



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

NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

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No.: No. NERPC/SE (O)/PCC/2024/ 3205-3247

5th December, 2024

**To**

**As per list attached**

**Sub: 73वीं पी.सी.सी बैठक का कार्यवृत्त  
Minutes of 73<sup>rd</sup> PCC Meeting.**

महोदय/महोदया,

कृपया 26 नवंबर, 2024 को एन.ई.आर.पी.सी कॉन्फ्रेंस हॉल, शिलांग में आयोजित 73 वीं पी.सी.सी बैठक के कार्यवृत्त को अपनी जानकारी और आवश्यक कार्रवाई के लिए प्राप्त करें। कार्यवृत्त एन.ई.आर.पी.सी की वेबसाइट: [www.nerpc.gov.in](http://www.nerpc.gov.in) पर भी उपलब्ध है।

कृपया कोई भी टिप्पणी जल्द से जल्द एन.ई.आर.पी.सी सचिवालय को सूचित करें।

Sir/Madam,

Please find enclosed herewith the minutes of the 73rd PCC Meeting held at NERPC Conference Hall, Shillong on 26th November, 2024 for your kind information and necessary action. The minutes is also available on the website of NERPC: [www.nerpc.gov.in](http://www.nerpc.gov.in).

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

भवदीय / Yours faithfully,

(ए. दे/A. De)

(उप निदेशक / Deputy 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. GM (Transmission), TPTL, Bidyut Bhaban, Banamalipur, Agartala -799 001.
12. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Chief Engineer (Commercial) -cum- CEI, DoP, Govt. of Arunachal Pradesh, Itanagar- 791111
15. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
16. Engineer-in-Chief, Department of Power, Govt. of Nagaland, Kohima – 797 001
17. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
18. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
19. Group GM, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
20. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura – 799014
21. ED, PGCIL/NERTS, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
22. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
23. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
24. Dy. COO, CTUIL, “Saudamini”, 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
27. ED, NERLDC, Dongtiah, Lower Nongrah, Lapalang, Shillong -793 006
28. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
29. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
30. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
31. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
32. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
33. Head of SLDC, MSPCL, Imphal – 795001
34. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
35. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
36. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
37. Head of SLDC, TSECL, Agartala – 799001
38. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
39. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
40. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77
41. AGM Regulatory & Commercial, NER II TL, 10<sup>th</sup> Floor, Berger Tower, Noida sector 16B-201301
42. Project Head, NERPSIP/PGCIL, Pub Suraj Nagar, Nutun Bazar, Kahelipara, Guwahati- 781019
43. ED, Comprehensive Scheme (Ar. Pradesh), PGCIL, Tayeng Building, Nitivihar, Itanagar-791111



(ए. दे/ A. De)

(उप निदेशक / Deputy Director)



सत्यमेव जयते

Minutes  
of  
73<sup>rd</sup> PCCM



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

North Eastern Regional Power Committee

**Minutes of**

**73<sup>rd</sup> Protection Coordination Sub-Committee Meeting**

**Date:** 26/11/2024 (Tuesday)

**Time:** 11:00 hrs.

**Venue:** NERPC conference Hall, Shillong

<b>A. CONFIRMATION OF MINUTES</b>
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**1. CONFIRMATION OF MINUTES OF THE 72<sup>nd</sup> PROTECTION SUB-COMMITTEE MEETING OF NERPC.**

Minutes of the 72<sup>nd</sup> PCC Meeting held on 21<sup>st</sup> October, 2024 (Monday) at NERPC Conference Hall, Shillong was circulated vide letter No.: NERPC/SE (O)/PCC/2024/2709-2750 dated 30<sup>th</sup> October, 2024.

No comments were received from constituents

***The Sub-committee confirmed the minutes of 72<sup>nd</sup> PCCM.***

<b>B. ITEMS FOR DISCUSSION</b>
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**B.1 Protection Audit of NER:**

As per the protection code of IEGC 2023 following roles and responsibilities, related to the subject mentioned, of constituents have been defined–

Description		Constituent	Responsibility	Timeline
<b>Audit</b>	Internal Audit	All users (132kV and above)	Shall conduct internal audit of protection system	Annually
			Audit report to be shared with RPC	Within 30 days of Audit
			Action plan for rectification of deficiencies to be shared with RPC	Within 30 days of Audit
	Third party Audit	All users (132kV and above)	Shall conduct audit for each SS	Once in five years
			Shall conduct audit on advice of RPC	Within three months of advice of RPC
			Audit report* to be submitted to RPC and NERLDC/SLDC	Within a month of submission of third-party audit report
			Action plan for rectification of deficiencies	Same as above
		RPC	Compliance to audit reports to be followed up regularly	Not specified
		RPC	After analysis of any event, shall identify substations where audit is required to be carried out	Conditional responsibility

	Annual audit plan	All users	Annual audit plan to be submitted to RPC by <b>31<sup>st</sup> October</b>	Annual
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Background: In 60<sup>th</sup> PCCM the following points were discussed-

Member Secretary NERPC informed that third party protection audit has to be generally conducted by the utilities on their own. However, the 3<sup>rd</sup> party audit will be carried out by team constituted by NERPC at selected substations based on the criticality, analysis and requirement. In this regard, NERPC has already circulated an audit calendar and audit formats for reference of the constituents.

The nodal officers of respective State/Power Utilities have to fill the audit formats and submit to the NERPC secretariat within 1 week.

The forum decided that compliance to audit reports will be followed up regularly in PCC meeting of NERPC.

Information regarding substations that have already been audited will be provided by States to NERPC & NERLDC.

Forum agreed that all users (132 kV and above) have to conduct Internal Audit annually and submit audit report to RPC with action plan for rectification of deficiencies within 30 days of Audit.

Regarding audit plan of utilities, the forum requested the utilities to furnish the list of substations and audit (internal as well as third party) schedule for FY 2024-25. NERLDC stated that a google spreadsheet has been circulated to the constituents to provide the schedule of protection audit as well as date of last audit. The forum requested the constituents to update the spreadsheet.

In 70<sup>th</sup> and 69<sup>th</sup> PCCM, following points were discussed

1. Forum requested users to update the proposed date for Internal Audit & Third-party Audit in the spreadsheet shared by NERLDC as soon as possible.

2. AEGCL updated that the internal audit of 61 substations has been completed and would share the report by this month.
3. TSECL absent
4. Manipur informed that Protection audit committee has been formed and the audit schedule, for external audit, will be decided shortly.
5. DoP Arunachal Pradesh updated that internal audit of Chimpu SS is done and report will be shared shortly to NERPC and NERLDC. He further informed that audit of Lekhi would be done by August'24. He also stated that the audit reports would be shared in due time to NERPC.
6. NTPC informed that 3rd party audit has been awarded and will be done in 3<sup>rd</sup> week of September.
7. NERTS updated that internal audit of its substations is being done in a phased manner and audit of 10 substations has been completed and reports shared with NERPC.
8. DoP Nagaland updated that internal audit of 4 substations has been completed and report shared with NERPC.
9. NEEPCO informed that internal audit of Pare and Kopili has been completed and audit of thermal substations will be done shortly.

Regarding audit of substations of Nagaland and adjoining substations of NERTS, it was decided to conduct the audit of 132 kV Dimapur (DoPN) SS, 132 kV Kohima SS, 132 kV Chiepouvozou SS, 132 kV Zhadima SS and 220 kV Dimapur (PGCIL) in August'24. DoP Nagaland stated that the audit schedule will be provided shortly. Further, it has been decided that audit of rest of the 132 kV substations of Nagaland will be conducted after end of Monsoon season.

The status of internal audit, external audit and report submissions have been summarized in the following table (as update in 72<sup>nd</sup> PCCM) –

	Utility/Constituents	Internal Audit			External audit	
		<b>Status (72<sup>nd</sup> PCCM)</b>	<b>report</b>		<b>Status (72<sup>nd</sup> PCCM)</b>	<b>report</b>
1.	Ar. Pradesh	Chimpu – done.	Report of Chimpu to		Financial approval for the	NA

		Rest to be done	be submitted by December'24	audit pending. Schedule to be decided afterwards.	
2.	Assam	Done for 61 SS	To be submitted by Aug end	NERPC conducted audit of 6 SS in Jan to June'24. Other SS done in 2021-22. Only Karimganj left.	submitted
3.	Manipur	Done for all SS	Submitted	8 SS to be done, Schedule to be decided.	NA
4.	Meghalaya	No audit done yet in FY 2024-25	NA	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an MAwphlang) conducted by NERPC on 26 <sup>th</sup> and 27 <sup>th</sup> August'24	Report to be shared by end of October'24
5.	Mizoram	Done for all SS	Report shared	Audit of Luangmual, Zuangtui and Kolasib planned in August'24. List of external agencies awaited	NA
6.	Nagaland	Done for four SS	Report shared	Audit of 5 ss to be done in Mid of November'24.	NA



				For rest, to be planned later.	
7.	Tripura	11 done, rest by November'24. For 66kV SS - audit by November'24.	To be shared	Jan-Feb'25	NA
8.	Powergrid (NERTS)	POWERGRID has completed & submitted internal protection reports for 16 nos. of substations.	shared	External audit completed for Misa & Salakati Ss.	
9.	NTL				
10	KMTL				
11	MUML	Planned in Dec'24 for N.Lakhimpur-Pare line bays and N.Lakhimpur-Nirjuli bays at Lakhimpur	To be shared		
12	NEEPCO	Pare, Ranganadi and Turial done. RC Nagar and Kathalguri to be planned	Shared for Pare and Turial	To be planned. Waiting for the list of agencies from NPC	

13.	OTPC	Done		Done	shared
14.	NTPC	Done	shared	September 3 <sup>rd</sup> week	
15.	NHPC				
16.	APGCL				
17.	TPGCL				
18.	MEPGCL				

Following points were discussed in the 72<sup>nd</sup> PCC meeting

1. Forum requested users to update the proposed date for Internal Audit & Third-party Audit in the spreadsheet shared by NERLDC as soon as possible.
2. Forum requested users to update the next year Internal Audit & Third-party Audit plan and also requested to send the last 5-years Internal Audit & Third-party Audit list to NERPC and NERLDC as soon as possible.
3. AEGCL updated that the internal audit of 61 substations has been completed and report has been submitted. AEGCL also updated that for Third-party Audit of 132 kV Karimganj substation is yet to be done.
4. TSECL updated that the internal audit of 11 substations has been completed and rest would be completed by Sept.'24 and would share the report at earliest. He also informed the forum that Third-party Audit would be planned after Oct'24.
5. Manipur informed that Protection audit committee had been formed and the audit schedule, for external audit, would be decided shortly.
6. DoP Arunachal Pradesh updated that the external audit is planned to be conducted in Nov'24.
7. Mizoram informed the forum that they were planning Third-party Audit through recognized auditor and for the same they were waiting for the CEA recognized auditor list.
8. NTPC informed that 3<sup>rd</sup> party audit had been awarded and would be done in 3<sup>rd</sup> week of September.

9. DoP Naglanad informed the forum that due to landslide issue, external audit of 5 substations would not be possible then and requested that external audit of the same could be done tentatively in Nov'24.

It was also decided that Audit of the 5 SS of Nagaland can be conducted in Mid of November'24 by NERPC and audit of Kolasib (Mizoram), Aizwal (PG), Melriat (PG) and other nearby important substations also to be conducted by November'24.

### **Deliberation of the sub-committee**

Utilities updated as follow-

	Utility/Constituents	Internal Audit		External audit	
		<b>Status (73<sup>rd</sup> PCCM)</b>	<b>report</b>	<b>Status (73<sup>rd</sup> PCCM)</b>	<b>report</b>
1.	Ar. Pradesh	Chimpu – done. Rest to be done	Report of Chimpu to be submitted by December'24	Financial approval for the audit pending. Schedule to be decided afterwards.	NA
2.	Assam	Done for 61 SS	To be submitted by Aug end	NERPC conducted audit of 6 SS in Jan to June'24. Other SS done in 2021-22. Only Karimganj left.	submitted
3.	Manipur	Done for all SS	Submitted	8 SS to be done, Schedule to be decided.	NA
4.	Meghalaya	No audit done yet in FY 2024-25	NA	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an MAwphlang) conducted by	Report to be shared by end of October'24

				NERPC on 26 <sup>th</sup> and 27 <sup>th</sup> August'24	
5.	Mizoram	Done for all SS	Report shared	Audit of Luangmual, Zuangtui and Kolasib planned in August'24. List of external agencies awaited	NA
6.	Nagaland	Done for four SS	Report shared	Audit of 5 ss to be done in Mid of November'24. For rest, to be planned later.	NA
7.	Tripura	11 done, rest by December '24. For 66kV SS - audit by Decmber'24.	To be shared	Jan-Feb'25	NA
8.	Powergrid (NERTS)	POWERGRID has completed & submitted internal protection reports for 16 nos. of substations.	shared	External audit completed for Misa & Salakati Ss.	
9.	NTL				
10	KMTL				
11	MUML	Planned in Dec'24 for	To be shared		

		N.Lakhimpur- Pare line bays and N.Lakhimpur- Nirjuli bays at Lakhimpur			
12	NEEPCO	Pare, Ranganadi and Turial done. RC Nagar and Kathalguri to be planned	Shared for Pare and Turial	To be planned. Waiting for the list of agencies from NPC	
13.	OTPC	Done		Done	shared
14.	NTPC	Done	shared	September 3 <sup>rd</sup> week	
15.	NHPC				
16.	APGCL				
17.	TPGCL				
18.	MEPGCL				

Further discussion-

1. DoP Arunachal Pradesh updated for the external audit, financial approval is pending with higher authorities. Meanwhile DoP AP, requested NERPC to conduct the 3<sup>rd</sup> Party audit. NERPC stated that the decision on the matter will be taken up in next PCC meeting.
2. Mizoram stated that that they were planning Third-party Audit through recognized auditor and for the same they were waiting for the CEA recognized auditor list. NERPC informed that the in the recently held 15<sup>th</sup> NPC meeting, it was decided that the proposed list of external agencies needs further examination and verification by NPC and thus the list was not approved in the meeting. NERPC opined that Mizoram can conduct the external audit by hiring appropriate agencies through internal process till the list is finalized.

3. DoP Nagaland informed the forum that due to ongoing Hornbill festival in the state, external audit of the 5 substations (Sania, Wokha, Kohima, Chiepouvouzou and Dimapur) would not be possible in November'24 and requested that external audit of the same could be done tentatively in Jan'25.
4. It was also decided that Audit of the 5 SS of Nagaland can be conducted in Jan'25 by NERPC and audit of Kolasib (Mizoram), Aizwal (PG), Melriat (PG) and other nearby important substations also to be conducted by Jan'24.

