



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/2025/4491-4532

March 13, 2025

To

As per list attached

Sub: 76वीं संरक्षण समन्वय उप-समिति (पीसीसी) बैठक का कार्यवृत्त/ Minutes of 76th Protection Coordination Sub-Committee (PCC) Meeting

महोदय/महोदया,

कृपया 27 फरवरी 2025 को शिलांग के एनईआरपीसी कॉन्फ्रेंस हॉल में आयोजित 76वीं पीसीसी बैठक के कार्यवृत्त को आपकी जानकारी और आवश्यक कार्रवाई के लिए प्राप्त करें। कार्यवृत्त NERPC की वेबसाइट: www.nerpc.gov.in पर भी उपलब्ध है।

कृपया कोई भी टिप्पणी जल्द से जल्द NERPC सचिवालय को सूचित करें।

Sir/Madam,

Please find enclosed herewith the minutes of the 76th PCC Meeting held at NERPC Conference Hall, Shillong on 27th February 2025 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,


(माया कुमारी / Maya Kumari)

Dy. 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, 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. Head & VP, (R&C), ENICL, IndiGrid, Windsor Building, Kalina, Santacruz (East), Mumbai- 98
28. ED, NERLDC, Dongtiah, Lower Nongrah, Lapalang, Shillong -793 006
29. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
30. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
31. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
32. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
33. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
34. Head of SLDC, MSPCL, Imphal – 795001
35. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
36. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
37. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
38. Head of SLDC, TSECL, Agartala – 799001
39. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
40. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
41. AGM Regulatory & Commercial, NER II TL, 10th Floor, Berger Tower, Noida sector 16B-201301
42. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.



(माया कुमारी / Maya Kumari)

Dy. Director



सत्यमेव जयते

Minutes of 76th PCCM

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

North Eastern Regional Power Committee

Minutes of

76th Protection Coordination Sub-Committee Meeting

Date: 27/02/2025 (Thursday)

Time: 11:00 hrs.

Venue: NERPC conference Hall, Shillong

List of participants is attached as **annexure I**

A. CONFIRMATION OF MINUTES

1. CONFIRMATION OF MINUTES OF THE 75th PROTECTION SUB-COMMITTEE MEETING OF NERPC.

Minutes of the 75th PCC Meeting held on 16th January, 2025 (Thursday) at NERLDC Conference Hall, Guwahati was circulated vide letter No.: NERPC/SE (O)/PCC/2024/3978-4019 dated 28th January 2025.

No comments were received from the constituents

Sub-committee confirmed the minutes of the 75th PCCM

B. ITEMS FOR DISCUSSION

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
Audit	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	Conditional responsibility

			where audit is required to be carried out	
	Annual audit plan	All users	Annual audit plan to be submitted to RPC by 31st October	Annual

Background: In 60th 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 3rd 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. A google spreadsheet has been circulated to the constituents by NERLDC to provide the schedule of protection audit as well as date of last audit. The forum requested the constituents to update the spreadsheet.

In 75th PCCM, following points were discussed -

Utilities updated as follow-

Sr No	Utility/ Constituents	Internal Audit	External audit
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		Status	report	Status	report
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. Requested NERPC to conduct the audit meanwhile. MS NERPC stated that NERPC will conduct audit of only critical substations. Further it was decided that audit of Pashighat and Along substations may be conducted in Feb'25	NA
2.	Assam	Done for 61 SS	submitted	NERPC conducted audit of 6 SS in Jan to June'24. Other SS done in 2021-22. Only Karimganj left. Forum advised to start identifying external agencies to carry out the third party audit for next phase of audit.	submitted
3.	Manipur	Done for all SS	Submitted	8 SS to be done, Schedule to be decided, subject to law and Order situation. Audit of Yurembam ss and Ningthoungkong ss	NA

				may be done by NERPC team soon.	
4.	Meghalaya	Internal audit of 132kV Nangalbibra, 132kV Rongkhon, 132kV Mendipathar, 132kV Ampati and 132kV Umiam SS has been completed between July'24 to October '24. For rest 14 SS, will try to complete by Mar'25.	Report to be shared shortly	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an Mawphlang) conducted by NERPC on 26 th and 27 th August'24. For other substations, seek offer from CBIP, yet to receive offer. 3rd party audit of Lumshnong may be done by NERPC by first week of Feb'25.	Report to be shared by end of January'24
5.	Mizoram	Done for all SS	Report shared	Audit of Luangmual, Zuangtui and Kolasib planned in August'24. List of external agencies awaited. Searching for parties to conduct audit. Audit of Kolasib, Aizawl, Melriat (PG) and Luangmual to be done in Feb'25 by NERPC	NA
6.	Nagaland	Done for four SS	Report shared	Audit of 5 ss to be done in Jan/Feb'25 by NERPC.	NA

