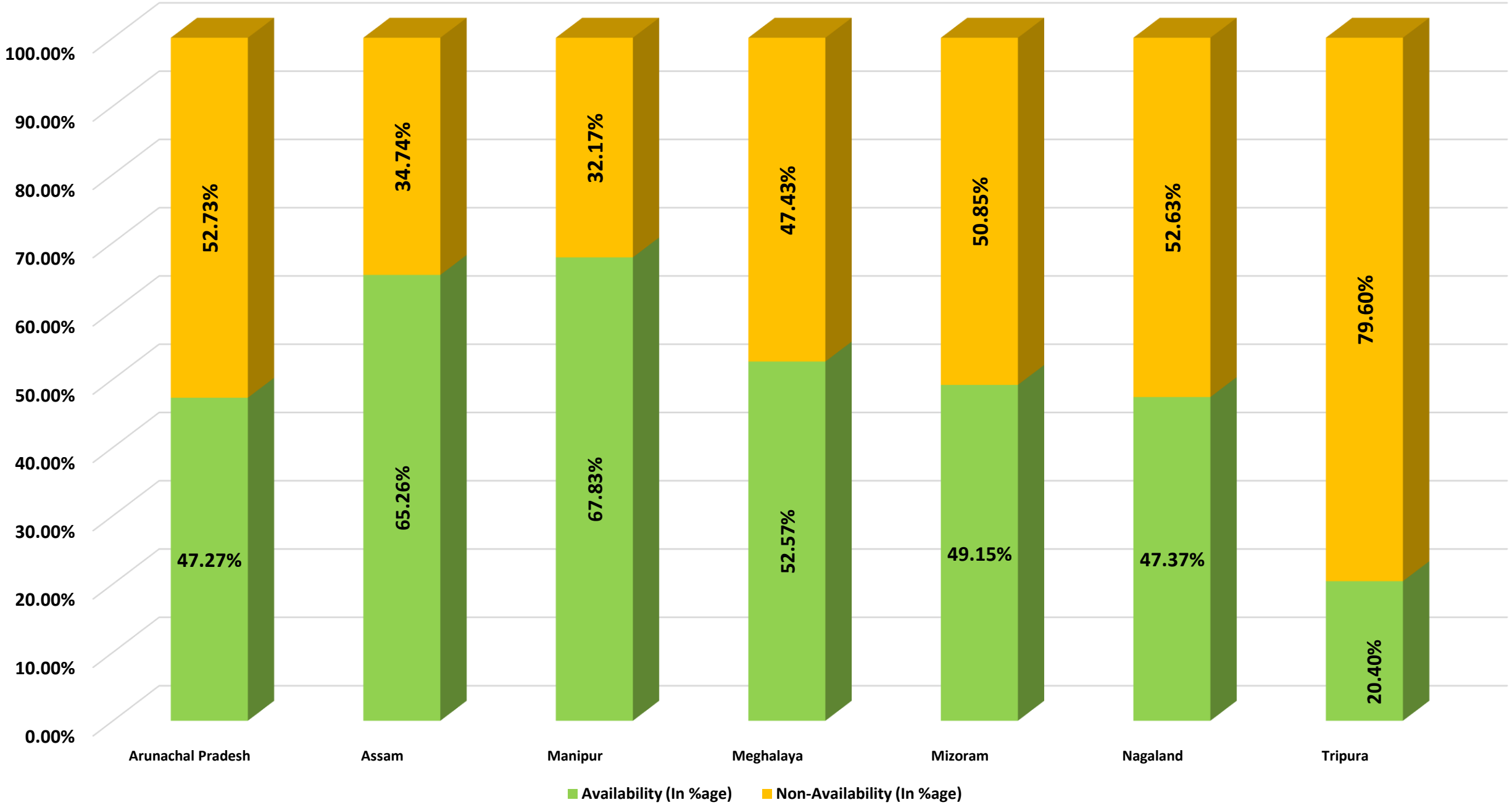



Comparsion of Telemetry Availabilty Statistics
(Average %age)
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
49.75%
49.75%
47.27%
65.83%
65.83%
65.26%
64.72%
64.72%
67.83%
48.19%
48.19%
52.57%
48.63%
48.63%
49.15%
54.15%
54.15%
47.37%
26.66%
26.66%
20.40%
96.69%
96.69%
91.63%
94.15%
94.15%
92.58%
99.46%
99.46%
97.18%
99.00%
99.00%
95.44%
99.30%
99.30%
98.51%
99.48%
99.48%
98.31%
98.58%
98.58%
96.86%
67.48%
67.48%
65.44%
Arunachal
Assam
Manipur
Meghalaya
Mizoram
Nagaland
Tripura
PGCIL
NEEPCO
NTPC
NHPC
OTPC
KMTL
STERLITE
NER
JANUARY-23
FEBRUARY-23
MARCH-23

Telemetry Statistics for Central Sector of NER (Average availability of data for the Month of MARCH '23)



Telemetry Statistics for NER States(Average availability of data for the Month of MARCH '23)