**B.2 Analysis and Discussion on Grid Disturbances which occurred in NER grid in September'24 in compliance with IEGC 2023:**

TABLE 8 : REPORT SUBMISSION TIMELINE

Sr. No.	Grid Event <sup>^</sup> (Classification)	Flash report submission deadline (users/ SLDC)	Disturbance record and station event log submission deadline (users/ SLDC)	Detailed report and data submission deadline (users/ SLDC)	Draft report submission deadline (RLDC/ NLDC)	Discussion in protection committee meeting and final report submission deadline (RPC)
1	GI-1/GI-2	8 hours	24 hours	+7 days	+7 days	+60 days
2	Near miss event	8 hours	24 hours	+7 days	+7 days	+60 days
3	GD-1	8 hours	24 hours	+7 days	+7 days	+60 days
4	GD-2/GD-3	8 hours	24 hours	+7 days	+21 days	+60 days
5	GD-4/GD-5	8 hours	24 hours	+7 days	+30 days	+60 days

<sup>^</sup>The classification of Grid Disturbance (GD)/Grid Incident (GI) shall be as per the CEA Grid Standards.

The forum may deliberate upon the GD/GI/near miss events that occurred in September 2024 based on the draft report prepared by NERLDC (attached as **annexure B.2**).

**Deliberation of the sub-committee**

NERLDC informed that 8 GDs occurred in the month of Oct'24 in NER and the same have been placed for detailed discussion in upcoming agenda items.

**NERLDC Agenda**

**B.3 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of October'2024:**

In line with regulation 12 (1) of CEA Grid Standards Regulations and IEGC-23 provision under clause 37.2 (c), FIR and DR & EL Outputs for each grid events are required to be submitted by concerned utilities to NERLDC for detailed investigation and analysis.

Status of uploading of FIR, DR & EL outputs in Tripping Monitoring Portal for events from 01-10-2024 to 31-10-2024 as on **11-11-2024** is given below:

Name of Utility	No. of trippings	Total FIR to be submitted	Total DR to be submitted	Total EL to be submitted	Total FIR, DR & EL submitted			Total FIR, DR & EL not submitted			% Submission of		
					FIR	DR	EL	FIR	DR	EL	FIR	DR	EL
DoP, Arunachal Pradesh	2	4	4	4	4	3	4	0	0	0	100	100	100
DEPL	0	0	0	0	0	0	0	0	0	0	No event		
AEGCL	25	50	37	37	50	37	37	0	0	0	100	100	100
APGCL	1	1	1	1	1	1	0	0	0	0	100	100	100
MSPCL	8	20	17	17	18	13	13	2	4	4	90	76	76
MePTCL	2	2	2	2	2	2	2	0	0	0	100	100	100
MePGCL	4	4	0	0	4	0	0	0	0	0	100	NA	NA
P&ED, Mizoram	0	0	0	0	0	0	0	0	0	0	No event		
DoP, Nagaland	6	13	13	13	12	10	11	1	3	2	92	77	85
TSECL	3	5	5	5	3	5	5	2	0	0	60	100	100
TPGCL	0	0	0	0	0	0	0	0	0	0	No event		
POWERGRID	23	50	48	48	44	41	36	6	7	12	88	85	75
NEEPCO	29	33	27	31	26	19	23	7	8	8	79	70	74
NHPC	4	6	4	3	6	3	2	0	0	0	100	100	100
NTPC	0	0	0	0	0	0	0	0	0	0	No event		
OTPC	3	3	2	2	3	2	2	0	0	0	100	100	100
NTL	5	4	4	4	4	4	4	0	0	0	100	100	100
MUML	0	0	0	0	0	0	0	0	0	0	No event		
KMTL	1	1	1	1	1	1	1	0	0	0	100	100	100

**Concerned Utilities** are requested to upload Disturbance Recorder (DR), Event Logger (EL) outputs for grid events along with a First Information Report (FIR) in Tripping Monitoring Portal (<https://tripping.nerldc.in/Default.aspx>) for analysis purpose. In light of the cybersecurity measures implemented by Grid India to safeguard sensitive information, NERLDC has created the email address [nerldcso3@gmail.com](mailto:nerldcso3@gmail.com). This new account has been specifically set up to facilitate the secure exchange of DR and EL files that have previously faced blockage when sent to [nerldcprotection@grid-india.in](mailto:nerldcprotection@grid-india.in).

Also, all utilities are requested to nominate a nodal officer responsible for the submission of FIR, DR & EL in Tripping Monitoring Portal (<https://tripping.nerldc.in/Default.aspx>)

#### **Deliberation of the sub-committee**

NERLDC highlighted that submission rate of all the utilities except for Manipur (76%), Nagaland (77%) and NEEPCO (78%) are satisfactory for the month of October'24.

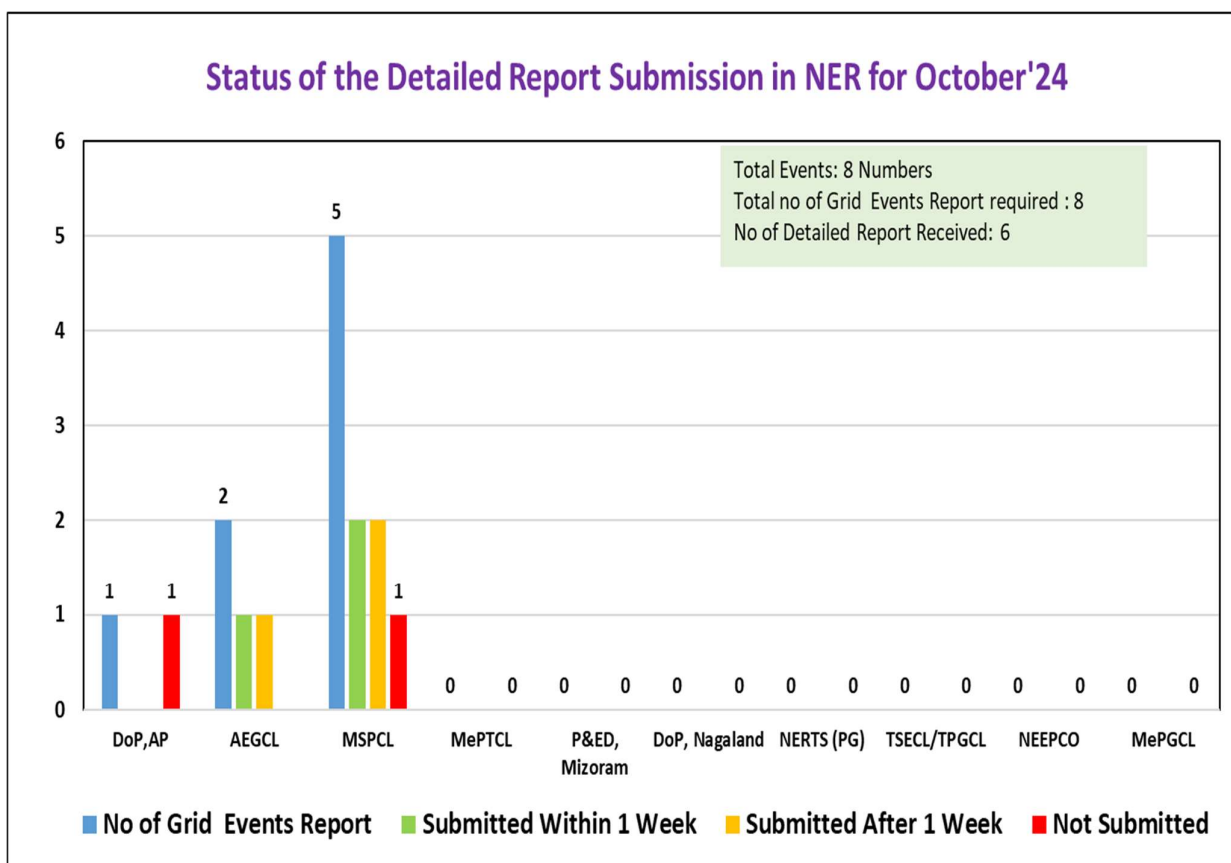
Nagaland stated that the rest of the DR, EL were submitted beyond the stipulated timeline.

The Forum exhorted all the utilities to submit the required data timely in compliance with the IEGC 2023.

#### **B.4 Submission of Flash Report and Detailed Report by User/SLDC as per IEGC-2023:**

As per IEGC-2023, all User/SLDCs are requested to prepare and share **Flash Report** and **Detailed Report** with **NERLDC** and **NERPC** following any Grid Events as per the timeline mentioned in the cl 37.2(f).

Status of submission of the same for the month of **October, 2024** as on **11-11-2024** is shown below:





*All the utilities are requested to promptly share all the necessary information such as FIR, DR, EL and Reports (Flash Report & Detailed Report) as per the specified timeline mention in the Grid Code-2023.*

**Deliberation of the sub-committee**

NERLDC highlighted that DoP Arunachal Pradesh have not yet submitted the report. MSPCL has not submitted for 1 GD. DoP Arunachal. Pradesh stated that the report will be submitted shortly to NERLDC. The forum strongly advised the utilities to submit the reports timely to NERLDC in line with the IEGC 2023.

**B.5 Non-operation of auto recloser in Important Grid Elements for transient faults in September 2024:**

As updated in 73<sup>rd</sup> PCCM -

Sl. No	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility (73 <sup>rd</sup> PCCM)
1	400 kV PK Bari-Silchar I Line	06:26 Hrs of 01-10-2024	DP, ZI, R-N, <b>A/R successful</b>	DP, ZI, Y-N	Silchar	<b>Issue with relay. Now resolved.</b>
2	132 kV Dimapur(PG)-Kohima Line	14:00 Hrs of 01-10-2024	DP, ZI, B-N	<b>A/R successful</b>	Dimapur(PG)	A/R unsuccessful at both ends due to persisting fault.
3	132 kV Jiribam-Loktak Line	03:26 Hrs of 12-10-2024	DP, ZI, R-Y-B-N, <b>A/R successful</b>	DP, ZII, R-Y-B-N ( <b>DR not opening</b> )	Loktak	NHPC absent
4	220 kV Agia-Boko Line	11:20 Hrs of 12-10-2024	DP, ZI, B-N	DP, ZI, B-N, <b>A/R successful</b>	Agia	Issue with Pole discrepancy relay at Agia end. Now replaced.
5	132 kV Dimpaur-Imphal Line	02:59 Hrs of 25-10-2024	DP, ZII, B-N, Carrier aided tripping	<b>DR not submitted</b>	Dimapur, Imphal	Persistent fault, so no AR

Sl. No	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility (73 <sup>rd</sup> PCCM)
1	400 kV PK Bari-Silchar I Line	06:26 Hrs of 01-10-2024	DP, ZI, R-N, <b>A/R successful</b>	DP, ZI, Y-N	Silchar	<b>Issue with relay. Now resolved.</b>
2	132 kV Dimapur(PG)-Kohima Line	14:00 Hrs of 01-10-2024	DP, ZI, B-N	<b>A/R successful</b>	Dimapur(PG)	A/R unsuccessful at both ends due to persisting fault.
6	132 kV AGTCCPP-PK Bari II Line	08:59 Hrs of 28-10-2024	DP, ZII, B-N, Carrier aid trip, <b>A/R successful</b>	DP, ZI, B-N	PK Bari	Fault detected in ZII and issued trip command. Hence, A/R did not operate.

**Deliberation of the sub-committee**

Utilities updated in the table as above.

**B.6 Submission of Protection Performance Indices by Transmission Utilities:**

As per Regulation No. 15(6), Protection Code - Users shall submit the following protection performance indices of previous month to their respective RPC and RLDC on monthly basis for 220 kV and above (132 kV and above in NER) system by 10th of every month for previous month indices, which shall be reviewed by the RPC.

As on 11.11.2024, **NETC, MUML, DoP Nagaland, OTPC, TPTL, MePGCL, MePTCL, AEGCL and NERTS** has submitted protection performance indices for the month of October'24.

SN	Name of Transmission Licencee	D= (Nc/Nc+Nf)	S= (Nc/Nc+Nu)	R= (Nc/Nc+Ni)	Remarks
1	NETC	-	-	-	No bays owned by NETC
2	MUML	-	-	-	No tripping during Oct'24
3	DoP Nagaland	1	1	1	
4	OTPC	1	1	1	
5	TPTL	1	1	1	
6	AEGCL	1	0.78	0.78	<ul style="list-style-type: none"> <li>Spurious tripping of 220 kV BTPS-Rangia II line at Rangia end on 10.10.2024.</li> <li>Unwanted tripping of 100 MVA ICT-I at Tinsukia on 11.10.2024, 12.10.2024 &amp; 14.10.2024</li> </ul>

					due to DC earth fault. • Unwanted tripping of 220 kV Behiating-Tinsukia D/C lines & 220/132 kV ICT-I&II at Behiating for fault in 132 kV Dibrugarh-Tinsukia line on 28.10.2024.
7	MePGCL	1	1	1	
8	MePTCL	1	1	1	
9	NERTS	1	1	1	

Protection Performance Indices not received from transmission utilities such as **NTL, KMTL, MSPCL and DoP AP**. Also, not received from Generating companies such as **NHPC, NEEPCO and APGCL**.

Therefore, all Users are requested to furnish performance indices (Dependability-D, Security-S, Reliability-R) with regards to the tripping of elements to NERPC & NERLDC positively by **10th** of every month for previous month indices in compliance with IEGC.

#### **Deliberation of the sub-committee**

NERLDC highlighted that NETC, MUML, DoP Nagaland, OTPC, TPTL, AEGCL, MePGCL, MePTCL, NERTS, NTL & NEEPCO has submitted Protection Performance Indices for October'24. KMTL, MSPCL, DoP AP, NHPC and APGCL not submitted.

Forum requested all the utilities for timely submission of Protection performance indices.

**B.7 Tripping of 220 kV Misa-Kopili III line on 06-09-2024:**

At 01:52 Hrs & 02:52 Hrs of 06-09-2024, 220 kV Misa-Kopili III line tripped.

As per submitted DR, there was no fault observed in the system. At Misa end, 86 relay operated at 01:52:37.051 Hrs and 02:52:06.635 Hrs on receipt of DT as per EL. From submitted DR of Kopili, CB opening at Kopili is not clear.

Time drift of 16 min observed in EL of Misa end. The same needs to be corrected by NERTS.

As informed by NEEPCO, there was sparking observed in Bus isolator at Kopili.