				For rest, to be planned later.	
7.	Tripura	11 done, rest by Feb'25. For 66kV SS - audit by Feb'25.	To be shared shortly	Requested NERPC to conduct audit of critical substations. MS NERPC stated that the audit may be planned for March'25	NA
8.	Powergrid (NERTS)	POWERGRID has completed & submitted internal protection reports for 20 nos. of substations. 2 more substations being done in Jan'25	Shared	External audit done for Misa & Salakati s/s by NERPC. For 2 substations, audit is being planned to be done by government agencies like CBIP and CPRI.	
9.	NTL	Utilities to update status			
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 Kopili and Turial done.	Shared for Pare and Turial and AGBPP.	To be planned. Waiting for the list of agencies from NPC. Forum advised that till the list is finalized	

		Kathalguri (AGBPP) also done. RC Nagar and Kathalguri to be planned	NERPC highlighted the AGBPP format is incomplete and asked NEEPCO to complete the format.	NEEPCO may consider reputed auditing agencies (including CBIP and CPRI) for conducting the external audits.	
13.	OTPC (Palatana)	Done		Done	shared
14.	NTPC (BgTPP)	Done	shared	Done (by CPRI)	Report to be shared in three weeks
15.	NHPC (Loktak)	By Jan'25		To be done after R&M of the plant	
16.	APGCL	Utilities to update status			
17.	TPGCL				
18.	MEPGCL	Audit of Umiam stg I and Stg II was done Nov'24, rest under planning	To be shared	External audits of all generating stations were done in 2021. For next cycle of audit, planning being done.	

Deliberation of the sub-committee

Utilities updated as follow-

Sr No	Utility/ Constituents	Internal Audit		External audit	
		Status	report	Status	report
1.	Ar. Pradesh	Chimpu – done. Rest to be done	Report of Chimpu to be submitted by March'25	Financial approval for the audit pending. Schedule to be decided afterwards. Requested NERPC to	NA

		Internal audit of Along and Pasighat S/S will be planned shortly		conduct the audit meanwhile. MS NERPC stated that NERPC will conduct audit of only critical substations. Further it was decided that audit of Pashighat and Along substations may be conducted in April'25	
2.	Assam	Done for 61 SS for FY 2024-2025. For FY 2025-2026, audits to be done during July-Oct'25	submitted	Forum advised to start identifying external agencies to carry out the third-party audit for next phase of audit (2023-2027). Forum suggested to plan the audits in phase-wise manner.	Submitted for phase 2017-2022
3.	Manipur	Done for all SS	Submitted	8 SS to be done, Schedule to be decided, subject to law and Order situation. Audit of Yurembam ss and Ningthoukong ss may be done by NERPC team in April'25.	NA
4.	Meghalaya	Internal audit of 132kV Substations completed except for two substations	Reports shared	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an Mawphlang) conducted by NERPC	Report to be shared by March'25

		namely., IIM & Mustem Will be completed shortly		on 26 th and 27 th August'24. For other substations, seek offer from CBIP, yet to receive offer. 3rd party audit of Lumshnong may be done by NERPC by first week of Feb'25.	
5.	Mizoram	Done for all SS	Report shared	List of external agencies awaited. Searching for parties to conduct audit. Audit of Kolasib, Aizawl, Melriat (PG), Zuangtui and Luangmual may be done in May'25 by NERPC	NA
6.	Nagaland	Done for all SS	Report shared	Audit of 5 SS to be done in March'25 by NERPC. For rest, to be planned later.	NA
7.	Tripura	13 done, rest by April'25. For 66kV SS - audit by Mar'25.	Shared for 13 SS. But, NERPC informed that the report is incomplete as all the formats have not been provided. TSECL to provide complete formats	Requested NERPC to conduct audit of critical substations namely Agartala, SMnagar, PK Bari, Dharmanagar and Udaipur. MS NERPC stated that the audit may be planned for May'25	NA