Thank You

Annexure B.2

Shutdown Approved for the month of May 2023

SN	Name of Element	May-23	Time	Reason	Remarks
	SHUTDOWNS PROPOSED BY PGCIL				
	132kV Transmission lines				
1	132kV Badarpur - Khliehriat TL	Not Approved in 201st OCCM	0800Hrs to 1600Hrs	Firmware upgradation of Micom P442 relay	SD may be deffered till restoration of Misa - Kopili - Khandong link.
2	132kV Badarpur - Panchgram (Badarpur(AEGCL)) TL	Consent received from Assam	0800Hrs to 1600Hrs	Firmware upgradation of Micom P442 relay. Installation & commissioning of Line Differential relay.	SD may be availed provided high generation of Leshka is available.
3	132kV Badarpur - Silchar-2		0800Hrs to 1600Hrs	Firmware upgradation of Micom P442 relay	SD may be availed. Other circuit to be kept in service. Leshka generation to be maximized.
4	132kV Badarpur - Jiribam TL		0800Hrs to 1600Hrs	AMP of Bay Equipments	The SD may be availed subject to availability of 132 kV Aizawl-Kolasib-Badarpur link, 132 kV Silchar-Badarpur DC and 132 kV Badarpur-Karimganj-Kumarghat link.
5	132KV Mokokchung- Mokokchung #1 TL	Consent received from Nagaland	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	The SD may be availed subject to availability of 132 kV Mokokchung - Mokokchung - 2 & 132 kV Doyang-Mokokchung line. Consent from SLDC Nagaland to be taken
6	132KV Mokokchung- Mokokchung #2 TL	Consent received from Nagaland	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	The SD may be availed subject to availability of 132 kV Mokokchung - Mokokchung - 1 & 132 kV Doyang-Mokokchung line. Consent from SLDC Nagaland to be taken
7	132KV Niirjuli- Lekhi TL	Consent received from AP & Assam	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	SD may be availed subject to the availability of 132 kV Gohpur-Nirjuli ckt. Consent from SLDC Assam and SLDC AP to be received
8	132KV Badarpur Kolasib TL	Consent received from Mizoram	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	The SD may be availed subject to availability of 132 kV Aizawl-Kolasib, 132 kV Aizawl - Melriat line, 132 kV Aizawl - Tipaimukh-Jiribam link and 132 kV Aizawl - Kumarghat line. Consent from SLDC Mizoram required.
9	132KV Hailakandi Silchar #1 TL	Consent received from Assam	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	SD may be availed. 132 kV Hailakandi - Silchar # 2 TL to be kept in service
10	132KV Hailakandi Silchar #2 TL	Consent received from Assam	0800 Hrs to 1600 Hrs	Dismantling of Old Relay , Installtion, wiring Testing & Integration of New P546 Relay with Existing SAS & NTAMC	SD may be availed. 132 kV Hailakandi - Silchar # 1 TL to be kept in service
11	132kV Loktak _ Imphal-2		0800Hrs to 1600Hrs	AMP of Bay Equipments	SD may be availed. Information may be given to SLDC Manipur
12	132 kV Jiribam - Loktak TL		0800Hrs to 1600Hrs	Removal of arcing horn ring for 134 Nos Tower of the line	SD may be availed. Consent from SLDC Manipur may be taken. Loktak generation to be maintained within 70 MW during the shutdown period.
13	132kV Silchar - Badarpur 1 TL		0900Hrs to 1200Hrs	Rectification of Bus Isolator and replacement of Bus jumper	SD may be availed. Other circuit to be kept in service. Leshka generation to be maximized.
14	132kV Silchar - Srikona#1 TL	Consent received from Assam	1300Hrs to 1600Hrs	Replacement of damaged bus jumper	The SD may be availed subject to avaiilability of 132kV Silchar - Srikona - 2 TL.
		May-23			
	220kV Transmission lines				
15	220 kV Misa - Dimapur #1 TL		0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in NH crossing, in some critical locations observed-	The SD may be availed subject to availability of 220kV Misa - Dimapur - 2 and 132 kV Diampur-Imphal line.
16	220 kV Misa - Dimapur #2 TL		0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in NH crossing, in some critical locations observed-	The SD may be availed subject to availability of 220kV Misa - Dimapur - 1 and 132 kV Diampur-Imphal line.
17	220 kV Misa - Samaguri #1 TL	Consent received from Assam	0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in NH crossing, in some critical locations observed-	The SD may be availed subject to availability of 220kV Misa - Samaguri- 2 and 220 kV Balipara-Sonabil-Samaguri link. Generation from Langpi is to maximised during the SD period.
18	220 kV Misa - Samaguri #2 TL	Consent received from Assam	0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in NH crossing, in some critical locations observed-	The SD may be availed subject to availability of 220kV Misa - Samaguri- 1 and 220 kV Balipara-Sonabil-Samaguri link. Generation from Langpi is to maximised during the SD period.
19	220kV Misa - Byrnihat #1 TL	Consent received from Meghalaya	0800Hrs to 1600Hrs	AMP of Bay Equipments	SD may be availed. 220 kV Misa - Byrnihat #2 to be kept in service.
20	A/R of 220 KV Misa - Dimapur -1 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for PID works	A/R may be kept in Non-Auto Mode
21	A/R of 220 KV Misa - Dimapur -2 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for PID works	A/R may be kept in Non-Auto Mode
22	A/R of 220kV Misa-Kopili #1		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for PID works	A/R may be kept in Non-Auto Mode
23	A/R of 220kV Misa-Kopili #2		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for PID works	A/R may be kept in Non-Auto Mode
		May-23			
	400kV Transmission lines				
24	400kV Silchar - Imphal - 1 TL		CSD 0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in major crossing at Loc. No.: 130 & 131, 173 to 174, 165 to 166 and 193 to 194	SD may be availed subject to the availability of 400 kV Silchar-Imphal II
25	400kV Silchar - Imphal - 2 TL		CSD 0800Hrs to 1600Hrs	CLR Polymer replacement of Procelean insulator changing to polymer in major crossing at Loc. No.: 193 to 194 and 174 to 175	SD may be availed subject to the availability of 400 kV Silchar-Imphal I
26	A/R of 400kV New Mariani - Misa - 1 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
27	A/R of 400kV New Mariani - Misa - 2 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
28	A/R of 400 KV Misa - Balipara -1 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
29	A/R of 400 KV Misa - Balipara -2 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
30	A/R of 400kV Silchar - Byrnihat TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
31	A/R of 400 KV Silchar - Palatana - 1 TL		0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode

32	A/R of 400 KV Silchar - Palatana - 2 TL	0700Hrs to 1800Hrs	Auto reclosure to be kept at non auto mode for OPGW works	A/R may be kept in Non-Auto Mode
		May-23 (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)		
	132 kV Badarpur SS			
33	132kV Main Bus at badarpur	0800Hrs to 1600Hrs	AMP of Bus	SD may be deferred until Misa - Kopili - Khandong link is available and 132 kV Jiribam(PG) - Haflong (PG) link is brought back into service.
	400kV Silchar SS			
34	400kV ICT-3 Tie Bay at Silchar	0800Hrs to 1600Hrs	AMP of Bay Equipments	SD may be availed subject to no outage of any element.
35	400kV 63MVAR Byrnihat LR at Silchar	0900Hrs to 1500Hrs	Modification in OTI/WTI and PRV circuit to improve relaibility in operation and thus to reduce maloperation	SD may be availed. About 2 kV voltage change is observed in Silchar S/s
36	132 kV Bus coupler at Silchar	0900Hrs to 1500Hrs	Panel wiring checking after removal of 132 kV PK Bari and Imphal bays	SD may be availed subject to no outage of any elements.
37	132kV Bus-1 at Silchar	0900Hrs to 1600Hrs	Replacement of damaged bus jumper	At present, due to outage of 132 Khandong-Kopili link and 132 kV Haflong-Jiribam line, the Meghalaya power system is not N-1 compliant. The SD may only be availd after restoration of Khandong - Kopili link.
	400kV Imphal SS			
38	132kV 50MVA ICT-2 at Imphal	0800Hrs to 1600Hrs	AMP of ICT	SD may be availed. Consent from SLDC, Manipur is to be taken.
39	400kV 80MVAr Bus Reactor-1 at Imphal	0800Hrs to 1600Hrs	Modification in OTI/WTI and PRV circuit to improve relaibility in operation and thus to reduce maloperation	About 6 kV voltage change is observed at 400 kV Imphal Bus. SD may be availed.
40	132kV 20MVAr Bus Reactor at Imphal	0800Hrs to 1600Hrs	AMP of Reactor	About 1 kV voltage change is observed at 132 kV Imphal Bus. SD may be availed.
		May-23 (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)		
	400kV Balipara SS			
41	Misa-1 Main Bay at Balipara	0800Hrs to 1600Hrs	For CT Oil sampling	SD may be availed. Misa I and BNC I share dia.
42	400 kV 125 MVar Bus Reactor-3 at Balipara	0800Hrs to 1600Hrs	Modification in OTI/WTI and PRV circuit to improve relaibility in operation and thus to reduce maloperation	SD may be availed. 4 kV Voltage change is expected at 400kV Balipara SS.
43	220KV SIDE OF 3X105MVA ICT1 INCOMER BAY at Balipara	0800Hrs to 1600Hrs	AMP of Bay Equipments	SD may be availed. ICT 2 to be kept in service. Information to AP to be given
44	220KV SIDE OF 3X105MVA ICT2 INCOMER BAY at Balipara	0800Hrs to 1600Hrs	AMP of Bay Equipments	SD may be availed. ICT 1 to be kept in service. Information to AP to be given
45	400 KV Bongagaon#3 FSC at Balipara	0800Hrs to 1600Hrs	AMP of Bay Equipments and capacity balancing	SD may be availed
46	400 KV Bongagaon#4 FSC at Balipara	0800Hrs to 1600Hrs	AMP of Bay Equipments and capacity balancing	SD may be availed
47	400k 63MVar BONGAIGAON-1 LINE REACTOR at Balipara	0800Hrs to 1600Hrs	AMP of Reactor. Line will be out during switching of reactor	SD may be availed. 3 kV Voltage change is expected at 400kV Balipara SS.