*NEEPCO is requested to share the root cause and remedial measures taken.*

**Deliberation of the sub-committee**

1. NEEPCO stated that the reason for generation of DT will be checked thoroughly during the upcoming shutdown. The forum requested NEEPCO to share the settings of the 220kV Kopili-Misa line to NERPC and NERLDC.
2. NEEPCO informed that there was sparking observed in Bus isolator at Kopili Bus-B. Subsequently, 220 kV Misa-Kopili III line was shifted to Bus-A from Bus-B. However, the line tripped again.
3. NEEPCO informed that shutdown of Kopili Bus will be planned for thorough investigation of the event. Kopili Bus-A setting will be checked by NEEPCO.
4. Forum referred the matter to PSAG for further analysis.

**B.8 Tripping of 132 kV Pare-Nirjuli line on 23-09-2024:**

At 22:01 Hrs of 23-09-2024, 132 kV Pare-Nirjuli line tripped.

As per DR analysis, R-Y fault (Ir-1.7 kA, Iy-1.6 kA) initiated at 22:00:50.016 Hrs. At Pare end, DP, ZIII started at 22:00:50.034 Hrs and fault current disappears after 150 msec. Total fault duration: 167 msec. There was no tripping from Nirjuli end (DR/EL not submitted).

It is unclear which protection system operated and cleared the fault.

NEEPCO is requested to:

1. Share root cause of tripping and remedial measures taken.
2. Furnish which relay issued trip command to Pare CB.

**Deliberation of the sub-committee**

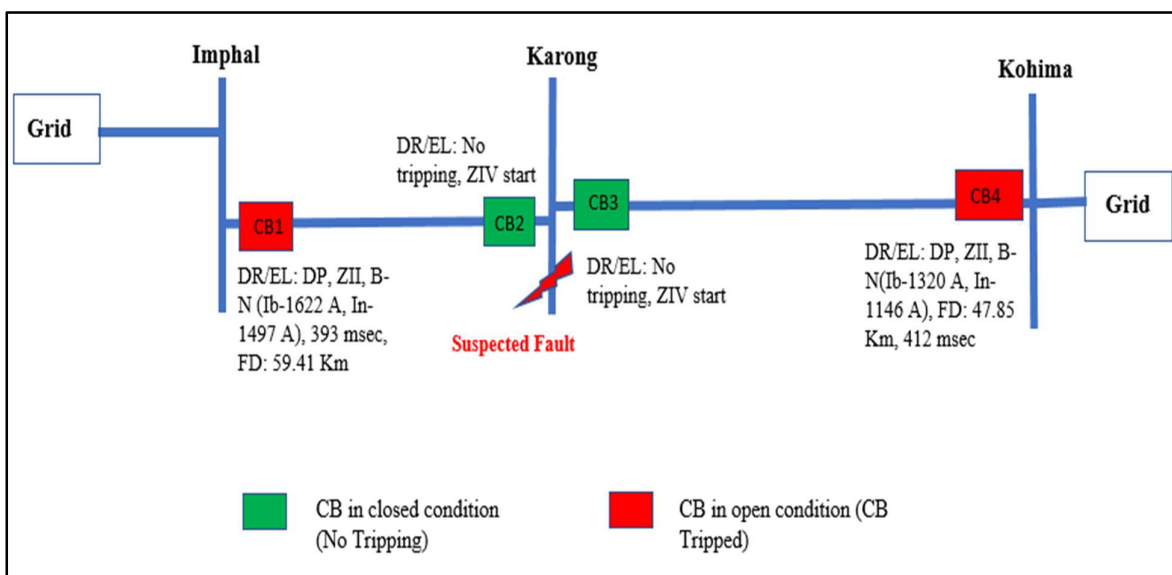
NERLDC informed that the tripping at Pare end occurred on high set O/C protection, which is in violation of the NERPC protection protocol.

NEEPCO informed that Stage-2 Overcurrent setting in the Backup relay at Pare end has been disabled.

### **B.9 Grid Disturbance in Karong area of Manipur on 13-10-2024:**

Karong area of Manipur Power System was connected with rest of NER Grid through 132 kV Kohima-Karong line and 132 kV Imphal(MA) –Karong line.

At 23:37 Hrs of 13-10-2024, 132 kV Kohima-Karong line and 132 kV Imphal(MA) – Karong line tripped due to which grid disturbance occurred in Karong area of Manipur. Load loss of 7 MW occurred.



#### **Following observations:**

- B-N fault initiated at 23:36 Hrs & cleared within 412 msec from Kohima end and within 393 msec from Imphal end on operation of DP, ZII. There was no tripping from Karong end. ZIV started for both 132 kV Imphal-Karong line & 132 kV Karong-Kohima line.
- Suspected fault is in 132 kV Karong Bus /downstream feeder which was cleared by tripping of 132 kV Imphal-Karong line and 132 kV Karong-Kohima line from remote ends.
- Time drift of 2 min observed at Imphal end for 132 kV Imphal-Karong line which need to be sync with GPS by MSPCL.

*MSPCL is requested to update the root cause of the event and remedial measures taken.*

**Deliberation of the sub-committee**

Forum decided that the matter to be taken up separately by NERPC with concerned officials of Manipur. Also, Forum suggested that protection audit needs to be conducted in Karong S/S.

**B.10 Grid Disturbance in the Imphal (Yurembam) substation of Manipur power system on 28th October 2024:**

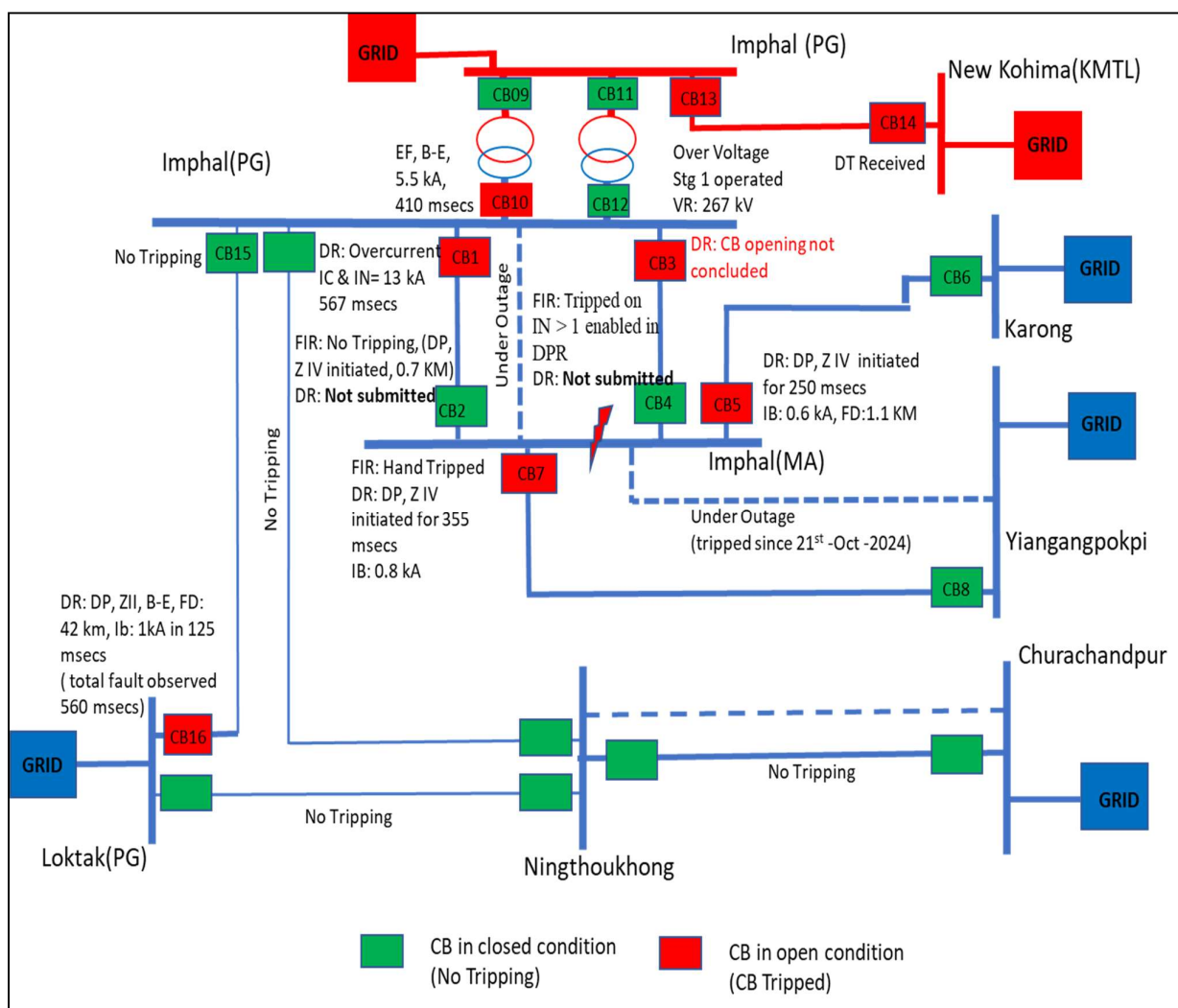
Imphal (Yurembam) area i.e. the capital area of Manipur is connected with rest of the NER grid mainly through 3 numbers of 132 kV Imphal(PG)- Imphal(Yurembam) Lines. Also, Imphal(Yurembam) is connected with Yiangangpokpi SS through 2 numbers of 132 kV Imphal (Yurembam) - Yaingangpokpi 1&2 Lines and connected with Karong SS through 1 number of 132 kV Imphal (MSPCL) - Karong Line.

Before the event, 132 kV Imphal (PG)- Imphal(Yurembam) 2 Line and 132 kV Imphal (Yurembam) - Yaingangpokpi 2 Lines was under planned shutdown.

At 13:30 Hrs of 28th October 2024, due to heavy fault in Imphal (Yurembam) SS, all the connected lines i.e. 132 kV Imphal (PG)- Imphal(Yurembam) 1 &3 Lines, 132 kV Imphal (Yurembam) - Yaingangpokpi 1 Lines and 132 kV Imphal (MSPCL) - Karong Line tripped resulted into the Grid Disturbance (Category 1) in the Imphal(Yurembam) substation of Manipur power system. Due to the event, load loss of 50 MW observed in the Capital area of Manipur power system.

Additionally, tripping of 400/132 kV, 315 MVA, ICT I at Imphal (PG), 132 kV Imphal (PG) - Loktak Line and 400 kV Imphal(PG) - New Kohima 1 Line observed during the time.





As per event analysis based on the DR & EL, DP, ZIV initiated at Imphal (Yurembam) for Imphal(PG) 1 line, Karong line and Yaingangpokpi 1 line indicates that fault location is in the Imphal (Yurembam) Substation. The fault persisted in the system for 560-567 msecs.

**As informed by MSPCL, B-phase Bus jumper snapped at Yurembam S/S.**

**Major Protection issues observed are as follows:**

1. 132 kV Imphal(PG)- Imphal(Yurembam) 1 Line tripped on Overcurrent at Imphal(PG) end in 567 msecs. However, the same was not detected by the Main Relay. To be checked by NERTS.
2. 315 MVA ICT I at Imphal(PG) tripped at 132 kV side on Backup E/F in 410 msecs on reverse fault. Directionality of the LV side backup relay need to be rectified by NERTS.
3. High Voltage of Vre: 267 kV observed in the Imphal(PG) end of the 400 kV Imphal(PG) - New Kohima 1 Line after the tripping of Tie CB of 315 MVA, ICT-

- 1 which resulted into the tripping of the line. NERTS is requested to check & rectify the reason for HV in the R-Phase of 400 kV Imphal(PG) - New Kohima 1 Line.
4. 132 kV Imphal (PG) - Loktak Line detected the fault in ZIII for 420 msec & then ZII initiated and tripped the CB in next 125 msec. However, ZII time delay need to be reviewed by NHPC.
  5. Tripping of 132 kV Imphal (Yurembam) - Yaingangpokpi 1 Line, 132 kV Imphal (MSPCL) - Karong Line and 132 kV Imphal(PG)- Imphal(Yurembam) 3 Lines could not be concluded due to non-availability of the DR & EL of Yaingangpokpi, Karong and Imphal (Yurembam) end. MSPCL is requested to share the DR & EL files.
  6. DR time synch Issue observed in the submitted DR for CB3 and CB7. MSPCL is requested to rectify the same for proper analysis purpose.

**MSPCL** is requested to share the actual reason for the GD at Imphal (Yurembam) and its corrective measures taken.

Also, **NERTS & NHPC** is requested to provide update on the above-mentioned issues.

#### **Deliberation of the sub-committee**

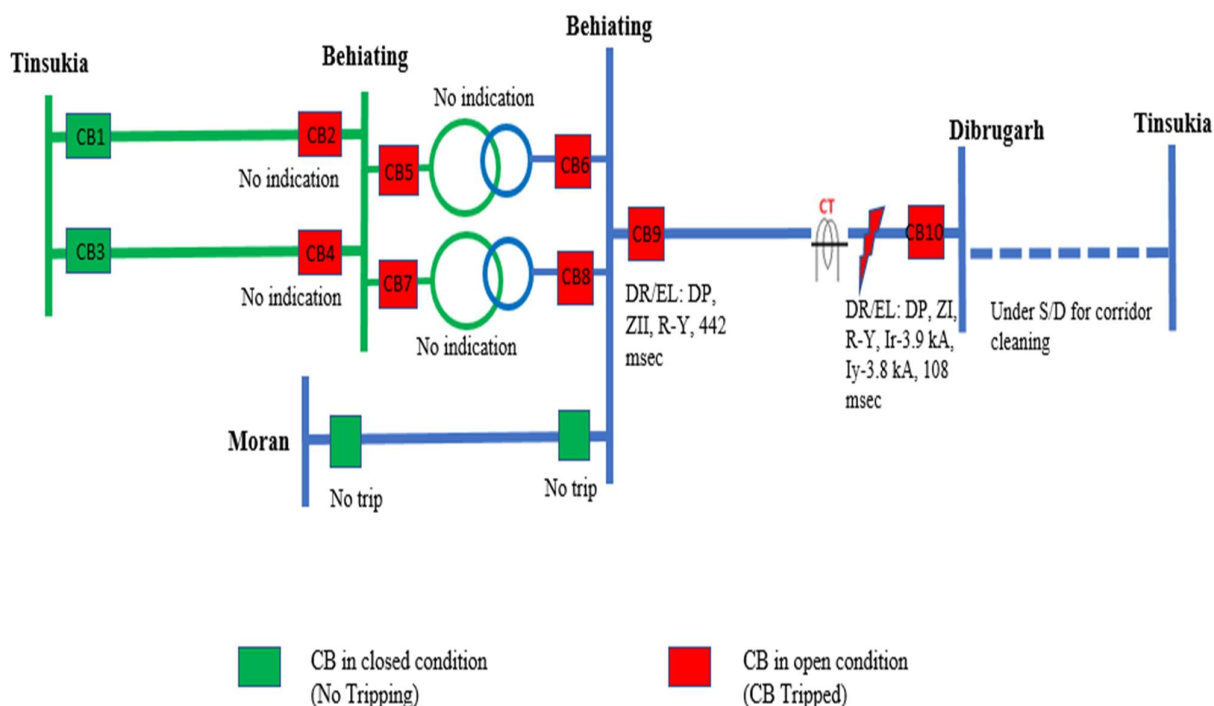
1. Manipur stated, regarding the root cause of the fault, that fault initiated due to B-phase Bus jumper snapping at Yurembam SS, however further investigation are underway to ascertain the correct root cause of the fault.
2. NERTS informed that for 132 kV Imphal(PG)-Imphal(Yurembam) III line, Bay at Imphal(PG) owned by MSPCL and relay did not sense any fault during the event.
3. 132 kV Imphal(PG)- Imphal(Yurembam) 1 Line tripped on Overcurrent at Imphal(PG) end in 567 msec. NERTS informed that distance relay sensed the fault in ZIII.
4. NERTS informed there was some wiring issue in 315 MVA ICT-I at Imphal which has been rectified.
5. NERTS informed O/V at Imphal(PG) was caused in 400 kV Imphal-New Kohima I line during switching of PT selection relays during trip of ICT-1 in which contact of PT selection relay was found burnt & continuously shorted. The same has been replaced.
6. NERLDC emphasized the importance of having a Standard Operating Procedure for any switching operation to prevent any human error.