8.	Powergrid (NERTS)	21 done, one pending, to be completed within FY 2024-25	Shared	External audit done for Misa & Salakati s/s by NERPC. For 2 substations, audit is being planned to be done by government agencies like CBIP and CPRI. Matter is under process.	
9.	NTL	Utilities to update status			
10	KMTL				
11	MUML	for N.Lakhimpur-Pare line bays and N.Lakhimpur-Nirjuli bays at Lakhimpur, audit done last week	To be shared by next week		
12	NEEPCO	Pare, Ranganadi Kopili and Turial done. Kathalguri (AGBPP) also done. RC Nagar to be done in Feb'25 Kameng to be done in March'25	Shared for Pare and Turial and AGBPP.	To be planned. Waiting for the list of agencies from NPC. Forum advised that till the list is finalized NEEPCO may consider reputed auditing agencies (including CBIP and CPRI) for conducting the external audits. Finalization of agency is under process.	
13.	OTPC (Palatana)	Done	Shared	Done	shared

14.	NTPC (BgTPP)	Done	shared	Done (by CPRI)	Report shared. But no data for generation protection. Generation protection report will be provided shortly
15.	NHPC (Loktak)	By Mar'25		To be done after R&M of the plant	
16.	APGCL	Utilities to update status			
17.	TPGCL				
18.	MEPGCL	Audit of Umiam stg I and Stg II was done Nov'24, rest under planning	To be shared	External audits of all generating stations were done in 2021. For next cycle of audit, planning being done.	
19	Dikshi HEP (IPP)	*	*	*	*

**DoP Ar. Pradesh to intimate Dikshi HEP to provide status to NERPC*

Further deliberations

1. AEGCL raised concern that hiring an external agency for conducting third party audit will increase huge commercial impact on the already financial challenged state power utilities of NER. He opined that an expert group may be formed with additional members from state utilities and CPSUs and they can conduct the maximum external protection audits of the generating stations and substations in NER.

Member Secretary informed that already list of experts from NER has been formed. This group has already started doing external audits on identified critical substations in NER. However, considering large numbers of stations

to be audited in a Year, list of experts from State/Utilities can be increased and sub group can be strengthened, so as most of the stations can be considered for audit purpose and Assam can assist in preparing a list of experts from State/PSUs and present it in the next PCC meeting for further action

2. **MS NERPC also** asked all the utilities to enlist the shortcoming/deficiencies observed in the internal and external audits and send compliance reports to NERPC on regular basis. Further he advised the utilities that they may seek PSDF funding also for filling up the gasps in protection system as per the extant PSDF guidelines.

B.2 Analysis and Discussion on Grid Disturbances which occurred in NER grid in January'25 in compliance with IEGC 2023:

TABLE 8 : REPORT SUBMISSION TIMELINE

Sr. No.	Grid Event [^] (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

[^]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 January 2024 based on the draft report prepared by NERLDC.

Sub-committee may deliberate

NERLDC apprised that 4 GDs have occurred in the January'25, out of which 3 occurred in Arunachal Pradesh and 1 happened in Meghalaya. The GDs have been placed for discussion in further agenda items.

NERLDC Agenda**B.3 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of January'2025:**

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 01-01- 2025 to 31-01-2025 as on **17-02-2025** is given below:

Owner Name	Total No of FIR/DR/EL/TR to be submitted	FIR			DR			EL		
		Total Furnished in 24hrs %	Total Furnished after 24hrs %	Total furnished %	Total Furnished in 24hrs %	Total Furnished after 24hrs %	Total furnished %	Total Furnished in 24hrs %	Total Furnished after 24hrs %	Total furnished %
AEGCL	1	0.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%
DoP, Arunachal Pradesh	13	46.15%	53.85%	100.00%	53.85%	46.15%	100.00%	46.15%	53.85%	100.00%
DoP, Nagaland	1	0.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%
MePGCL	6	0.00%	100.00%	100.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
MePTCL	9	33.33%	44.44%	77.78%	0.00%	77.78%	77.78%	22.22%	55.56%	77.78%
MSPCL	5	0.00%	100.00%	100.00%	60.00%	0.00%	60.00%	80.00%	0.00%	80.00%
MUML	1	0.00%	100.00%	100.00%	100.00%	0.00%	100.00%	0.00%	100.00%	100.00%
NEEPCO	14	42.86%	57.14%	100.00%	50.00%	50.00%	100.00%	50.00%	50.00%	100.00%
NHPC	1	0.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%
NTPC	3	0.00%	0.00%	0.00%	33.33%	0.00%	33.33%	0.00%	0.00%	0.00%
OTPC	4	50.00%	50.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%
POWERGRID	18	33.33%	66.67%	100.00%	55.56%	44.44%	100.00%	44.44%	50.00%	94.44%

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. 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.