	Name of Element	May-23 (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)	Time	Remarks	
	Interregional/International				
48	400KV BINAGURI-BONGAIGAON - 1 TL	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Re- Conductoring work under NERSS - XII pakage	Consent from NLDC may be obtained. At max only 1 circuit 400 kV Binaguri - Bongaigaon D/C may be taken under shutdown at the same time.
49	400KV BINAGURI-BONGAIGAON - 2 TL	Consent required from NLDC	CSD 0800Hrs to 1800Hrs	Re- Conductoring work under NERSS - XII pakage	
50	A/R of 400KV BINAGURI-BONGAIGAON - 1 TL	Consent required from NLDC	0800Hrs to 1800Hr	Re- Conductoring work under NERSS - XII pakage	A/R may be kept in Non-Auto Mode
51	A/R of 400KV BINAGURI-BONGAIGAON - 2 TL	Consent required from NLDC	0800Hrs to 1800Hr	Re- Conductoring work under NERSS - XII pakage	A/R may be kept in Non-Auto Mode

SN	Name of Element	May-23 (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)	Time	Reason	
	SHUTDOWNS PROPOSED BY ASSAM				
1	220 kV Samaguri- Jawaharnagar		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Sonapur-Samaguri link, 220 kV Sarusajai - Jawaharnagar line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
2	220 kV Samaguri- Jawaharnagar		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Sonapur-Samaguri link, 220 kV Sarusajai - Jawaharnagar line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
3	220KV SAMAGURI-JAWAHARNAGAR		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Sonapur-Samaguri link, 220 kV Sarusajai - Jawaharnagar line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
4	220 kV Samaguri- Sonapur		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Jawaharnagar-Samaguri link, 220 kV Sarusajai - Sonapur line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
5	220 kV Samaguri- Sonapur		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Jawaharnagar-Samaguri link, 220 kV Sarusajai - Sonapur line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
6	220 KV Samaguri-Mariani Ckt-2	Intimation to NEEPCO	8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. At present, the Upper Assam power system is connected with 220 kV Samaguri-Mariani(AS) line, 220 kV Mariani(AS) - Mariani (PG) line, 220 kV AGBPP-Mariani(PG) line and 132 kV Mariani - Golaghat - Bokajan - Dimapur link. Under N-1 condition, Gate flow should be monitored and shall be maintained below 245 MW(during solar period) and 245 MW (durng non-solar period) for safe and reliable grid operation.. RELIABILITY OF THE SYSTEM IS REDUCED.
7	220 KV Samaguri-Sonabil Ckt-1		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Samaguri-Sonabil-2 line. RELIABILITY OF THE SYSTEM IS REDUCED.
8	220 KV Samaguri-Sonabil Ckt-2		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Samaguri-Sonabil-1 line. RELIABILITY OF THE SYSTEM IS REDUCED.
9	220KV SARUSAJAI-SONAPUR		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Jawaharnagar-Samaguri link, 220 kV Samaguri - Sonapur line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.