7. The forum opined that the incident involves multiple failure of protection system at connecting substations and lines and therefore referred the matter to PSAG for further analysis and finalization of remedial actions.

#### **B.11 Grid Disturbance in Dibrugarh area in Assam on 29-10-2024:**

Dibrugarh area of Assam Power System was connected with rest of NER Power system through 132kV Behiating- Dibrugarh line. Prior to the event, 132 kV Tinsukia-Dibrugarh was under S/D for corridor cleaning.

At 09:05 Hrs of 28-10-2024, 132 kV Behiating- Dibrugarh, 220 kV Behiating-Tinsukia D/C lines & 2x100 MVA 220/132 kV ICTs at Behiating tripped leading to blackout in Dibrugarh area of Assam.



As per DR analysis, solid R-Y phase fault (Ir-3.9 kA, Iy-3.8 kA) in 132 kV Dibrugarh-Behiating line initiated at 09:05:53.331 Hrs and cleared within 108 msec on operation of DP, ZI from Dibrugarh end and within 442 msec from Behiating end on operation of DP, ZII.

**As informed by AEGCL, fault is between CT and Line Isolator (RØ-YØ) of 132 kV Dibrugarh – Behiating Line.**

Following observations:

1. 220 kV Behiating-Tinsukia I & II lines tripped from Behiating end within 265 msec of inception of fault. It is unclear which protection system operated at Behiating.
2. 220/132 kV Behiating ICT-I&II tripped. As per EL, O/C started at 09:05:53.386 Hrs. HV side CB open at 09:05:53.600 Hrs.
3. Tripping of upstream 220 kV Behiating-Tinsukia D/C lines & 220/132 kV Behiating ICT-I&II for fault in 132 kV Dibrugarh-Behiating line seems to be unwanted.

AEGCL is requested to update the findings and review the protection setting of 220 kV Behiating-Tinsukia D/C lines & 220/132 kV ICT-I&II at Behiating to prevent further re-occurrence of such events.

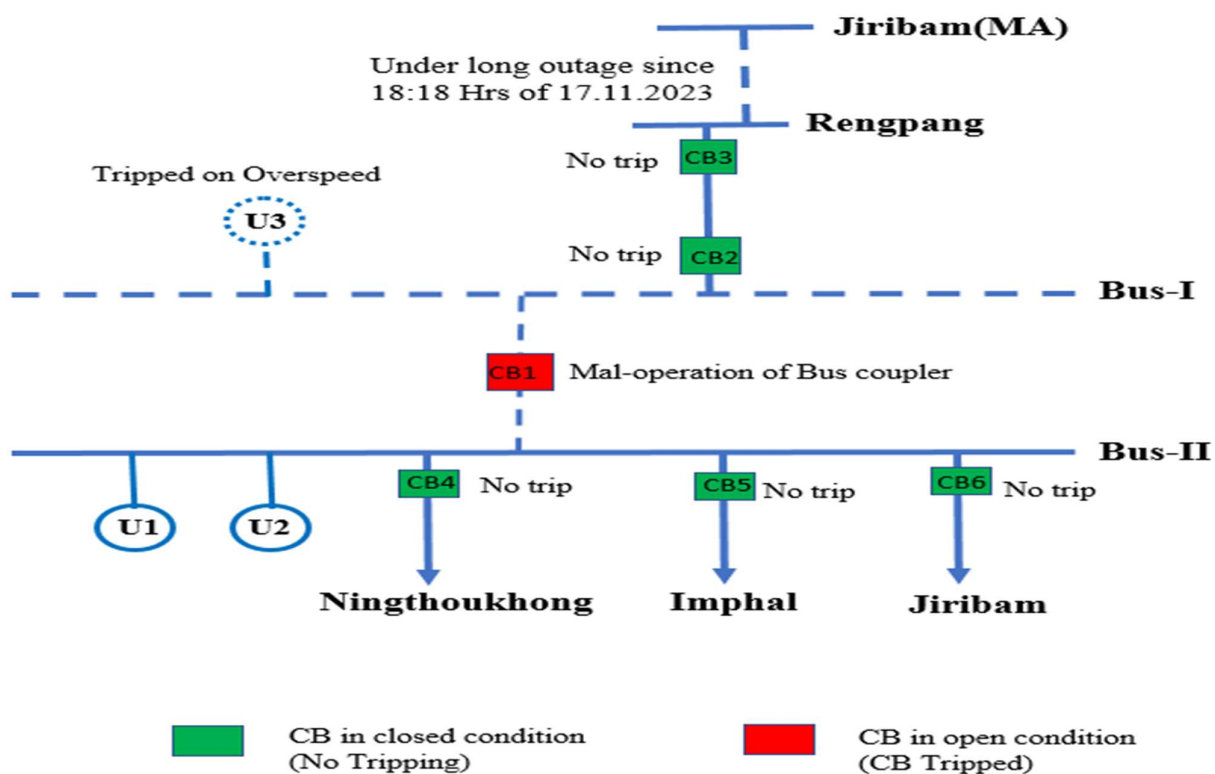
**Deliberation of the sub-committee**

1. AEGCL informed that fault is between CT and Line Isolator (RØ-YØ) of 132 kV Dibrugarh – Behiating Line.
2. AEGCL informed that O&M of Behiating substation is under NERPSIP and as per the NERPSIP team, LBB logic was fulfilled in 220 kV Behiating-Tinsukia I line due to master trip operated signal high intentionally in the logic and LBB protection operated at 220 kV Behiating due to which 220 kV Behiating-Tinsukia I & II lines and 220/132 kV Behiating ICT-I&II tripped. He further informed that the issue of master trip high has been resolved by NERPSIP.
3. NERLDC highlighted the absence of Carrier inter-trip scheme in 132 kV Dibrugarh-Behiating line. The same needs to be reviewed by AEGCL.
4. Forum asked AEGCL to review the protection setting at Behiating S/S thoroughly.

**B.12 Grid Disturbance in Rengpang area in Manipur on 29-10-2024:**

Rengpang area of Manipur Power System was connected with rest of NER Grid through 132 kV Loktak – Rengpang line. 132 kV Jiribam -Rengpang line was under outage since 18:18 Hrs of 17.11.2023.

Prior to the event, 132 kV Loktak-Rengpang line & Loktak Unit-3 were connected to 132 kV Loktak Bus-I. 132 kV Loktak-Ningthoukhong, 132 kV Loktak-Imphal & 132 kV Loktak-Jiribam lines were connected to 132 kV Loktak Bus-II.



At 22:26 Hrs of 29-10-2024, Bus coupler breaker of Loktak mal-operated (as informed by NHPC verbally) due to which 132 kV Loktak Bus-I got isolated and Rengpang area got separated due to load-generation mismatch in this area.

*NHPC, Loktak is requested to furnish the reason of mal-operation of Bus coupler at Loktak.*

#### **Deliberation of the sub-committee**

NHPC informed that the Bus coupler (BC) mal-operated because of some problem in wiring of the tripping circuit of breaker. He further updated that the issues have been resolved and the CB/BC will be charged today.

The forum opined that had the feeders been segregated equally between the buses, the GD would not have occurred. The forum advised NHPC to follow the practice of segregation of feeders. NHPC assured to follow the practice.

#### **B.13 Frequent operation of auto-recloser/tripping of 400 kV Silchar-Misa D/C lines during Sept'24 & Oct'24:**

During September'24 to October'24, there were 6 numbers of Auto-Reclosure/tripping of 400 kV Misa-Silchar D/C lines.

The details of tripping are shown below:

Sl. No.	Name of element	Tripping time	Reason
1	400 kV Silchar-Misa I line	00:07 Hrs of 08.09.2024	AR operated successfully both ends
2	400 kV Silchar-Misa II line	06:04 Hrs of 08.09.2024	Phase-phase fault cleared within 51 msec on ZI from both ends
3	400 kV Silchar-Misa II line	09:09 Hrs of 21.10.2024	Phase-Earth fault. AR attempted at both ends after 1.25 sec and tripped on reclaim time
4	400 kV Silchar-Misa II line	09:30 Hrs of 22.10.2024	AR operated successfully both ends
5	400 kV Silchar-Misa II line	01:25 Hrs of 24.10.2024	AR operated successfully both ends
6	400 kV Silchar-Misa II line	17:39 Hrs of 24.10.2024	AR operated successfully both ends

Such frequent tripping compromises grid operational security and impacts the circuit breaker (CB) also. This repetitive CB operation puts stress on the CB and GIS equipment, potentially reducing their lifespan.

*NTL is requested to ensure the healthiness of the line, share the reason of such tripping and corrective measures taken.*

#### **Deliberation of the sub-committee**

NTL stated that patrolling has been carried out but no specific reason for the tripping could be found out. Further, NTL opined that the faults might be due to vegetation which are outside corridor but might have come in induction zone during windy condition.

#### **B.14 Non-operation of Special Protection Scheme (SPS) for reliable power supply to Arunachal Pradesh via Chapakhowa-Roing line:**

On 21<sup>st</sup> October'24, at 16:48 Hrs and 17:24 Hrs, SPS related to 132 kV Tinsukia-Ledo & 132 kV Tinsukia-Rupai lines operated while 132 kV Tinsukia-Ledo line was under shutdown.

During both the instances, loading of 132 kV Tinsukia-Rupai line exceeded the pre-defined loading limit as per SPS for reliable power supply to Arunachal Pradesh via Chapakhowa-Roing line. Subsequently, SPS operation signals were triggered and received at 132 kV Rupai GSS. However, due to non-healthiness of OPGW link in 132 kV Rupai-Chapakhowa line, SPS stage 1 operation signals were not received at

132 kV Chapakhowa due to which 132 kV Chapakhowa-Roing D/C lines along with 20 MVAR Bus Reactor at Roing GSS did not trip.

SPS stage 2 operated at 132 kV Rupai S/S resulting in tripping of 2 nos. of 33 kV feeders of Rupai S/S.

AEGCL is requested to provide update on the healthiness of OPGW link in 132 kV Rupai-Chapakhowa line.

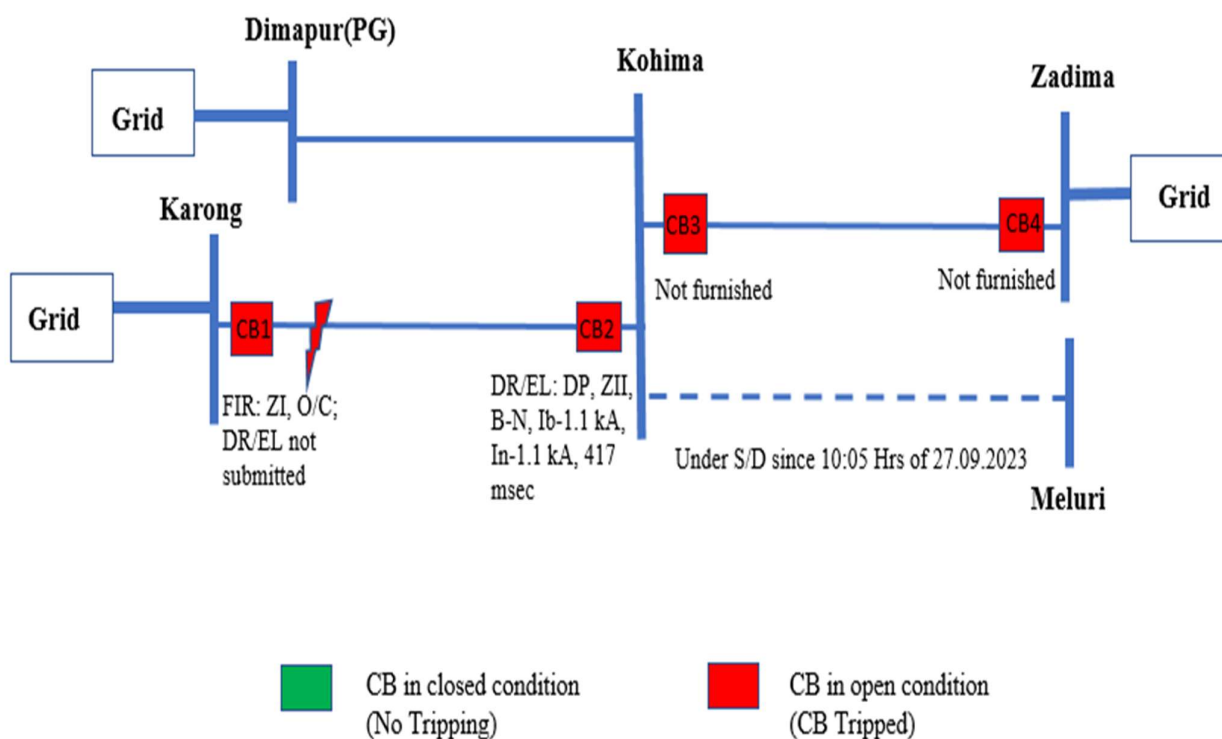
### **Deliberation of the sub-committee**

AEGCL stated, regarding healthiness of the OPGW link on the 132 kV Rupai-Chapakhowa line, that the link is under purview of NERPSIP Powergrid. The forum stated that the matter will be taken up separately with the NERPSIP.