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

Forum noted that NEEPCO, MePTCL, DoP Ar. Pradesh, MSPCL and Powergrid have need to submit the report within timeline and make improvement accordingly.

DoP Ar. Pradesh highlighted that there is shortage of skilled manpower as well as internet issue in the state, which caused lower submission rate.

MePTCL and NEEPCO informed that due to lack of trained manpower at site, there was delay in uploading of DR/EL.

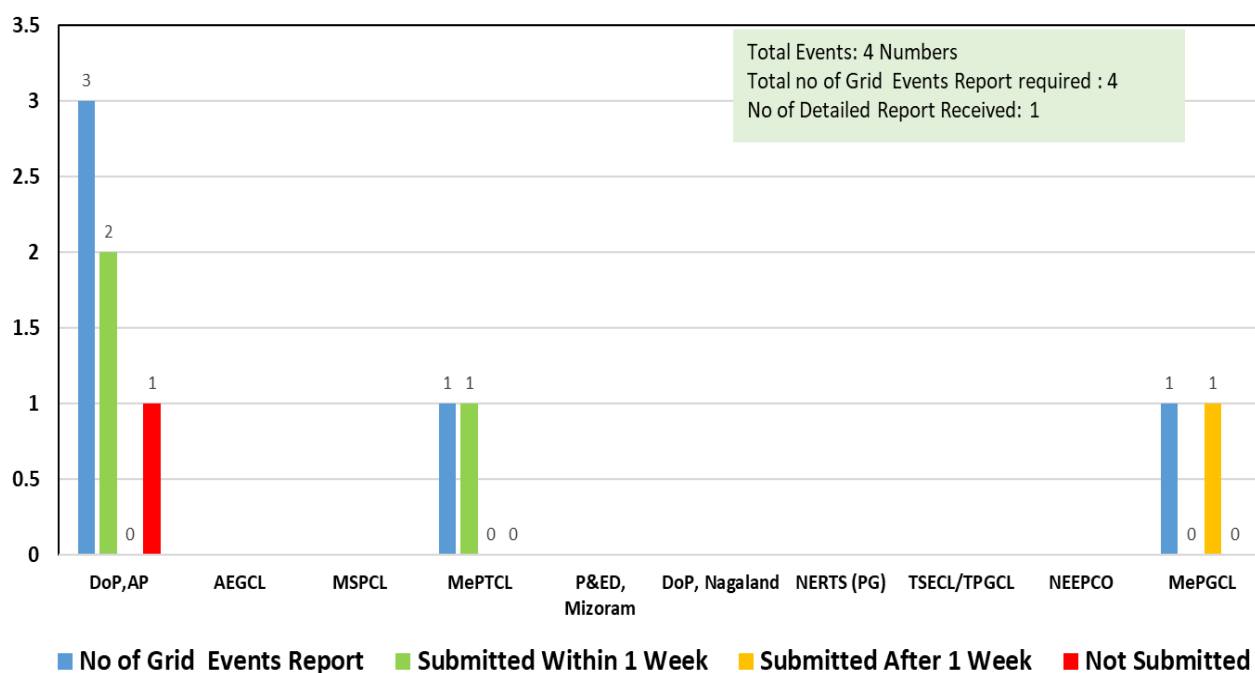
MSPCL informed that there is lack of laptop at site due to which DR/EL submission is getting affected.

Forum advised all utilities to adhere time frame.

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 **January, 2025** as on **17-02-2025** is shown below:

Status of the Detailed Report Submission in NER for January'25



DoP AP, have not submitted the detailed report of grid disturbance for GD in Napit and Niglok areas of AP Power System.

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

Forum exhorted all the utilities to provide the reports timely as per IEGC regulation. MS NERPC stated that the implementation of the RAS and AFAS system will immensely help in fetching of DR, analysis of faults and preparation of reports timely. Further he requested the state utilities to prepare the DPRs based on the technical specifications shared by NERPC vide email dated 17.02.2025.