SN	Name of Element	May-23	Time	Reason	
10	220KV SARUSAJAI-SONAPUR		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Jawaharnagar-Samaguri link, 220 kV Samaguri - Sonapur line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
11	220KV MIRZA-AGIA		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Agia - Boko - Mirza link to be kept in service.
12	220KV MIRZA-AGIA		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Agia - Boko - Mirza link to be kept in service.
13	220KV MIRZA-BOKO		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Agia - Boko line to be kept in service.
14	220KV MIRZA-BOKO		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Agia - Boko line to be kept in service.
15	220KV SARUSAJAI-JAWAHARNAGAR		9:30-15:00	Preventive maintenance & Corridor cleaning.	SD may be availed subject to availability of 220 kV Sarusajai-Sonapur-Samaguri link, 220 kV Samaguri - Jawaharnagar line and 220 kV Sarusajai-Azara DC. RELIABILITY OF THE SYSTEM IS REDUCED.
16	AGIA-BTPS-I		9:00-16:00	Preventive maintenance & Corridor cleaning.	The SD may be availed subject to availability of 220 kV BTPS -Salakati DC and 220kV Agia-BTPS 2 line.
17	AGIA-BTPS-I		9:00-16:00	Preventive maintenance & Corridor cleaning.	The SD may be availed subject to availability of 220 kV BTPS -Salakati DC and 220kV Agia-BTPS 2 line.
18	AGIA-BTPS-II		9:00-16:00	Preventive maintenance & Corridor cleaning.	The SD may be availed subject to availability of 220 kV BTPS -Salakati DC and 220kV Agia-BTPS 1 line.
19	AGIA-BTPS-II		9:00-16:01	Preventive maintenance & Corridor cleaning.	The SD may be availed subject to availability of 220 kV BTPS -Salakati DC and 220kV Agia-BTPS 1 line.
20	AGIA-BOKO		9:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Mirza - Boko line and 132 kV Agia - Mirza line to be kept in service.
21	AGIA-BOKO		9:00-16:01	Preventive maintenance & Corridor cleaning.	SD may be availed. 220 kV Mirza - Boko line and 132 kV Agia - Mirza line to be kept in service.
22	132KV Bokajan-SARUPATHAR		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 132 kV Dimapur -Bokajan line and 132 kV Mariani - Golaghat - Sarupathar link to be kept in service
23	132KV BOKAJAN-DIMAPUR		8:00-16:00	Preventive maintenance & Corridor cleaning.	SD may be availed. 132 kV Mariani - Golaghat - Sarupathar - Bokajan link to be kept in service.
24	132KV GOLAGHAT-MARIANI		8:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed. 132 kV Dimapur - Bokajan - Sarupathar - Golaghat link to be kept in service.
25	132KV GOLAGHAT-SARUPATHAR		8:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed. 132 kv Dimapur - Bokajan - Sarupathar link and 132 kV Mariani - Golaghat line to be kept in service.
26	220KV AMGURI-NTPS		8:00-16:00	Preventive maintenance & Corridor cleaning.	Considering N-1 contingency of 220 kV AGBPP - Mariani (PG) line, Upper Assam Power Flow is to be maintained within 275 MW (during solar period) and 225 MW (during non-solar period)
27	220KV AMGURI-NTPS		8:00-16:00	Preventive maintenance & Corridor cleaning.	Considering N-1 contingency of 220 kV AGBPP - Mariani (PG) line, Upper Assam Power Flow is to be maintained within 275 MW (during solar period) and 225 MW (during non-solar period)
28	220KV AMGURI-MARIANI		8:00-16:00	Preventive maintenance & Corridor cleaning.	Considering N-1 contingency of 220 kV AGBPP - Mariani (PG) line, Upper Assam Power Flow is to be maintained within 230 MW (during solar period) and 225 MW (during non-solar period)
29	220KV AMGURI-MARIANI		8:00-16:00	Preventive maintenance & Corridor cleaning.	Considering N-1 contingency of 220 kV AGBPP - Mariani (PG) line, Upper Assam Power Flow is to be maintained within 230 MW (during solar period) and 225 MW (during non-solar period)
30	132 KV PANCHGRAM-LUMSHNONG	Consent received from Meghalaya	9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed. 132 kV Khliehriat - Lumshnong line to be kept in service.
31	132 KV DULLAVCHERRA-DHARMANAGAR	Consent received from Tripura	9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	Consent from SLDC Tripura is required. SD may be availed. 132 kV PK Bari - Dullavcherra line and 132 kV Hailakandi - Dharmanagar line to be kept in service.
32	132 KV DULLAVCHERRA-DHARMANAGAR	Consent received from Tripura	9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	Consent from SLDC Tripura is required. SD may be availed. 132 kV PK Bari - Dullavcherra line and 132 kV Hailakandi - Dharmanagar line to be kept in service.
33	132 KV SRIKONA-PAILAPOOL		9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed subject to availability of 132 kV Jiribam(PG)-Pailapool line.
34	132 KV HAILAKANDI-DULLAVCHERRA		9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed. 132 kV PK Bari - Dharmanagar - Dullavcherra link to be kept in service.
35	132 KV PANCHGRAM-LUMSHNONG	Consent received from Meghalaya	9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed. 132 kV Khliehriat - Lumshnong line to be kept in service.
36	132 KV PANCHGRAM-HAILAKANDI		9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed
37	132 KV SRIKONA-PAILAPOOL		9:00-16:00	LINE MAINTENANCE & CORRIDOR CLEANING WORK	SD may be availed subject to availability of 132 kV Jiribam(PG)-Pailapool line.
38	132 KV MAIN BUS PANCHGRAM GSS	Consent received from Meghalaya	5:00-8:00	PREVENTIVE MAINTENANCE	SD may be availed.Leshka Generation to be maximized. Information may be given to Meghalaya
39	220 KV Tinsukia-Kathalguri Feeder no 1	Intimation to NEEPCO	9:00-15:00	CORRIDOR CLEARANCE & PREVENTIVE MAINTENANCE	SD may be availed. 220 kV Tinsukia - Kathalguri Feeder No 2 to be kept in service.
40	220 KV Tinsukia-Kathalguri Feeder no 2	Intimation to NEEPCO	9:00-15:00	CORRIDOR CLEARANCE & PREVENTIVE MAINTENANCE	SD may be availed. 220 kV Tinsukia - Kathalguri Feeder No 1 to be kept in service.
41	220 KV Tinsukia-NTPS Feeder		9:00-15:00	CORRIDOR CLEARANCE & PREVENTIVE MAINTENANCE	SD may be availed. 220 kV Tinsuka - NRPP - NTPS link to be kept in service
42	220 KV Tinsukia-NRPP Feeder		9:00-15:00	CORRIDOR CLEARANCE & PREVENTIVE MAINTENANCE	SD may be availed. 220 kV Tinsukia - NTPS line and 220 kV NTPS - NRPP line to be kept in service.
43	315MVA TRAFO 2 AT MIRZA		8:00-17:00	TESTING OF EQUIPMENT BY MRT	SD may be availed. Considering the N-1 contingency of 315MVA TRAFO 1 AT MIRZA, about 25% loading of the ICTs is shifted to 220 kV Balipara - Sonabil line. Therefore, the shutdown may be availed keepin in the mind the above restrictions.
	SHUTDOWNS PROPOSED BY MEGHALAYA				
1	132KV Khliehriat - Lumshnong Line		10:00-16:00	Jungle clrarance at Tower Loc No - 241, 254	SD may be availed. 132 kV Panchgram - Lumshnong line to be kept in service.