Also, the forum opined that the flow of signal from Rupai to Chapakhowa may be explored through PLCC also.

### **B.15 Tripping of 132 kV Karong-Kohima line & 132 kV Kohima- Zadima line on 02-Nov-2024:**

At 10:58 Hrs of 02-Nov-2024, 132 kV Karong-Kohima & Kohima- Zadima lines tripped.



As per FIR, submitted by MSPCL, tripping occurred at Karong end on operation of OC, ZI.

As per DR analysis, metallic B-N fault (Ib-1.1 kA, In-1.1 kA) initiated at 10:57:30.743 Hrs and cleared within 417 msec from Kohima end on operation of DP, ZII from Kohima end which indicates that fault is in 132 kV Karong-Kohima Line.

At the same time, 132 kV Kohima-Zadima line tripped which is unwanted.

DoP, Nagaland/MSPCL is requested to share:

- Root cause of tripping of 132 kV Karong-Kohima line.
- Reason for non-submission of DR/tripping of 132 kV Kohima- Zadima line from Zadima.
- FIR, DR & EL of Kohima & Zadima end for 132 kV Kohima-Zadima line. DR & EL at Karong end for 132 kV Karong-Kohima line.

#### **Deliberation of the sub-committee**

MSPCL informed that the root cause analysis will be provided shortly to NERLDC.

Regarding tripping at Zadima, DoP Nagaland informed that the DR could not be downloaded from the relay due to some issues. Also, due to lack of manpower in Zadima S/S, proper information regarding tripping of 132 kV Kohima-Zadima line could not be received.

NERLDC stated that due to non-availability of DR etc., analysis of the event could not be done.

The forum strongly urged DoP Nagaland and MSPCL to provide the required data to NERLDC at the earliest. Forum also opined that the B/U protection settings at Zadima end need to be revised and asked DoP Nagaland to revise the same in coordination with NERPSIP under guidance of NERPC and NERLDC.

#### **B.16 Mock Testing of SPS in NER:**

In line with the Regulation of IEGC-23, the following mock testing are already performed/ planned in the North Eastern Region are as follows: -

Serial Number	Scheme	Date of Mock Testing Performed
1	SPS related to outage of 220 kV Azara-Sarusajai DC/220 kV Misa-Samaguri DC	23-Jun-24
2	Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS) to prevent under voltage situation	05-Aug-24



3	Related to the tripping of Bus Reactors at 400 kV P K Bari (ISTS) to prevent under voltage situation	06-Aug-24
4	Related to outage of any one circuit of 132 kV Dimapur(PG)- Dimapur(NA) D/C	26-Sep-24
5	Related to the safe evacuation of power from BgTPP(NTPC) generation	10-Oct-24
6	Related to the outage of any one circuit of the 132 KV Khliehriat (PG)- Khliehriat D/C line	Planned on 22 <sup>nd</sup> Nov'24

List of SPS scheme for which yearly mock testing yet to be planned (as updated in 73<sup>rd</sup> PCCM by the utilities): -

Sl. No.	Scheme	Remarks
1	SPS related to the outage of 132 kV Panyor HEP-Ziro Line - disconnection of 33kV Load at Ziro	Operated Correctly in April'24
2	Outage of 220 kV BTPS (Salakati) – Rangia I & II - load shedding	Operated Correctly in Aug'24
3	Related to Generation evacuation from Monarchak(NEEPCO) Power Plant - Tripping of STG at Monarchak	Operated Correctly in July'24
4	Related to outage of any one circuit of 220 kV Balipara-Sonabil D/C	Operated Correctly in Mar'24 (Triggering criteria 2 )

5	SPS related to reliable power supply to Arunachal Pradesh from Assam through the Roing-Chapakhowa DC line: Triggering criteria-1: Tripping of either 132KV Tinsukia-Ledo or 132KV Tinsukia-Rupai line with current exceeding 300A in 132kV Tinsukia - Ledo or 132KV Tinsukia - Rupai line, Triggering criteria-2: Overloading of 132 kV Tinsukia-Rupai line when current in the line crosses 300Amps. , 8-10 MW of load at 132kV Rupai GSS will be shed.	Operated Correctly in Sep'24 (Triggering criteria 2 )
6	Tripping of 400kV Palatana-Silchar D/C- when both modules of Palatana are in service causes tripping of HV side breaker of 2x125 MVA, 400/132 kV ICT at Palatana	SPS is kept OFF
7	SPS related to overloading of 220kV BTPS-Salakati D/C- Tripping of 220kV Agia – Boko and 220kV Agia – Mirza	SPS is kept OFF
8	Reverse power flow more than 60 MW from LV to HV side of 2 X 315 MVA, 400/220 kV Azara ICTs causes tripping of 400/220 kV, 2x315 MVA ICTs at Azara (AEGCL)	SPS is kept OFF ( operated in May'24)
9	Tripping of 132 kV Umiam Stg-I to Umiam Stg-III D/C lines causes instantaneous load shedding near Mawphlang area	SPS is kept OFF (operated in May'24)
10	Related to the tripping of Bus Reactors at 400 kV Imphal (PG)	After commissioning of GIS. Jan'25
11	Related to Outage of any one of the 400/132kV 2x360MVA ICTs at Panyor Lower Hydro Power Station	By Dec'24

12	Related to Outage of 400 kV Palatana – Surajmani Nagar line (charged at 132 kV) - Tripping of 400 kV SM Nagar – Comilla D/C (charged at 132 kV) during outage of 400 kV Palatana – SM Nagar (TSECL) line (charged at 132 kV)	By Jan’25
13	Related to Outage of both 400/132 kV, 2x125 MVA ICTs at Palatana - Entire load disconnection of South Comilla by way of tripping of 132kV SM Nagar-South Comilla D/C	By Jan’25
14	Related to the outage of any one circuit of the 132 kV Khliehriat (PG)- Khliehriat D/C line	Done on 22nd November’24
15	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	2 <sup>nd</sup> week of Dec’24
16	SPS related to 132 kV Surajmaninagar(ISTS)- Surajmaninagar(TSECL) line to prevent overloading	Implemented on 11.11.2024 after necessary testing

It is requested the forum to avoid mock testing of SPS scheme operated correctly in 2024 and propose the tentative dates of mock testing of remaining SPS so that it can be completed within March’25 in compliance with IEGC-23.

#### **Deliberation of the sub-committee**

Utilities updated about the SPS testing schedule in the table as above.

#### ***Agenda from NLDC***

#### **B.17 Uniform Protection protocol**

The Uniform Protection Protocol has been approved by 15<sup>th</sup> NPC on 14.11.24

It is requested to please include following agendas from NLDC:

- 1) Review of protection setting of following power system elements
  - Transmission Lines
  - ICTs and Reactors

- Generators (Thermal, Gas, Hydro)
- FACTS device
- HVDC
- RE source-based generation.

As the review of setting of above transmission elements are exhaustive such review of settings shall be done on individual basis by all PSC members.

**Deliberation of the sub-committee**

NLDC (through VC) requested the forum to start reviewing the protection settings of the power system elements in compliance with the Uniform Protection Protocol. NERPC stated that a protection sub-group has been constituted in 71<sup>st</sup> PCCM for the purpose and the first meeting of the sub-group will be held shortly.

**B.18 parameter standardization of Disturbance Recorder (DR)**

States may update on status of uniform adoption parameter standardization of Disturbance Recorder (DR), as finalized in FOLD.

**Deliberation of the sub-committee**

The forum noted that the parameter standardization of DR has been made part of the NERPC Protection protocol and strongly urged the states to implement the same at the earliest.

<b>C. FOLLOW-UP AGENDA ITEMS</b>
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**C.1 Submission of monthly and quarterly progress report by respondents of NERLDC's Petition:**

As per the Direction of Hon'ble commission related to the Petition No 198/MP/2020, 259/MP/2020, 535/MP/2020, 539/MP/2020 and 540/MP/2020, respective respondents have to submit the **monthly/quarterly progress report** of the action plan prepared by the respective respondents in consultation with the Petitioner (i.e. NERLDC) to NERPC.

Order dated	Petition No	Respondent
08-Nov-2023	198/MP/2020	DoP, Arunachal Pradesh
	259/MP/2020	DoP, Nagaland
	539/MP/2020	MSPCL
27-Oct-2023	535/MP/2020	TPTL/TSECL
	540/MP/2020	P&ED, Mizoram

In 63<sup>rd</sup> PCCM, MS, NERPC stated that Hon'ble CERC (in above mentioned Petition) has directed the following:

NERPC shall monitor the work of the implementation of the Protection system by the Department of Power, Arunachal Pradesh; Department of Power, Nagaland, MSPCL, TPTL/TSECL, P&ED, Mizoram and shall submit a quarterly progress report to the Commission till the establishment of the Protection system at the substations identified by the NERLDC.

NERPC shall validate relay settings and conduct the Protection Audit of the associated transmission system at the substation and transmission lines, as and when required. Any issue faced during the implementation of Protection system or observed during the protection audit shall be discussed in the Protection Sub-Committee meeting at the RPC forum and sorted out. Concerned Power department /State shall identify one person from their top management as a nodal officer, who shall submit a monthly progress report on the implementation of the protection

system to the NERPC and NERLDC, till the establishment of the Protection system at the substations identified by the NERLDC.

In this regard, Member Secretary stated that the monthly progress reports will be monitored at PCC forum. He requested the States to send monthly progress report and action plan accordingly.

In 70<sup>th</sup> PCCM, NERLDC informed that only Nagaland, Manipur and Mizoram are submitting the monthly progress report, while Arunachal Pradesh and Tripura have not yet shared any monthly report. The forum strongly urged Ar. Pradesh and Tripura to provide the reports within two working days.

NERLDC informed in 72<sup>nd</sup> PCCM that only Manipur has sent the monthly progress report for July and August'24. The forum urged the other states to provide the monthly reports at the earliest and on priority to NERPC and NERLDC.

#### **Deliberation of the sub-committee**

NERLDC informed that no state has provided the progress report for the month of Oct'24. He added that Tripura has not submitted any monthly progress report so far. The forum strongly asked the states to submit the monthly report and ensure compliance with CERC order.

Tripura assured to start providing the reports shortly.

#### **C.2 Status on remedial measures actions on non-operation of auto recloser in Important Grid Elements for transient faults occurred in last few months:**

As updated in 73<sup>rd</sup> PCCM

<b>Sl No</b>	<b>Element Name</b>	<b>Tripping date and time</b>	<b>Relay End1</b>	<b>Relay End2</b>	<b>A/R not Operated</b>	<b>Remarks from Utility (72<sup>nd</sup> PCCM)</b>
1	132 kV Agartala - Surajmaningar 2 Line	17-11-2023 15:10	DP,ZI,Y-B,FD:5.81 km, AR successful	DP,ZI,R-Y,FD:11.98 KM	Surajmaningar	The Relay Testing kit has been received last week. AR (without carrier) to be

						enabled by Dec'24
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2	132 kV Dimapur - Doyang 2	29-03- 2024 13:10	DP, Z1, R- Y, FD: 72.6km	DP, Z1, R- Y	Doyang	CB procurement underway. By March'25
3	220 kV AGBPP - Mariani (PG) Line	01-05- 2024 03:12	Z1, B-N, 24.97 Kms	DP, ZI, B- E, FD: 131.4 KM, Operated Sucessful ly	AGBPP	WIP, completion by Nov'24
4	132 kV Badarpur - Karimganj Line	05-05- 2024 13:48	DP, ZII, Y- E, FD:27.25K M, Carrier Aided tripping & AR Operated Successfull y	DP, ZI, Y- E, FD: 0.2km	Karimganj	Relay shifting, from Jorhat. Work will be completed in the upcoming shutdown.
5	400 kV Byrnihat- Silchar Line	02-09- 2024 16:53	DP, ZII, Y- N	DP, ZI, B- N, Carrier send	Both ends	Sil: tie breaker stuck, LBB operated so no AR. Byrnihat: DT received, so no AR

6	220 kV Mariani-Samaguri Line	13-09- 2024 12:17	DP, ZI, B-N, AR successful	DP, ZII, B-N, Carrier aided trip	Samaguri	Spring charge status high, so no AR attempt. Issue in the contactor. Contactor to be changed if and when next incident occurs.
7	220 kV Amguri-NTPS Line	27-09- 2024 11:50	DP, ZI, B-N	DP, ZII, B-N	Both ends	Will check for both ends and update by next PCC

***Sub-committee noted as above***

### **C.3 PLCC issues follow up:**

Update as provided by utilities in 72<sup>nd</sup> PCCM

Sl. No	Line	Utility	Update
1	132 kV Dimapur-Kohima	DoP Nagaland	DPR (for DTPC) is completed except for budgetary offer. Offer has not been received from Hitachi yet.
2	132 kV Melriat-Zemabawk	Mizoram	For Wave Trap order has been placed with GE. Order will be received after 4 months as communicated by GE. Forum had suggested that both PLCC and DTPC has to be enabled. POWERGRID shall install only the PLCC. CVT installed.