B.5 Non-operation of auto recloser in Important Grid Elements for transient faults in January 2025:

Sl. No.	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility
1	132 kV Dimapur - Doyang 1 Line	03-01-2025 09:48:00	DP, ZI, B-E, FD: 2.758Kms, A/R Successful	DP, ZI, B-E, Carrier received, A/R Not Operated	Doyang (NEEPCO)	
2	132 kV Bokajan - Dimapur Line	05-01-2025 09:44:00	DP, ZI, B-E, FD: 11.3km, A/R Not Operated	DP, ZI, B-E FD:9.276 kms, A/R Successful	Bokajan (Assam)	
3	132 kV Nirjuli-North Lakhimpur 1 Line	13-01-2025 09:05:00	DP, ZI, Y-B, FD: 14.82 kms, A/R Operated Successfully	DP, ZI, Y-B, FD: 27.7 Kms, A/R Not Operated	North Lakhimpur (MUML)	
4	132 kV Daporijo - Ziro Line	13-01-2025 15:00:00	DP, ZI, B-E, AR Not Operated	DP, ZI, B-E, FD: 677.24Kms, A/R Operated Successfully	Daporijo(D oP AP)	

Deliberation of the sub-committee

Utilities updated as follow –

Sl. No.	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility
1	132 kV Dimapur - Doyang 1 Line	03-01-2025 09:48:00	DP, ZI, B-E, FD: 2.758Kms, A/R Successful	DP, ZI, B-E, Carrier received, A/R Not Operated	Doyang (NEEPCO)	Issue with the CB, order placed, delivery in 5 months, work to be completed by Oct'25
2	132 kV Bokajan - Dimapur Line	05-01-2025 09:44:00	DP, ZI, B-E, FD: 11.3km, A/R Not Operated	DP, ZI, B-E FD:9.276 kms, A/R Successful	Bokajan (Assam)	CB to be replaced. Work to be completed by March'25
3	132 kV Nirjuli-North Lakhimpur 1 Line	13-01-2025 09:05:00	DP, ZI, Y-B, FD: 14.82 kms, A/R Operated Successfully	DP, ZI, Y-B, FD: 27.7 Kms, A/R Not Operated	North Lakhimpur (MUML)	DTPC receiver wire cut, carrier issue. Issue now resolved. Multiphase A/R enabled.

4	132 kV Daporijo - Ziro Line	13-01- 2025 15:00:00	DP, ZI, B- E, AR Not Operated	DP, ZI, B-E, FD: 67.724Kms, A/R Operated Successfully	Daporijo (DoP AP)	Relay setting and AR logic are OK, So no apparent reason. Forum advised to recheck in coordinatio n with PGCIL. Shutdown will be availed for checking of A/R logic by DoP AP.
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Sub-committee noted 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 12th of every month for previous month indices, which shall be reviewed by the RPC.

As on 17.02.2025, **NETC, OTPC, MUML, NBTL, NTL, POWERGRID, AEGCL, DoP Nagaland, MePTCL, MePGCL, TGBPS(NEEPCO), Kopili(NEEPCO) and DoP Arunachal Pradesh** has submitted protection performance indices for the month of January'25.

SN	Name of Transmission Licencee	D= (Nc/ Nc+Nf)	S= (Nc/ Nc+Nu)	R= (Nc/ Nc+Ni)	Remarks
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1	NETC	-	-	-	No tripping during Jan'25
2	OTPC	1	1	1	
3	POWERGRID	1	1	1	
4	MUML	0.5	1	0.5	As per SOPR, failed Nf at North Lakhimpur end for tripping of 132 KV North Lakhimpur Nirjuli Line on 13.01.2025 <i>NERLDC Comments:</i> Ph-Ph fault. A/R not operated. DR window is only 500 msec which is not in line with the DR standardization parameters report submitted by FOLD Working Group 3. MUML to update the reason and rectify the same.
5	NBTL	-	-	-	No tripping during Jan'25
6	NTL	-	-	-	No tripping during Jan'25
7	Monarchak, TGBPS, NEEPCO	1	1	1	
8	Kopili(NEEPCO)	1	1	1	
9	AEGCL	1	1	1	
10	DoP Arunachal Pradesh	0.929	1	0.929	Tripping of 132 kV Along-Basar line from Basar end on ZI. Along end CB failed to open despite issuance of trip command. The LBB initiation command was also triggered at Along, however the Pasighat line breaker did not

					open. Similar incident occurred on 08-12-2024
11	DoP Nagaland	1	1	1	
12	MePTCL	1	0.57	0.57	<p>As per SOPR, S and R are less than unity due to</p> <p>(1) Tripping of 220k V Mawphlang-New Shillong line-2 on 15.01.2025 due to spurious DT signal, the matter was informed to NERPSIP for rectification.</p> <p>(2) Tripping of 160MVA ICT-I at Mawphlang on 19.01.2025 due to defective PRV relay. The relay has been replaced and the ICT was charged w.e.f 24 January 2025.</p> <p>(3) Mal-operation which has resulted in tripping of 315MVA ICT 3 at 400kV Killing S/s on 23.01.2025. The ICT was charged immediately and normalized.</p>
13	MePGCL	1	1	1	

Protection Performance Indices not received from transmission utilities such as **KMTL, MSPCL, P&ED Mizoram and TSECL**. Also, not received from Generating companies such as **APGCL, TPGCL, NTPC, NHPC and NEEPCO (AGBPP, AGTCCPP, Kameng, Ranganadi, Pare, Doyang, Kopili stg 2)**.