SN	Name of Element	May-23																												Time	Reason	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			
2	132KV Bus Shutdown at Lumshnong s/s							Consent received from Assam																								10:00-16:00	For Maintenance and rectification works of terminal equipments	SD may be availed.
3	132KV Khliehriat - Khleihriat PG 2																															10:00-16:00	Jungle Clearance from tower location 196	SD may be availed. 132 kV Khliehriat - Khliehriat I to be kept in service. Information may be given to Assam and NEEPCO regarding the shutdown
4	132KV Bus Shutdown at Khliehriat s/s																															10:00-16:00	To attend the maintenance work on the bus side isolators of 2 x 25 MVA transformer and other maintenance works related to bus side	SD may be availed.Information may be given to Assam and NEEPCO regarding the shutdown
SN	Name of Element	May-23																												30	Time	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			
	SHUTDOWNS PROPOSED BY MIZORAM																																	
1	132 kV Bawktlang,Kolasib substation.																																10:00-14:00 HRS	The SD may be availed subject to availability of 132 kV Aizawl - Melriat line, 132 kV Aizawl - Tipaimukh-Jiribam link and 132 kV Aizawl - Kumarghat line. Consent from SLDC Mizoram required.
SN	Name of Element	May-23																												Time	Reason	
		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			
	SHUTDOWNS PROPOSED BY NTPC BGTPP																																	
1	ICT 2, 415 MVA, 400/220/33KV at BgTPP																															09:00-18:00 HRS CSD	ICT 2 bushing replacement, ICT 2 main tank complete oil filtration, ICT 2 bay PM,ICT 2 protection, ICT 2 back charging	SD may be availed subject to availability of 315 MVA ICT- I at BgTPP and 220 kV BTPS-Salakati D/C.
SN	Name of Element	May-23																												Time	Reason	
		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			
	SHUTDOWNS PROPOSED BY OTPC																																	
1	80 MVAR BUS REACTOR at Palatana																															CSD 08:00 Hrs to 16:00 HRS	To attend oil leakage from 80 MVAR bus reactor from buchholz pipe line, radiator joints, HV side of the tank	About 4 kV voltage change is expected but that depends on the AVR settings of Palatana Units. The voltage may not change that much
2	63 MVAR LINE 1 REACTOR at Palatana																															CSD 08:00 Hrs to 16:00 HRS	To attend heavy oil leakage from 63 MVAR line-1 reactor specifically from neutral side, NGR conservator tank MOG joints	About 3 kV voltage change is expected but that depends on the AVR settings of Palatana Units. The voltage may not change that much
3	Unit 1 of Palatana																															CSD 00:00hrs of 1st June to 11:59 hrs of 15th June'23	for IBR Inspection & license renewal of HRSG-1 and GT-1 CDC bore-plug removal	Approved in 201st OCC discussion on 25.04.2023. The shutdown is deferred from 25th May to 1st June as per the direction of Ministry of Power to not allow any planned shutdown of thermal genrating plants in the months of April and May'23
SN	Name of Element	May-23																												Time	Reason	
		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			
	SHUTDOWNS PROPOSED BY ENICL (INDI GRID)																																	
1	400KV-ALIPURDUAR (PG)-BONGAIGAON-1							Consent required from NLDC																								08:00 TO 18:00 HRS	Pre monsoon AMP work	SD may be deferred as 400 kV Bongaigaon - Binaguri line(s) are approved for shutdown
2	400KV-ALIPURDUAR (PG)-BONGAIGAON-2							Consent required from NLDC																								08:00 TO 18:00 HRS	Pre monsoon AMP work	SD may be deferred as 400 kV Bongaigaon - Binaguri line(s) are approved for shutdown
SN	Name of Element	May-23																												Time	Reason	
		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			
	SHUTDOWNS PROPOSED BY NEEPCO																																	
	AGTCCPP																																	
1	HRSG#2 OF STG1 at AGTCCPP																															00.00 HRS TO 23:59 HRS	BOILER 2 TESTING	SD may be availed.
2	HRSG#1 OF STG1 at AGTCCPP																															00.00 HRS TO 24:00 HRS	BOILER 1 TESTING	SD may be availed.
SN	Name of Element	May-23																												Time	Reason	
		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			
	SHUTDOWNS PROPOSED BY NHPC																																	
1	Loktak-Jiribam-2 Line																															08:00 TO 16:00 HRS	For testing of protection relays at Loktak end	Study couldn't be done due to late submission
2	Loktak-Jiribam-1 (Rengpang) Line							Consent received from Manipur																								08:00 TO 16:00 HRS	For testing of protection relays at Loktak end	Study couldn't be done due to late submission
3	Loktak-Imphal-1 (Ningthoukhong) Line							Consent received from Manipur																								08:00 TO 16:00 HRS	For testing of protection relays at Loktak end	Study couldn't be done due to late submission
4	Loktak-Imphal-2 Line																															08:00 TO 16:00 HRS	For testing of protection relays at Loktak end	Study couldn't be done due to late submission
	Approved																																	
	Rejected																																	

Annexure B.19

File no. CEA-PL-11/37/1/2018-IRP Division /121-125

Government of India
Ministry of Power
Central Electricity Authority

Sewa Bhawan, RK Puram,
New Delhi, 17th March, 2023

To,

Member Secretaries (All RPCs), CEA

Sub: - Requirement of data from States for implementation of Resource Adequacy Framework- Reg.

Sir,

Ministry of Power has notified the Electricity (Amendment) Rules, 2022, which inter alia, aims to implement Resource Adequacy (RA) Framework to ensure reliable supply of Electricity to the consumers across a broad range of system operating conditions.

As per Rule 16 (i) of the Electricity (Amendment) Rules, 2022 CEA has to issue guidelines for assessment of resource adequacy during the generational and operational planning stages. Accordingly, CEA has prepared draft Resource Adequacy Guidelines, which are currently in approval stage at Ministry of Power. As per the draft Resource Adequacy Guidelines published in September 2022, Central Electricity Authority is supposed to prepare Long Term-National Resource Adequacy Plan (LT-NRAP). For preparing the LT-NRAP State-wise information viz. Demand, Installed Capacity, Generation (both RE and conventional), financial data etc. (As per the attached format) may be required. We have already requested states to furnish the data in the attached format vide email dated 15.03.2022.

In view of the above, it is kindly requested to coordinate with States of your respective regions for timely collection of data pertaining to Resource Adequacy studies.

Yours Sincerely,

(Ammi Ruhama Toppo)

Chief Engineer (IRP)

Enclosure: Data format

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उद्यम)
CENTRAL TRANSMISSION UTILITY OF INDIA LTD.
(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref. No. C/CTU/AI/08/004 **Date: 12-04-2023**

As per distribution list

Sub: Planning procedure and associated activities

Dear Sir/Madam,

As per ISTS Planning Procedure, CTU is drawing up plan for Inter-State Transmission System (ISTS) for upto next five years on rolling basis every year. The entire process for transmission planning is being undertaken on a continuous basis, twice a year. i.e. from April to September and October to March of every year. In this regard, CTU has prepared the ISTS Rolling Plan for 2027-28 timeframe and the same was circulated vide e-mail. The same is also uploaded on CTU website at the link given below for your reference.

https://www.ctuil.in/u/menuitem.aspx?d=7VuBIu93RgU= .

We have already initiated activities for next planning cycle viz. April 2023 to Sep 2023 for 2028-29 timeframe. The timeline for the activities of this cycle is enclosed at **Annexure-I**.

Accordingly, it is requested that STUs, POSOCO, MNRE may provide necessary inputs for the Apr'23 to Sep'23 cycle by 30-04-2023, so that the same may be considered for system studies in the present cycle. RPCs are requested to facilitate in providing the requested data from respective STUs for planning relating to ISTS.