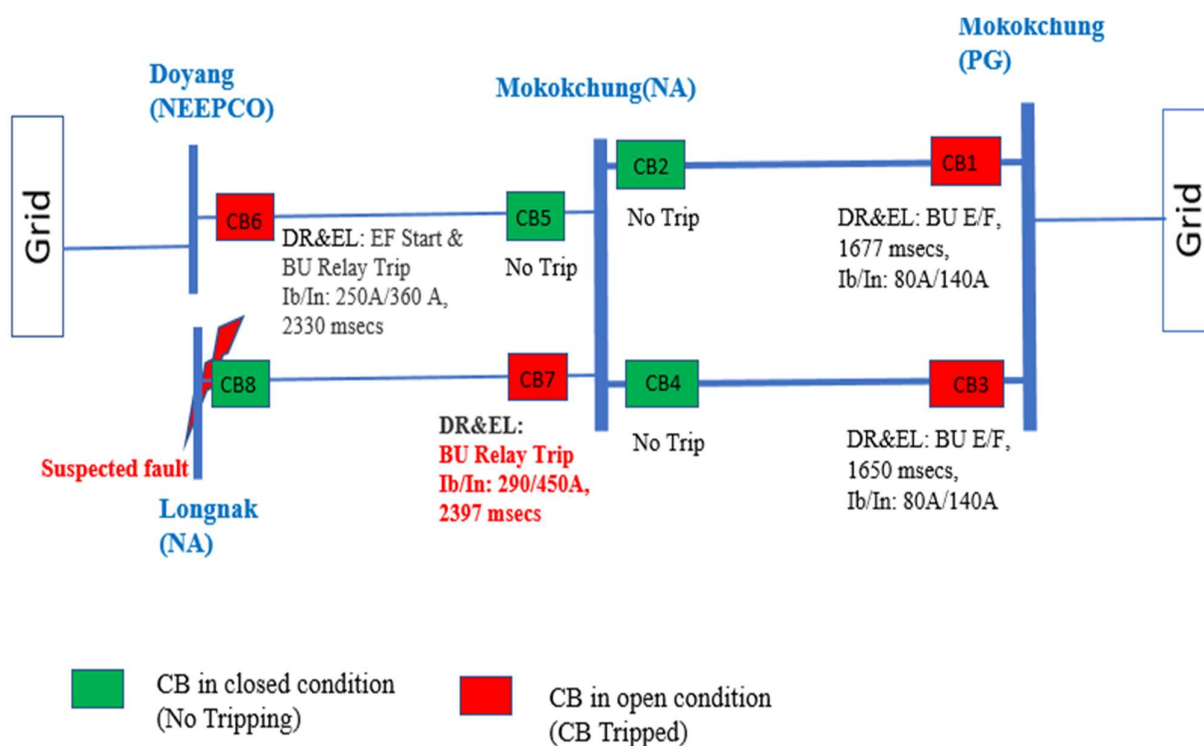


			Regarding the DTPC, DPR completed, to be sent to PSDF shortly.
3	132 kV Roing-Pashighat	DoP Ar. Pradesh	PGCIL updated that OEM will visit in 15-20 days. PLCC will be commissioned by Dec'24.

**Sub-committee noted as above**

#### **C.4 Grid Disturbance in Mokokchung(NL) and Longnak areas of Nagaland power system on 07-09-2024:**

At 15:43 Hrs of 07-09-2024, 132 kV Mokokchung (PG) - Mokokchung (NL) D/C Lines, 132 kV Doyang - Mokokchung (NL) Line and 132 kV Mokokchung(NL)-Longnak Line tripped due to which grid disturbance occurred in Mokokchung(NL) and Longnak areas of Nagaland.



#### **Analysis based on DR signal:**

- Mokokchung(PG): Y-N fault initiated at 15:42:32.784 Hrs. CB opens in 1.67 sec by opening 132 kV Mokokchung(PG)-Mokokchung(NL) 1&2 line on

operation of B/U E/F. Fault current of Ib: 80-90A & In: 140A observed in each line.

- Doyang(NEEPCO): CB opens in 2.3 sec on operation of backup relay trip. Fault current of Ib: 200-250A & In: 230A observed.
- Mokokchung(NL): CB opens in 2.3-2.4 seconds on operation of backup E/F. Fault current of Ib: 290A & In: 450A observed.

As per report from DoP Nagaland, insulation failure of 132/33 kV ICT-II in between HV to body at Longnak observed. R-Phase jumper Open at fault distance of 10 Km in 132 kV Mokokchung-Longnak Line and same has rectified at 13:30 hrs on 09.09.2024.

**Following observations:**

1. Protection system of 132/33 kV ICT-II at Longnak failed to isolate fault in ICT which was cleared by operation of Backup Relay at Mokokchung(PG), Doyang(NEEPCO) & Mokokchung(NL). The same needs to be checked by DoP Nagaland.
2. 132 kV Mokokchung(NL)-Longnak line tripped from Mokokchung(NL) end within 2.4 sec for fault in 132/33 kV Longnak ICT-II. As per existing setting, B/U EF pickup 75A, TMS: 0.20. With this setting the fault should clear from Mokokchung SS (for 132 kV Longnak Line) within 767 msec with neutral current of 450 A. NERLDC has already shared mail on 16<sup>th</sup> September'24 to DoP Nagaland to carry out the following-
  - i) The reason of non-clearance of fault and its corrective measures to prevent repetition. Also, requested to test the relay to ensure the healthiness of the protection system.
  - ii) Non-operation of distance protection at Mokokchung(NL) end for 132 kV Mokokchung(NL)-Longnak line needs to be checked.

*Similar incident occurred at 21:36 Hrs of 07.09.2024.*

DoP Nagaland may update.

In 72<sup>nd</sup> PCCM, Nagaland informed that the fault was in the 132/33kV transformer at the Longnak SS. The forum noted –

- i. The transformer differential protection should have isolated the fault and requested DoP Nagaland to check the protection system of the ICT
- ii. There was delayed operation of the B/U protection at Mokokchung(NA) and requested Nagaland to revise the settings in coordination with NERPC and NERLDC
- iii. B/U protection at Doyang should have operated faster than that at Mokokchung (PG) as the fault current was higher and requested NEEPCO, PGCIL to coordinate the settings.

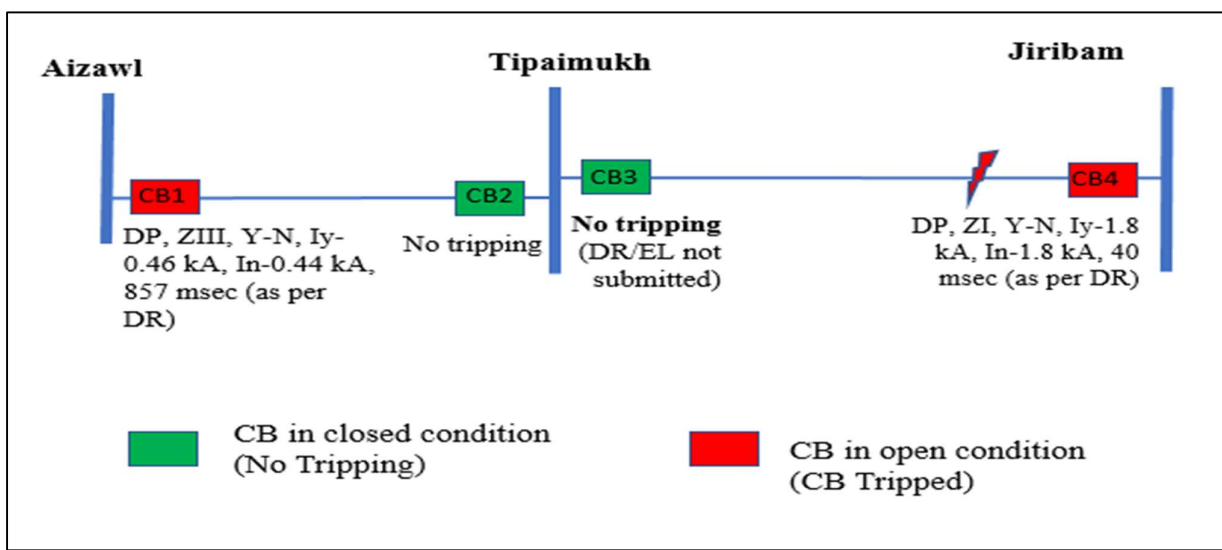
### **Deliberation of the sub-committee**

DoP Nagaland updated that the fault was in the 132 kV Mokokchung-Longnak line, not the ICTs at Longnak as informed in previous PCCM. He further stated that delayed clearance of fault occurred due to some issues with Master Trip relay and the same will be relaced by 1<sup>st</sup> week of Dec'24.

Regarding coordination of B/U protection at Mokokchung(PG) and Doyang substations, the forum directed PGCIL and NEEPCO take necessary actions at the earliest.

### **C.5 Tripping of 132 kV Aizawl-Tipaimukh line on 30th August, 2024**

At 09:32 Hrs of 30.08.2024, 132 kV Aizawl-Tipaimukh and 132 kV Jiribam-Tipaimukh lines tripped.



As per DR analysis, Y-N fault in 132 kV Jiribam-Tipaimukh line cleared within 40 msec from Jiribam end on operation of DP, ZI. Carrier signal was sent to Tipaimukh end from Jiribam. However, CB at Tipaimukh end did not trip until 800 msec from inception of fault which led to clearing of fault by tripping of healthy 132 kV Aizawl-Tipaimukh line from Aizawl end on operation of DP, ZIII within 857 msec.

*Similar incident occurred on 25.08.2024.*

MSPCL is requested to furnish the reason for non-opening of CB at Tipaimukh end for 132 kV Jiribam-Tipaimukh line and remedial actions taken.

In 71st PCCM, Manipur representative informed that checking by local staffs was done recently but expert visit was required. He further informed the forum that due to landslide issue road was not approachable for them to send any skilled staff to Tipaimukh SS to download DR/EL for the event for further analysis and submission to NERLDC. He further stated that access to Tipaimukh was through Aizawl only. Therefore, Manipur requested the forum to provide support either from Mizoram or NERTS.

Forum requested Mizoram & NERTS to provide necessary support to Manipur at earliest.

In 73rd PCCM, MSPCL informed that support from PGCIL and Mizoram is required to access the site. Mizoram and PGCIL requested MSPCL to formally initiate the request to them for the support.

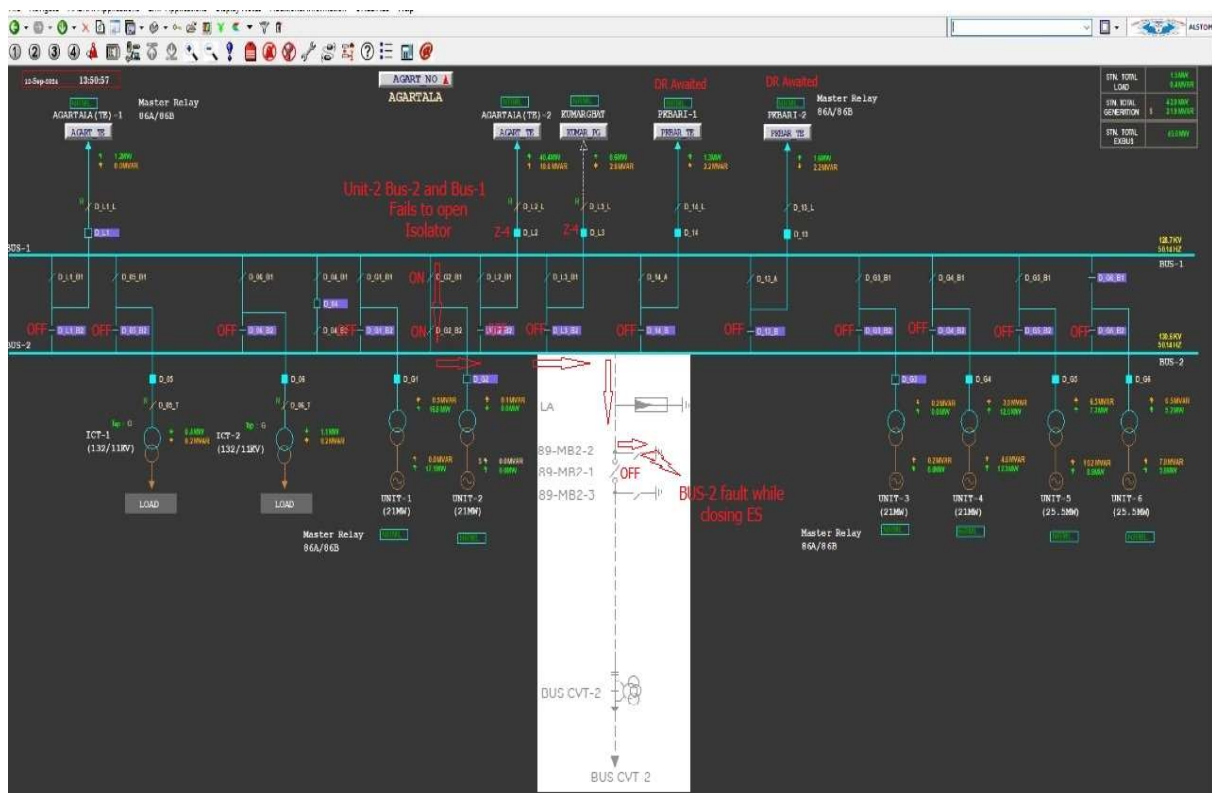
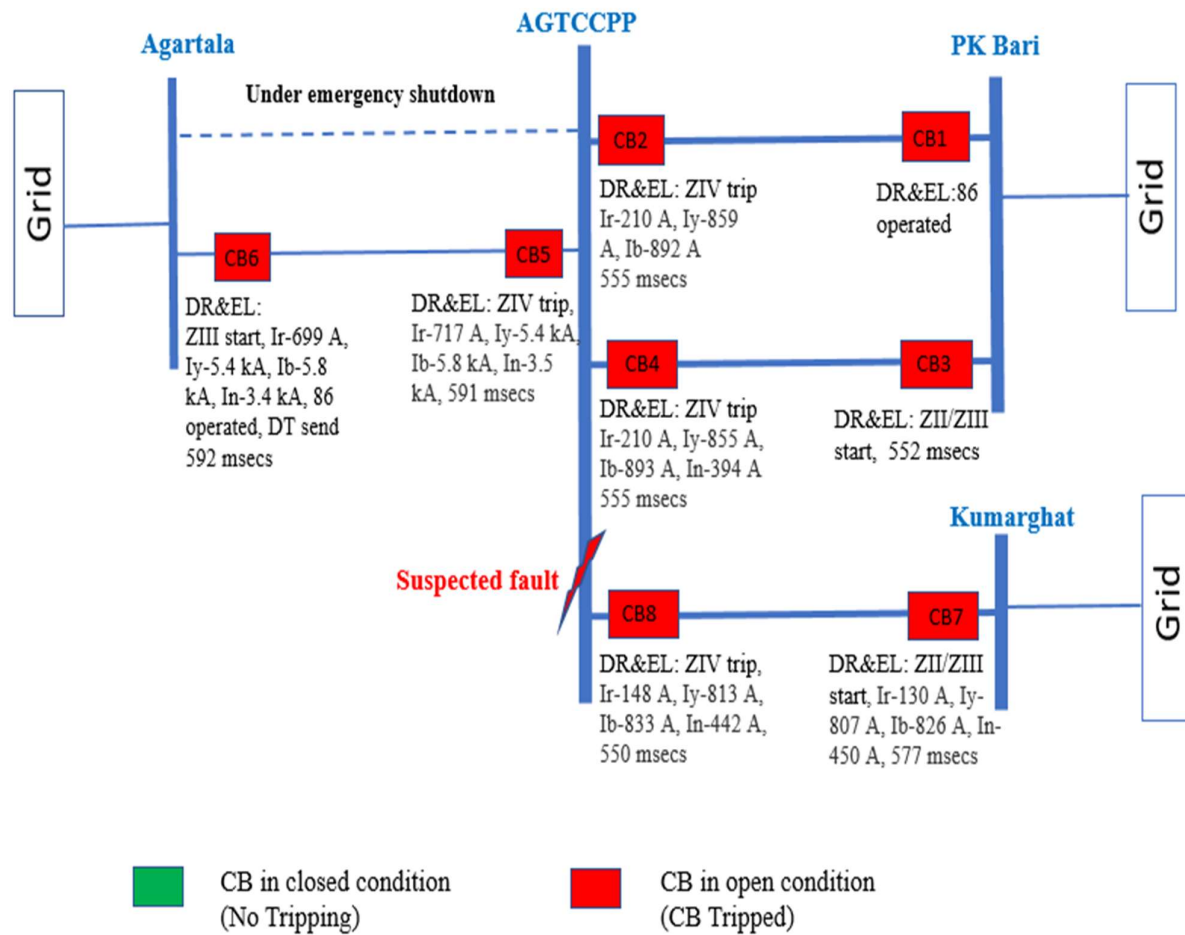
*MSPCL may update*