Therefore, all Users are requested to furnish and ensure performance indices (Dependability-D, Security-S, Reliability-R) with regards to the tripping of elements to NERPC & NERLDC positively by **12th** of every month for previous month indices in compliance with IEGC.

Deliberation of the sub-committee

The forum noted the above and urged all the utilities to submit the report on indices timely and take necessary actions to remove the deficiencies in their protection system.

MUML informed that tripping of 132 kV Nirjuli-North Lakhimpur Line- At North Lakhimpur, DTPC wire found cut which caused A/R not to operate. Now it has been rectified. Multiphase A/R enabled as informed by MUML.

DoP Arunachal Pradesh informed that tripping of 132 kV Along-Basar line- Along end CB failed to open despite issuance of trip command. DoP AP informed that they are facing fund issue for procurement of CB. Also, there are no spare CB available. Forum urged DoP AP to keep mandatory spares in substations as per CEA guidelines to meet any exigency.

MePTCL informed that 315MVA ICT 3 at 400kV Killing S/S was manually operated by mistake.

B.7 Bus bar protection at Surajmaninagar (TSECL):

As per the monthly progress report submitted by Tripura (Petition No-535/MP/2020) for the month of December, 2024, the progress regarding implementation of Bus bar Protection at SM Nagar (TSCEL) is updated as: Will be implemented after getting fund from PSDF.

TSECL may update the latest status of the same and mention the tentative date of completion as the issue is long pending.

Deliberation of the sub-committee

TSECL updated that the DPR was submitted to PSDF seven months ago, but update has not been received from PSDF yet. MS NERPC advised to resubmit the DPR to PSDF with revised cost estimate.

Forum also noted that Bus-Bar protection is non in service at 132kV Agartal SS. Further it was noted that due to non-availability of Busbar protection at 132kV 79 Tilla (Agartals Ss), Z4 timing of all 132kV feeders maybe revised to 200 msec considering the criticality of the substation which is catering to the capital city load.

B.8 Spurious Tripping of Bus Coupler CB and loss of supply in 132 kV Loktak - Rengpang Line:

At 05:52 Hrs of 14.02.2025, 132 kV Bus Coupler at Loktak CB tripped. As a result, there was blackout at Rengpang S/S (load loss: 1 MW) which is the cause of concern. As per relay indications, tripping occurred due to maloperation of the bus-coupler breaker. Blackout of 132 kV Loktak - Rengpang Line due to tripping of 132 kV Bus Coupler at Loktak inferred to be a Uniform feeder segregation issue. The tripping of the bus coupler should not impact the Loktak-Rengpang line, given the double main scheme in place.

NHPC may update the root cause as well as the remedial measures taken on Bus coupler CB and ensure uniform segregation of feeders in both buses to ensure reliable grid operation all time.

Deliberation of the sub-committee

NHPC informed that tripping of Bus coupler at Loktak occurred due to loose connection in control wiring of Bus coupler which has been rectified. NERLDC highlighted that prior to the event, Rengpang Line was in Bus-I and all other elements were in Bus-II which resulted in blackout of Rengpang area due to tripping of bus coupler at Loktak. Forum highlighted the importance of uniform feeder segregation in double main bus scheme.