Thanking you,

Yours faithfully,

12/04/23

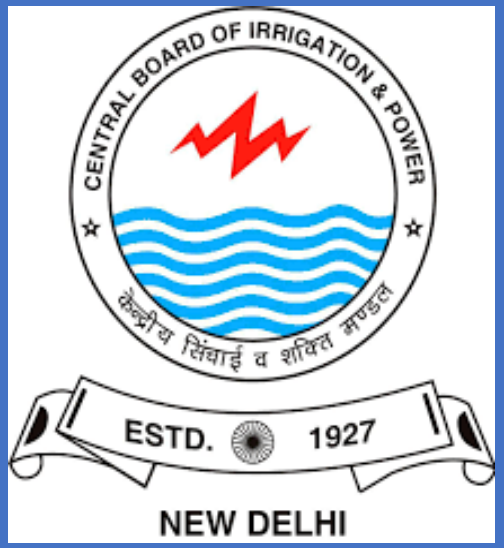
(Jasbir Singh)
Chief General Manager

Annexure-I

Sl. No.	Activities	Responsibility*	(Apr-Sep)
1.	Data Collection: • Inputs regarding plans made by CEA (short term & perspective plans for next ten years) • Open Access / General Network Access / Cross border transaction requests made by Designated Inter-state Customers / other entities • Data to be submitted by the STUs (to be co-ordinated by RPCs) • Operational Issues to be submitted by NLDC/ RLDCs to CTU • RE related inputs to be provided by MNRE	MNRE, CTU, CEA, STUs, RPCs, and POSOCO	01st to 30th Apr
2.	Data validation and preparation of Load-Generation Balances (LGBs) for different scenarios through joint consultation in separate regional meetings	CTU, CEA, STUs, RPCs, and POSOCO	15th Jun
3.	Preparation of base case files for identified LGB(s)	CTU	30th Jun
4.	Single or Multi Regional Joint System studies for evolution of new ISTS schemes and / or augmentation of existing system	CTU, CEA, POSOCO, and concerned RPC(s) & STU(s)	31st Jul
5.	Preliminary proposal along with assumptions on CTU website for stakeholders' comments	CTU	15th Aug
6.	Stakeholders' comments on the preliminary proposal	Stake-holders	31st Aug
7.	Finalisation of transmission schemes considering comments / suggestions of stakeholders and uploading of the final proposal on CTU website	CTU	30th Sep

Capacity building under Revamped Distribution Sector Scheme (RDSS) & NER-PSIP Scheme

ABOUT CENTRAL BOARD OF IRRIGATION AND POWER (CBIP)



1. A premier institute established by Govt of India in 1927, chairperson Central Electricity Authority (CEA) is the current President of CBIP.

2. Constantly Helping Professionals in Knowledge Enhancement and Skill Upgradation National/international

- Conferences/Publication
- Seminars/ Tutorials
- Training Programs (including Hands on)

3. 264 members from state utilities, PSU's, CBPSU's, regulatory commissions, water resources departments & major private sectors.

4. Association with over 1000 experts including over 200 experts from the field of power Distribution/Transmission.

5. Certified, category-1 Training Institute with state of the Art Infrastructure

CBIP members- 264 Organizations

Policy making Bodies	• **CEA - Central Electricity Authority** • **CWC- Central Water Commission**
Power & Renewable Sector Utilities	• Central Public Sector Undertakings (CPSUs) – NTPR, POWER GRID, BHEL,SJVN, BBMB, PFC, REC, NHDC, NEEPCO, EREDA • All State Government Generation, Transmission & Distribution Companies of the states
Private Sector (about 70)	Tata Power, Jindal Power, Reliance Power, ABB Siemens, Alstom, GMR , Torrent, ESC, BSES, Patel Engg., Gammon, Bargen etc.
Research Institutes	Leading Research Institutes like – CPRI, GERI, ERDA, CSIR, RDSO etc.
Regulatory Commissions	Central & State Electricity Regulatory Commissions
International Organizations	• Bhutan – Druk Green, BPC, Mangdechhu, Punatsangchhu Projects • Zimbabwe – Power Company • Sri Lanka – Irrigation Department • Germany – Maschinenfabrick Reinhusen
Water Resources Department	• All State Water Resources & Irrigation Departments

Research Activities

- CBIP has been involved in the R&D activities since 1972.
- Research organized under Research Scheme on Power (RSOP) and under Researched Scheme on River Valley Project (RSRVP) funded by MOP & MOWR.
- Research Scheme on River Valley Project- 385 research projects.
- Research Scheme on River Valley Project- 700 research projects
- Aim of the research work is to find solution to the technical problems in these sectors.

CENTRAL BOARD OF IRRIGATION AND POWER

Partnership

CBIP has made tie ups with following organisations of power sector for giving value addition to its training programs

- **Utilities**

  NTPC, Powergrid, BBMB, IPGCL, HPGCL, DHVVNL, WBPDCL, DTL, Adani Power, BSES Rajdhani Poer, BSES Yamuna Power, TATA Power Delhi Distribution Ltd. etc.

- **Educational and Research institutes**

  NPTI, EEC, CPRI, PSSC, SCGJ, NISE, NIT(Durgapur)

- **Manufacturers**

  BHEL, SIEMENS, HITACHI-ABB, Skipper India Ltd., Hythro Power Corp. Ltd. (HPCL), Cable Manufacturers, Insulator Manufacturers, Battery Manufacturers

- **Simulator Training/Visits**

  WBPDCL, NPTI, PMI (NTPC), Korba NTPC, Adani Power, Rosa Thermal Power Plant, Reliance Power

International Partners of CBIP

The Board functions as the Indian National Group/Chapter for the following international organizations.

- International Conference on High Voltage Electric System (CIGRE)
- International Council for Electricity Distribution (CIRED)
- International Commission on Large Dams (ICOLD)
- International Society for Rock Mechanics (ISRM)
- International Tunneling Association (ITA)
- International Water Resources Association (IWRA)
- World Water Council (WWC)
- International Geosynthetics Society (IGS)
- International Association for Small Hydro (IASH)
- International Association on Electricity Generation, Transmission & Distribution (Afro-Asian Region) (AARO).
- The following organizations were also functioning under CBIP, earlier:
- International Commission on Irrigation & Drainage (ICID)
- International Hydropower Association (IHA)
- International Association for Hydraulic Research (IAHR)
- International Society of Soil Mechanics and Foundation Engineering (ISSMFE)

REVAMPED DISTRIBUTION SECTOR SCHEME (RDSS)

OBJECTIVE

- IMPROVE QUALITY, RELIABILITY & AFFORDABILITY OF POWER SUPPLY TO CONSUMERS.
- REDUCE AGGREGATE TECHNICAL & COMMERCIAL (AT&C) LOSSES TO PAN INDIA LEVEL OF 12-15% BY 2024-25.
- REDUCE AVERAGE COST OF SUPPLY (ACS) TO AVERAGE REVENUE REALISED (ARR) GAP TO ZERO BY 2024-25.
- DEVELOPING INSTITUTIONAL CAPABILITIES