#### **Deliberation of the sub-committee**

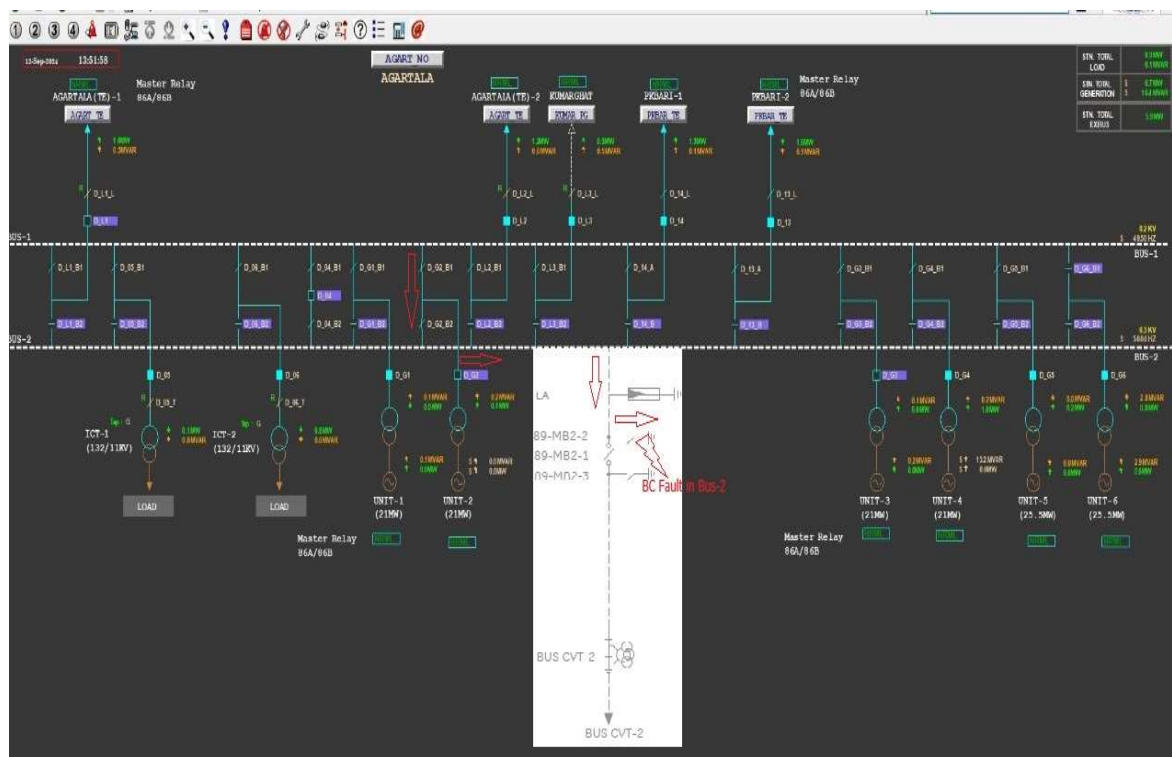
Mizoram and PGCIL informed that no request from Manipur has been initiated for MSPCL side for support in accessing the site. The forum asked MSPCL to initiate the necessary communication in this regard.

#### **C.6 Grid Disturbance in AGTCCPP generating station of NEEPCO on 12-09-2024:**

At 13:43 Hrs of 12-09-2024, 132 kV AGTCCPP - Kumarghat Line, 132 kV Agartala - AGTCCPP 2 Line and 132 kV AGTCCPP - P K Bari D/C lines tripped due to which AGTCCPP generating station of Tripura power system was blackout due to loss of evacuation path.



## SLD during fault



## SLD during blackout

### Analysis based on DR:

- **AGTCCPP:** R-Y-B-N fault cleared within 555 msec on operation of ZIV for all the lines.
- **PK Bari-I:** 86 relay operated. It is not clear which protection cleared the fault.
- **PK Bari II:** ZII/ZIII start, 86 operated.
- **Agartala II:** ZIII started at Agartala end and 86 relay operated at 13:43:57.563 Hrs. Also, DT send signal high at 13:43:57.563 Hrs. It is not clear which protection cleared the fault.
- **Kumarghat:** ZII operated at 13:45:06.511 Hrs and CB open after 503 msec.

Suspected BUS-2 fault in 132 kV AGTCCPP switchyard while availing emergency shutdown of 132 kV Bus-I as all the lines connected to AGTCCPP tripped on ZIV from AGTCCPP end.

POWERGRID/NEEPCO is requested to:

- Update the root cause of the events and remedial measures taken to prevent in future.
- Furnish the reason of DT send signal from Agartala to AGTCCPP for 132 kV Agartala-AGTCCPP II line.

- Update the reason of non-submission of detailed report of the event as per IEGC 2023.

In 72<sup>nd</sup> PCCM, NEEPCO informed the forum that the incident caused during the maintenance activities at AGTCPP. However, non-operation of Interlock during Earth Switch operation was undesirable. He further stated that analysis report will be submitted shortly. The forum noted that such actions are very dangerous and strictly urged NEEPCO to be cautious with SOP. The forum also noted that the BB protection did not operate and 86 relay operation at P K Bari is unwanted.

The forum referred the matter to PSAG of NER for further analysis.

#### **Deliberation of the sub-committee**

NERPC stated that the PSAG meeting will be held shortly to discuss the matter.

#### **C.7 Hands on training on PDMS and PSCT software for carrying out system study:**

In order to review the protection settings of NER grid, it is necessary to carry out detailed system study of NER grid using PDMS and PSCT software.

In view of this, an offline hands-on training of the software is required for NERLDC protection team from M/s PRDC.

M/s PRDC is requested to arrange a hands-on training session on PSCT and PDMS software for carrying out necessary studies in the month of November'24.

In 72<sup>nd</sup> PCCM, the forum requested M/s PRDC to conduct a physical training program on the matter. M/s PRDC stated that the training will be conducted in last week of November. The forum opined that the training may be conducted in NERLDC, Guwahati. NERLDC agreed.

*M/s PRDC may update*

#### **Deliberation of the sub-committee**

M/s PRDC updated that the training could not be conducted in Nov'24 owing to server and power supply related issues. He further stated that the training will be conducted in Jan'25.

**C.8 Mapping of SPS in the SCADA Display for real time monitoring of all SPS:**

NLDC has submitted the Guidelines on “Interfacing Requirements” after stakeholder consultation for approval of the Commission as mentioned in the Regulation 7.4, read with Regulation 14.2 of the Communication System for inter-State transmission of electricity) Regulations, 2017. On dated 19-Jan-2024, CERC approved the guideline on “Interfacing Requirements” prepared by NLDC in consultation with the stakeholder. As per the Guideline, real time telemetered SPS Signal need to be monitored. The digital status shall be as per IEC standard. Digital Status for circuit breaker must be double point while isolator status can be either single point or double point as per end device. All users shall comply with interface requirements as specified and shall share interface details with respective Control Centre.

Sl. No.	Description	Analog Points	Digital Points	Protection Signal
1	SPS Signal		DIGITAL STATUS: Enable/Disable, Operated/No Operated (Condition/Logic Wise)	

At present, there are 19 numbers of SPS under operation and 1 number of SPS under implementation as listed tabulated below:

Sl. No.	SPS under operation	Long term measures	SPS mapping status in SCADA ( YES/No) as per 69 <sup>th</sup> PCCM
1	<b><u>Tripping of 400kV Palatana-Silchar D/C-</u></b> when both modules of Palatana are in service causes tripping of HV	After commissioning of 400 kV Palatana - Surajmaninagar line-1, there is no requirement of	Done



	side breaker of 2x125 MVA, 400/132 kV ICT at Palatana	this SPS and hence, it is to be kept OFF. However, the SPS at Palatana is to be kept ON during shut down of 400 kV Palatana-Surajmaninagar(ISTS) line-1	
2	Reverse power flow more than 60 MW from LV to HV side of 2 X 315 MVA, 400/220 kV Azara ICTs causes tripping of 400/220 kV, 2x315 MVA ICTs at Azara (AEGCL)	After upgradation of 220 kV BTPS-Salakati D/C lines. ( Need to disable after system study of the present condition)	
3	Tripping of 132 kV Umiam Stg-I to Umiam Stg-III D/C lines causes instantaneous load shedding near Mawphlang area	After commissioning of 220 kV Killing-Mawngap D/C lines and re-conductoring of 132kV Lumshnong-Panchgram line, SPS is kept OFF	done
4	SPS related to overloading of 220kV BTPS- Salakati D/C- Tripping of 220kV Agia – Boko and 220kV Agia – Mirza	After upgradation of 220 kV BTPS-Salakati D/C lines, this SPS is kept OFF	done
5	<b><u>Related to the safe evacuation of power from BgTPP(NTPC) generation</u></b> - BGTPP generation reduction to 600 MW	-	Done
6	<b><u>Related to Generation evacuation from Monarchak(NEEPCO) Power Plant</u></b> - Tripping of STG at Monarchak under outage of any one circuit of 132 kV Monarchak –	Commissioning of 132 kV Monarchak-Surajmaninagar line	By No'24

	Rokhia line & 132 kV Monarchak-Udaipur		
7	Outage of 220 kV BTPS (Salakati) – Rangia I & II - load shedding	Commissioning of 400 kV Rangia SS and LILO of 400 kV Bongaigaon-Balipara 1 & 2 Line at Rangia.	done
8	<b><u>Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS)</u></b> - Tripping of both circuits of 400 kV SM Nagar-PK Bari D/C will trip 2 x 125 MVAR Bus Reactors at SM Nagar (ISTS) to prevent under voltage situation	-	Facing SCADA integration issue at P K Bari. To be done by 15 <sup>th</sup> Dec'24
9	<b><u>Related to the tripping of Bus Reactors at 400 kV P K Bari (ISTS)</u></b> - Tripping of both circuits of 400kV PK Bari (ISTS) – Silchar(PG) D/C will trip 2 x 125 MVAR Bus Reactors at P K Bari(ISTS) to prevent under voltage situation	-	Same as point 8
10	<b><u>Related to the tripping of Bus Reactors at 400 kV Imphal (PG)</u></b> - Tripping of 400 kV New Kohima – Imphal D/C during outage of 400 kV Silchar – Imphal D/C will lead to the tripping of 125 MVAR and 80 MVAR Bus Reactor at Imphal(PG)	-	Done
11	<b><u>Related to Outage of any one of the 400/132kV 2x360MVA ICTs at Panyor Lower Hydro Power Station</u></b>	After restoration of 132 kV Panyor -Itanagar & 132 kV Panyor -Pare line ( expected by 31st Mar'24)	By Nov'24

	Disconnection of One Unit of Panyor (135 MW) and One Unit of Pare (55 MW)		
12	<p><b><u>SPS related to outage of 220 kV Azara-Sarusajai DC/220 kV Misa-Samaguri DC</u></b> -</p> <p><b>1) On tripping of 220 kV Azara-Sarusajai D/C:</b> 140-150 MW load disconnection is to be done at Sarusajai and Kahilipara areas</p> <p><b>2) On tripping of 220 kV Misa-Samaguri DC:</b> Load reduction of 50-60 MW at Samaguri area</p>	Commissioning of 400 kV Sonapur Substation. LILO of 400 kV Bongaigaon-Byrnihat Line at Sonapur.	<p>1. This month</p> <p>2. By Dec'24</p>
13	<p><b><u>SPS related to the outage of 132 kV Panyor HEP-Ziro Line</u></b> -</p> <p>Tripping of 132 kV Panyor-Ziro will cause disconnection of 33kV Load at Ziro</p>	Commissioning of 132 kV Khupi - Along Link/220 kV AGBPS-Namsai D/C	done
14	Related to outage of any one circuit of 132 kV Dimapur(PG)-Dimapur(NA) D/C	Reconductoring of 132 kV Dimapur(PG)-Dimapur(NA) D/C	Done
15	Related to outage of any one circuit of 220 kV Balipara-Sonabil D/C	Reconductoring of 220 kV Balipara-Sonabil D/C lines with higher ampacity and Utilisation of 2 X 160 MVA ICTs at Balipara	By Dec'24
16	<p><b><u>Related to Outage of 400 kV Palatana – Surajmani Nagar line (charged at 132 kV)</u></b> - Tripping of 400 kV SM Nagar – Comilla D/C (charged at 132 kV) during outage of 400 kV Palatana – SM</p>	Upgradation of 132 kV Surajmaninagar(TSECL) to 400 kV	Done

	Nagar(TSECL) line (charged at 132 kV)		
17	<b><u>Related to Outage of both 400/132 kV, 2x125 MVA ICTs at Palatana</u></b> - Entire load disconnection of South Comilla by way of tripping of 132kV SM Nagar-South Comilla D/C	Upgradation of 132 kV Surajmaninagar(TSECL) to 400 kV	Done
18	Related to the outage of any one circuit of the 132 KV Khliehriat (PG)- Khliehriat D/C line	Reconductoring of 132 KV Khliehriat (PG)-Khliehriat D/C line	This month
19	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	Reconductoring of 132 kV Khliehriat – Leshka D/C	By Dec'24
20	SPS related to reliable power supply to Arunachal Pradesh from Assam through the Roing-Chapakhowa DC line: Triggering criteria-1: Tripping of either 132KV Tinsukia-Ledo or 132KV Tinsukia-Rupai line with current exceeding 300A in 132kV Tinsukia - Ledo or 132KV Tinsukia - Rupai line, Triggering criteria-2: Overloading of 132 kV Tinsukia-Rupai line when current in the line crosses 300Amps. , 8-10 MW of load at 132kV Rupai GSS will be shed.		Done
21	SPS related to 132 kV Surajmaninagar(ISTS)- Surajmaninagar(TSECL) line to prevent overloading		By Jan'25

Sl. No.	SPS under implementation	Long term measures
1	Related to Outage of one circuit of 400 kV Surajmani Nagar (TSECL)- South Comilla line (Charged at 132 kV)	Upgradation of Comilla SS to 400 kV level

***Utilities may further update***

<b>D. ITEMS FOR STATUS UPDATE</b>
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**D.1. Status of auto-reclosure on z-1 operation for important lines:**

In the discussions of the Sub-group on 12-04-2021 the following points were noted:

- a.** Auto-Reclosure is very much required for maintaining system stability, reliability and uninterrupted power supply.
- b.** Presently it will take some time for the state utilities to implement the PLCC and establish carrier communication between stations.
- c.** The operation of Auto-Reclosure on Z-I operation at the local end independent of carrier healthiness is required.