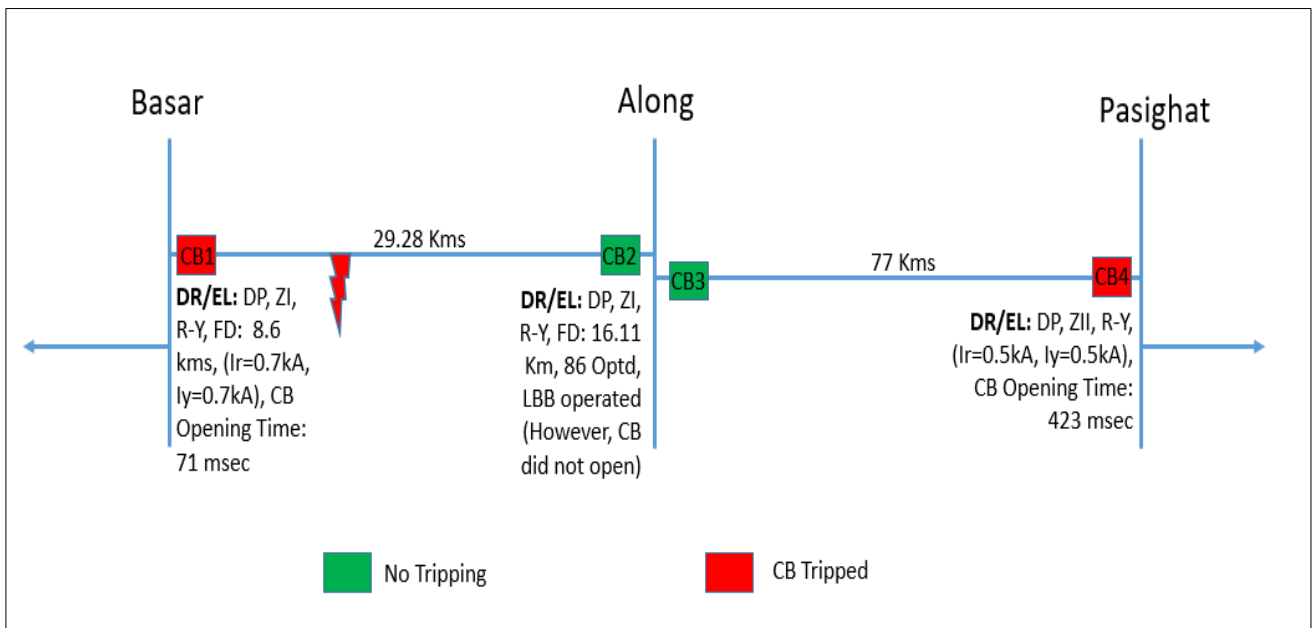
NHPC informed that presently there is uniform segregation of elements at Loktak Bus.

Forum urged all utilities to ensure uniform segregation of feeders in both buses in case of double main bus configuration.

B.9 Grid Disturbance in Along and Pasighat areas of Arunachal Pradesh on 23-01-2025 and 05-02-2025:

Along and Pasighat areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Along-Basar & 132 kV Along-Pasighat lines.

At 18:36 Hrs of 23-01-2025, 132 kV Along-Pasighat and 132kV Along-Basar line tripped resulting in grid disturbance in Along area of Arunachal Pradesh. Load loss of 5 MW occurred.



As per DR analysis, R-Y solid fault (Ir-537 A, Iy-535 A) in 132 kV Along-Basar line initiated at 18:36:46.864 Hrs, which was cleared within 80 msec from Basar end on operation of DP, ZI. ZI started from Along end and trip command issued. However, CB at Along fails to open. Non-isolation of fault from Along, resulted in clearing of fault from remote end by tripping of 132 kV Pasighat-Along on DP, ZII, R-Y, within 420 msec.

Observations:

- Non-opening of CB at Along for 132 kV Along-Basar line despite issuance of ZI trip command. DoP AP to immediately resolve the Pneumatic type Circuit Breaker issue of Basar feeder at Along Substation, which is reported to be in poor working condition.
- DoP AP to implement multiphase along with 1-Ph A/R for continuity of power supply in case of transient multiphase fault.
- At 18:36:47.170 Hrs, after 300 msec of initiation of fault, LBB initiation command was triggered at Along end. However, Pasighat line breaker did not open. LBB time delay setting and its wiring circuit to all feeders at Along to be reviewed and remedial measures to be taken immediately
- SOE not recorded for tripping of any of the elements. The same needs to be checked by DoP AP/SLDC AP/POWERGRID for ensuring IEGC compliance.
- Time drift of 1 min observed at Pasighat end for 132 kV Along-Pasighat line which need to be sync with GPS.

It is to be mentioned that similar kind of disturbance observed on **08th Dec'24** and it was already highlighted in the last 75 PCC meeting. In the meeting DoP Ar. Pradesh apprised that trip command as well as LBB was triggered at Along end, but CB did not operate as it is old and pneumatic. Also, CB3 did not operate on LBB as wiring has not been done yet with LBB. Also, the forum had advised DoP Ar. Pradesh to replace the pneumatic CBs with spring charged ones at the earliest.