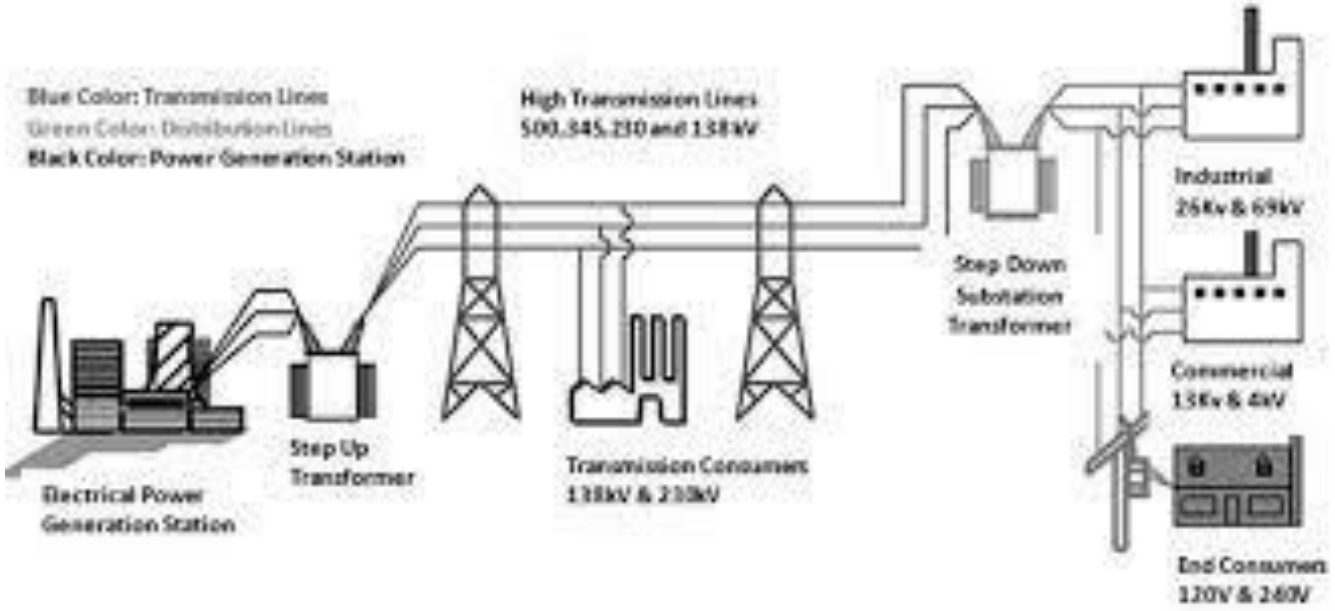
COMPONENTS OF THE RDSS SCHEME

PART –A

- Metering
- Distribution Infrastructure Works.
- Project Management.

PART-B

- Training & Capacity Building And Other Enabling & Supporting Activities.



Special Features Of RDSS Scheme	Focus On Improved Performance	Thrust On Smart Metering	Thrust On Automation
Should Result In	AT&C Loss Reduction	Improvement In Quality & Reliability Of Power Supply	
To Achieve This	Smooth Implementation Of Project	Capacity Building / Training Of Field Staff	Performance Evaluation And Quality Assurance in efficient manner

Elements and State wise Summary of NER-PSIP

Type of Element	Assam	Meghalaya	Mizoram	Manipur	Nagaland	Tripura	NER-PSIP (TOTAL*)
EHV NEW SS	11	4	3	2	5	9	34
EHV Extn SS	8	2	1	8	5	7	31
EHV TL	14	3	4	6	7	14	48
DMS New SS	16	11	1	13	10	34	85
DMS Etxn SS	25	4	1	29	18	25	102
DMS TL	42	17	1	13	11	62	146
TOTAL ELEMENTS	116	41	11	71	56	151	446

*Total Investment in NER approx. ₹6700 Crs

HOW CBIP CAN BE OF HELP IN CAPACITY BUILDING / TRAINING PROGRAMES

- Conducted more than 30 Nos. Induction/ Refresher Training Program for Various Discoms & Other Power Utilities.
- Conducted more than 40 Nos. Programs to Impart Hands On Training In Association With ABB, Siemens, L&T, TATA Power, ERDA Etc.
- Conducted more than 200 Programs for Various Generating & Transmission Utilities.
- Conducted Skill Development Program for 8000 Contract Workers In Power Stations Of NTPC.
- Conducted more than 100 National & International Webinar Including On Power Distribution System.

- Conducted more than 80 Nos. Programs On Disaster Management In Power Distribution System for WBSEDCL During 2019-2022.
- Conducted Program of Selection, Design of Equipment for Distribution System for Various Utilities.
- Conducted Conference / Workshop on Smart Metering
- Issue of Manual & Conference Proceedings on Power Distribution System
- Manual on Smart Metering under Revision

WHAT CBIP CAN DO FOR DISCOMS OF NER

Provide Training to Personnel Involved In Execution/Operation of Scheme at Field Level towards upgradation of Human Skill & Process Improvement with focus on:

- ✓ Technical Matters
- ✓ Advance Technology
- ✓ New Business Processes
- ✓ Good Governance Practices
- ✓ Audit Of Existing System

NER Constituents Working In Distribution Area may Consider Nominating Executives In 26 Week Post Graduate Diploma Course In Transmission & Distribution Where Focus is in Automation And SCADA

- Next batch starts on 16th August 2023

IMPORTANT AREAS COVERED IN PGDC

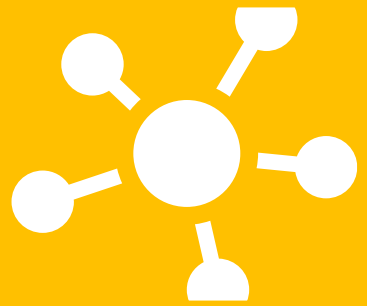
POST GRADUATE DIPLOMA COURSE (PGDC) PROGRAME PROVIDES EXPOSURE IN POWER DISTRIBUTION SECTOR IN FOLLOWING AREAS:

- TUTORIAL ON LOAD FLOW STUDIES
- FAULT ANALYSIS
- BASICS ON ENGINEERING PRACTICES IN SUBSTATION & DISTRIBUTION LINE DESIGN, PROCUREMENT, QUALITY ASSURANCE, FIELD QUALITY, TESTING & COMMISSIONING AND SUBSEQUENT OPERATION & MAINTENANCE PROCEDURE
- PROTECTION RELAY CO-ORDINATION PHILOSOPHY
- SMART METERING IN DISTRIBUTION SYSTEM
- POWER SYSTEM MANAGEMENT THROUGH STATE OF THE ART SCADA & DMS.
- AWARENESS ON REGULATORY PROVISIONS IN TARIFF MECHANISM & ELECTRICITY RULES/ACT.