In the 57<sup>th</sup> and 56<sup>th</sup> PCC meeting the forum approved the implementation of Auto-Reclosure on Z-1 without carrier check for all lines except the lines with generating stations at both the ends and requested the utilities to implement the AR scheme at the earliest.

Status as updated in 73<sup>rd</sup> PCCM

<b>Sl no</b>	<b>State</b>	<b>Important Transmission lines where AR has to be enabled at the earliest</b>	<b>Status (72<sup>nd</sup> /71<sup>st</sup> PCCM)</b>	<b>Status as per 73<sup>rd</sup> PCCM</b>
1.	Arunachal Pradesh	132kV Balipara-Tenga, 132kV Ziro-Daporijo-Along-Pashighat link	PLCC implementation under PSDF underway. 3-Ph AR has been enabled on the lines (without carrier)	3 Ph AR has been enabled on the lines. PLCC implementation underway.
2.	Assam	All 220kV and 132kV lines	Process underway. 220kV – Completed except for Kathalguri-tinsukia line which	220kV -all done except for Amguri-NTPS and Tinsukia-Kathalguri lines

			will be done within 2 months. Delay is due to the shutdown issue with Discoms. 132kV – completed except for Dhemaji and Majuli Substations, to be done by Oct'24.	132kV – Completed except for 2 lines. The same will be completed shortly
3.	Manipur	132kV Imphal-Ningthoungkong	1. In 71 <sup>st</sup> PCCM Manipur updated that 132kV Imphal-Ningthoungkong line work has been completed & 4 additional line have been considered for AR implementation which work will be completed by end of Sept'24.  DPR for PLCC under preparation. To be completed shortly.	
4.	Meghalaya	<b>Annexure</b> (D.1)	Matter was thoroughly discussed in State protection committee.	AR on Lumshnong - Panchgram line will be enabled after FTC is completed

			Report of the meeting has been submitted to NERPC. It was further updated that AR on 132kV Lumshnong-khliehriat line and Lumshnong-Panchgram lines will be enabled by next week.	
5.	Tripura	132kV Agartala-S M Nagar (TSECL), 132kV Agartala-Rokhia DC, 132kV, 132kV Agartala-Budhjungnagar	Relay testing kit has been repaired but not received yet. Target-Sept.'24	Relay testing kit received. AR to be enabled by Dec'24.

***Sub-committee noted as above***

**D.2. Installation of line differential protection for short lines:**

As per sub-regulation 3 of Regulation 48 of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022-

"For short line (less than 10 km) or cable or combination of overhead line and cable, line differential protection shall be used with built-in backup distance protection."

As per discussion in 61<sup>st</sup> PCC meeting the status for different STUs/ISTS licensees are as follows:

Status as updated in 73<sup>rd</sup> PCCM -

Name of utility	Last updated status (72 <sup>nd</sup> / 71 <sup>st</sup> PCCM)	Status as per 73 <sup>rd</sup> PCCM



AEGCL	<p>AEGCL updated that PSDF monitoring group has suspended funding for LDP for 1 year. AEGCL requested MS, NERPC to take up with NPC, CEA to provide funding for the same considering the special case of NER.</p> <p>MS, NERPC stated that funding for the LDP considering the special case of NER has been taken up as resolution by RPC forum</p>	Pending with PSDF
MSPCL	DPR under preparation, to be submitted within one month.	DPR has been approved & NIT to be floated
MePTCL	<p>LDP operation for 9 feeders.</p> <p>For Neighrims-NEHU line, waiting for dark fiber.</p> <p>For other lines, OPGW not available</p> <p>commissioned after OPGW link is established. (<b>Annexure D.2</b>)</p> <p>7 Feeder operational for rest OPGW work is pending</p> <p>OPGW to be installed on 16 lines.</p> <p>LDP will be enabled after that.</p>	<p>Regarding OPGW installation, MePTCL updated that DPR has been prepared and it would be submitted to PSDF committee for funding by next month for inclusion in reliable communication scheme.</p> <p>For NEHU-NEighrims line, NERPSIP informed the forum that fiber for this line is not under the scope of NERPSIP. Therefore, forum suggested MePTCL to cover this in any other scheme.</p>
P&ED Mizoram	Lines identified 132kV Khamzawl - Khawiva.	DPR prepared and will be sent to PSDF shortly.

	Mizoram stated that DPR in final stage. Price offer has been received from one vendor and awaited form other vendors. The DPR would be prepared by end of Sept.'24.	
DoP Nagaland	LDP Doyang-Sanis line, LDR to be installed by NEEPCO. NEEPCO stated that LDR is available with NEEPCO, however, healthiness of the OPGW link on the line has to be checked first. DoP Nagaland updated that FOTE is present. NEEPCO updated that GE engineers will visit on 15 <sup>th</sup> July.	<ol style="list-style-type: none"> <li>1. NEEPCO updated that GE engineers had visited the site and work had been completed.</li> <li>2. Report has been submitted to NERPC.</li> <li>3. Agenda may be dropped</li> </ol>
TSECL	132kV 79 Tilla-Budhjungnagar. DPR to be prepared. Cost estimate submitted to TIDC to arrange for ADB funding. TIDC approval is still waited for fund. Approved for ADB funding. E-tendering underway. Regarding Rokhia-N.Rokhia link, he updated that the breaker has been received. MS, NERPC suggested to apply under PSDF	DPR has been sent to PSDF committee for funding.

***Sub-committee noted as above***

**D.3. Status against remedial actions for important grid events:**Status as updated in the 73<sup>rd</sup> PCCM:

<b>S1 No</b>	<b>Details of the events(outage)</b>	<b>Remedial action suggested</b>	<b>Name of the utility &amp; previous update</b>	<b>Status as per 73<sup>rd</sup> PCCM</b>
1.	132 kV Balipara-Tenga line in May and June	Carrier aided inter-tripping to be implemented for 132kV Balipara-Tenga-Khupi at the earliest (PLCC has to be installed on the link. Under consideration of the higher authorities)	DoP, Arunachal Pradesh. PLCC panels received.	DoP updated that PSDF funding will be short closed due to long pending payment issues and delays. He further stated that State is considering funding of the project through its own funding. PLCC work to be tentatively completed by end of this year.
2.	132 kV DoyangMokokchung line 132 kV Mokokchung - Mokokchung (DoP, Nagaland) D/C lines on 30th July	Carrier inter-trip for 132kV DHEP-Mokokchung to be implemented by DoP Nagaland (NO PLCC on the line. Matter under consideration of Higher authorities)	DoP Nagaland (DPR is under preparation for PLCC, by July'24	Offer from Hitachi is still awaited.

3.	Leshka-Khleihriat DC multiple tripping in April to September	TLSA installation along the line to be done by MePTCL	MePTCL  (DPR submitted, Approval pending.)	DPR returned by PSDF.
4.	132 kV Loktak-Jiribam line, 132 kV Loktak-Imphall line, 132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Units 1,2 and 3 on 3rd Aug	> 5MVA TRAFO (Aux. Transformer) to be repaired ->5MVA Auxiliary TRAFO panel to be repaired by NHPC	NHPC  TX manufacturing underway. To be completed by Dec'24	Not received yet due to landslide issue.
5.	Grid Disturbance at Loktak HEP on 03rd Aug'22	NHPC-Loktak informed that LBB has been included under R&U scheme and the same shall be commissioned by Mar'23	NHPC (LBB to be commissioned under R&U project) Renovation would start in Nov.'24 and to be completed by Oct.'25. Forum stressed to take LBB on priority.	R & M work to start in Nov'24
6.	Outage of 220 KV Bus Bar Protection Scheme at 400/220/132 KV Killing SS	Bus-Bar protection of 220kV bus at Killing SS	MePTCL BBR defective. Order placed in Oct'23, will arrive in around 7 months, i.e. by May or June'24	Card received but found defective. New Card will be sent by the OEM shortly.
7.	Non-operation of AR for various lines at Byrnihaat end on 25 <sup>th</sup> and 26 <sup>th</sup> June'23	Rectification of PLCC issues by MePTCL  Consultation with OEM underway for resolution	MePTCL  Visit of OEM next week. To be completed by May'24	OEM visited, PLCC defective, will procure at earliest

8.	Tripping of 132kV Kahilipara- Sarusajai 1, 2 and 3 line, 132kV Kahilipara Main bus 1, 132kV Kahilipara transfer Bus 1 and 132kV Kahilipara-Kamalpur line on 2.08.2021	BB protection to be implemented at Kahilipara with procurement of 5 core CTs	AEGCL DPR is under preparation for PSDF. CT under procurement, to be completed by end of this year	New bays have to be integrated to ABB relay, so new cards have to be procured, commissioning may go beyond Dec'24
9.	AR issue at Gohpur end for 132kV Nirjuli-Gohpur line	Panel replacement underway	AEGCL - By April'24	Done, Agenda may be dropped
10.	Non-operation of AR at Doyang HEP	Pneumatic CBs to be replaced	NEEPCO- August 2024	March'25
11.	Generation evacuation issue at Leshka due to tripping of any line of 132kV Leshka-Khliehriat DC line	SPS to be implemented	MePGCL to implement the SPS by May'24	Done, Agenda may be dropped
12	Multiple trippings in the lines connected to Leshka station in April'24 have been observed due to delayed clearance of faults in the link line (GT to Switchyard, 550 meters)	Differential protection on the link line to be implemented. Also, AR on the link line to be implemented	MePGCL To be discussed in internal OCC meeting first. DPR under preparation, to be prepared within one month	DPR has been prepared and submitted to higher authority
13	Multiple tripping of 132 kV Panchgram-Lumshnonong line in April'24 has been observed due to delayed clearance of downstream fault in Lumshnong	B/U protection settings coordination for the 132kV downstream industrial feeders has to be done	MePTCL To be done shortly	Done, Agenda may be dropped

14	Issue with CB at P K Bari end for Dharmangar line (agenda item C.5 of 69 <sup>th</sup> PCCM.) Powergrid has reduced timing of zone settings at Kumaraghat end for P K Bari line. The settings will be reverted as soon as the breaker issues is resolved by TSECL	Pneumatic CB at P K Bari end to be replaced with spring charging type CB	TSECL (Work in progress)	NERPSIP informed the forum that M/s Siemens was working and work would be completed within one month
15	At 12:38 Hrs of 09.07.2024, 132 kV Along - Pasighat Line, 132 kV Roing-Pasighat Line & 132 kV Along-Basar Line tripped leading to blackout of Along & Pasighat areas of Arunachal Pradesh	Pneumatic CBs at Along end for Basar line to replaced with Spring type by Oct'24. LBB relay to be rectified at Along SS	DoP Ar. Pradesh (replacement within 2 months)	Covered under PSDF scheme & parallely exploring for State funding also
16.	At 14:56 Hrs of 17-07-2024, 132 kV NEHU-NEIGRIHMS line & 132 kV Khleihriat-NEIGRIHMS line tripped leading to blackout of NEIGRIHMS area.	Neigrihms end for NEHU line Relay to be replaced shortly	MePTCL	

***Sub-committee noted as above***

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**Annexure-I****List of Participants in the 73<sup>rd</sup> PCC Meeting held on 26.11.2024**

SN	Name & Designation	Organization	Contact No.
1	Sh. Hibu Bama, EE (E), TD No.II	Ar. Pradesh	08119858317
2	Sh. Pranab J. Baishya, AGM, APGCL	Assam	09365643696
3	Sh. Abhishek Kalita, Dy.Mgr, AEGCL	Assam	08486213068
4	Sh. Sagolsem Kripachariya Singh, DGM, MSPCL	Manipur	08413948551
5	Sh. Lalawmpuia Chawngthu, AE	Mizoram	08730843706
6	Sh. Lalsangliana, JE	Mizoram	06009605796
7	Sh. Kitbok Syrti, EE (SP), MePTCL	Meghalaya	08974595356
8	Sh. Y.Kharpuri, AEE, CSD, MePGCL	Meghalaya	09774507325
9	Sh. Kitbok Kynjing, AEE, MePTCL	Meghalaya	09485170070
11	Sh. Alex E.Ngullie, JE	Nagaland	08837080321
12	Sh. Akumtemjen Jamir, Asst.Mgr	Nagaland	07085961125
13	Sh. Abhijit Dey, Mgr, TPTL	Tripura	09862029400
14	Sh. Amaresh Mallick, ED	NERLDC	09436302720
15	Sh. Subhra Ghosh, Asst.Mgr,	NERLDC	08415857079
16	Sh. Manash Jyoti Baishya, Ch.Manager	PGCIL	09435555740
17	Sh. Manas Pratim Sharma, Sr.Mgr	NEEPCO	08729901871
18	Sh. Palto Das, Lead Operation	OTPC	09856994128
19	Sh. Samriddhi Gogoi, Associate	INDIGRID	09101330587
	-	NTPC	-
	-	NHPC	-
20	Sh. Basab Maity, Engg. (PSS)	PRDC	09732416233
21	Sh. Souvik Datta, Engineer	PRDC	09064497926
22	Sh. Alikpanth De, Dy.Director	NERPC	09681932906
23	Sh. Vikash Shankar, AD-I	NERPC	09455331756
24	Sh. Ashim Goswami, AD-II	NERPC	08638966481