CBIP CAN PROVIDE FOLLOWING FOR NER CONSTITUENTS

CUSTOMISED TRAINING PROGRAM AT CBIP CENTRE OF EXCELLENCE AT GURGAON

DOOR STEP TRAINING PROGRAM FOR VARIOUS LEVELS OF FIELD STAFF DEPLOYED AT SITE.



TRAINING OF CONTRACTUAL WORK FORCE ENGAGED IN DISTRIBUTION SECTOR.

HANDS ON EXPERIENCE WITH LEADING MANUFACTURERS LIKE SIEMENS, HITACHI-ABB, L&T, METER MANUFACTURERS ETC

Training Calender of CBIP for FY 2023-24 takes care of following important topics related to RDSS/NER-PSIP

DISTRIBUTION SYSTEM

- Revenue management and loss reduction techniques in the distribution system
- Improving the health of the distribution system including distribution automation, power quality, distribution franchise
- Failure of Distribution Transformer, Its Prevention and repair.
- Distribution metering & advanced technology including smart meters
- Distribution management with SCADA & communication system
- Power quality, harmonics mitigation & reactive power management
- Power trading and power market
- Maintenance and handling of underground/ABC cables
- Operation and maintenance of substation equipment
- Distribution system protection- protection principles, application and analysis
- Procurement, inventory and store management
- Energy audit and demand side management
- Earthing practices in electrical installation and related safety
- Redressal of customer grievances, customer satisfaction and customer relation management
- Tariff policy & submission of ARR
- Regulatory framework including regulation, policy

TRANSMISSION SYSTEM

- Operation and maintenance of substation equipments
- Gas insulated switchgear (GIS) – layout, maintenance and trouble shooting
- Operation and maintenance of transmission line including condition monitoring
- Power system protection- protection principles, application and analysis
- Power transformers & reactors – operation and maintenance, erection, testing & commissioning, insulating oil properties
- Life management of transformers and reactors
- Design and construction practices for substation
- SCADA in Transmission system
- Smart grid concept in transmission – issues and challenges
- Earthing system and it's importance
- Procurement, inventory and store management

For clarification and needs of your organization, please feel free to contact following CBIP officials

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Email- mrchauhan@cbip.org

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ARUNACHAL PRADESH POWER CORPORATION PRIVATE LIMITED

APPCPL is the Group of Companies of United Brothers which was established in 1997 in Arunachal Pradesh.

APPCPL is ranked among the top power trader in India. We have registered office in Naharlagun, Arunchal Pradesh and regional offices in Guwahati, Bengaluru and corporate office at New Delhi.

APPCPL has achieved the turnover of 2300 Croce in last Financial Year.

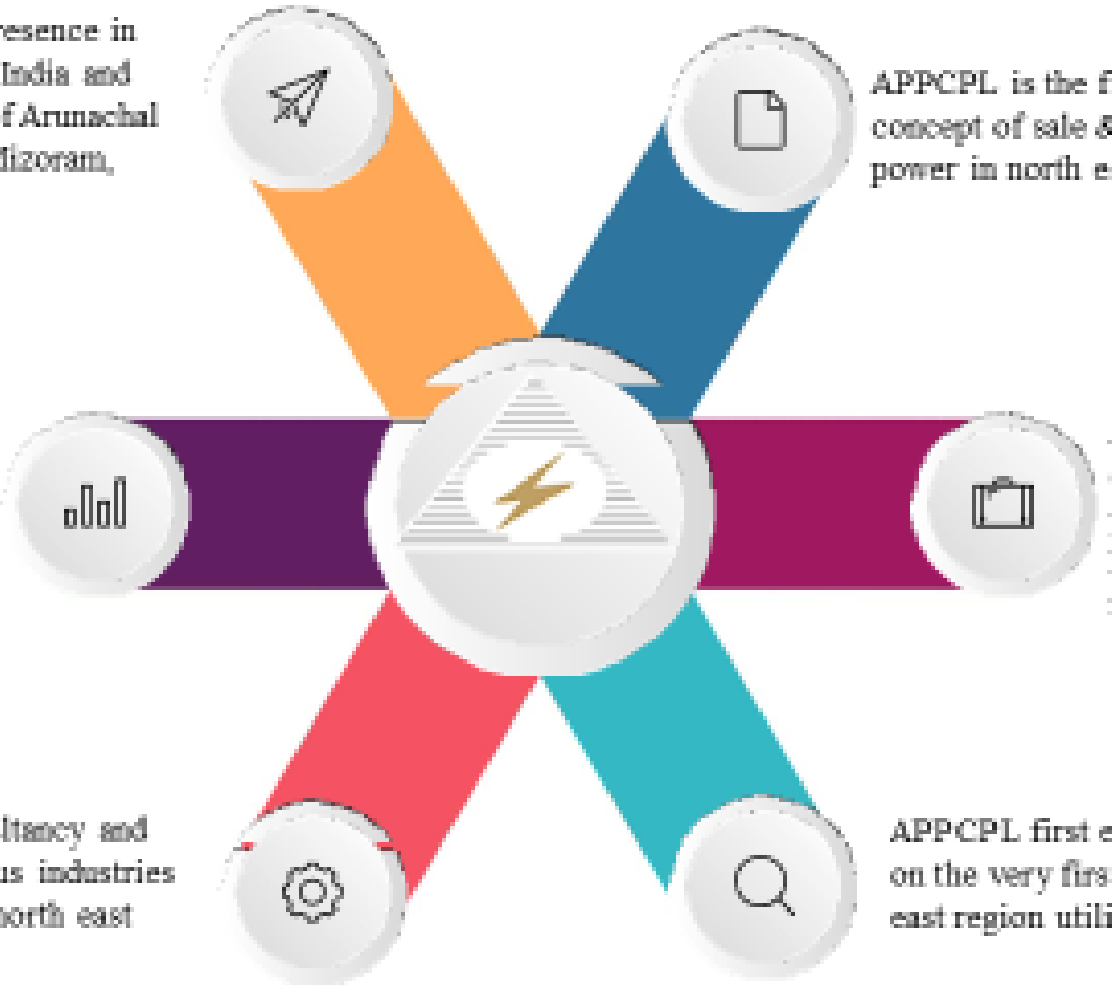
APPCPL is having business collaboration with CBIP .

Our Story in North East Region

APPCPL is having strong presence in north east region regions of India and managing power portfolio of Arunachal Pradesh, Assam, Manipur, Mizoram, Nagaland and Tripura.

APPCPL is the first power trader to introduce the concept of sale & purchase of non solar renewable power in north east region.

APPCPL Successfully installed and operating 2160 KWp of solar in Assam, and Guwahati.



APPCPL is handling the portfolio of north east states from last 14 years. We are transacting 1200 MUs per annum in north east region.

APPCPL Providing consultancy and advisory services to various industries and power developers in north east region.

APPCPL first ever trader to trade escerts on the very first trading session for north east region utility.