Again at 11:15 Hrs on **5th February'25**, same events occurred due to the non-clearance of fault at Basar for the 132 kV Along Line.

Despite the recommendations provided by the 75 PCC minutes and NERLDC Protection Team vide ref mail 24/01/25 and letter Ref No NERLDC/SO/24-25/14/7384, dated 07/02/25, no corrective actions have been implemented, leading to repeated disturbances caused by the same known issue.

DoP Arunachal may provide an update on the actions taken in response to the aforementioned observations.

Deliberation of the sub-committee

DoP Arunachal Pradesh updated that CBs at Along to be replaced and proposal have been put up to higher authorities. Regarding the LBB, he updated that Pasighat feeder integration will be completed shortly.

DoP AP informed that they are facing fund issue for procurement of CB. Also, there are no spare CB available.

Forum urged DoP AP to keep mandatory spares in substations as per CEA guidelines.

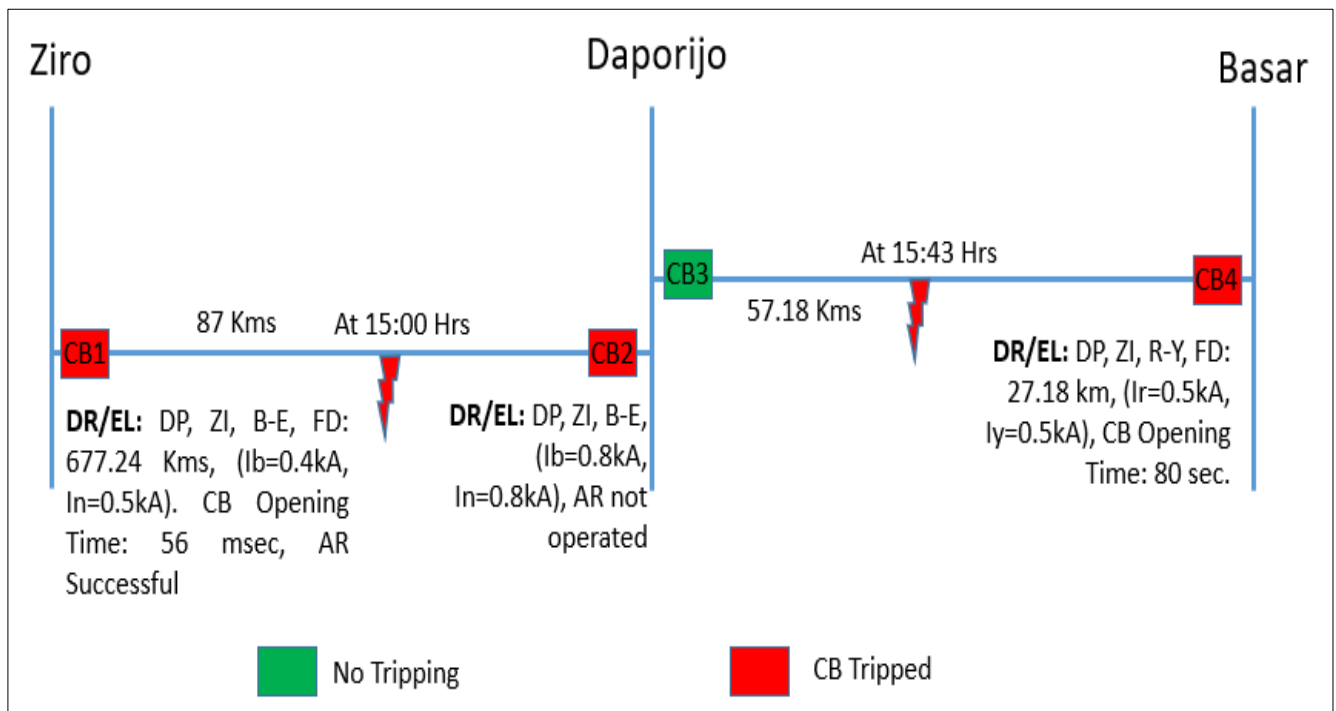
Forum also urged DoP AP to implement multiphase A/R as well as 1-ph A/R.

The forum strongly advised DoP Arunachal Pradesh to replace the CBs on urgent basis as multiple blackouts have occurred due to the CB issue.

B.10 Grid disturbance in Daporijo area of Arunachal Pradesh Power System on 13-01-2025:

Daporijo area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Daporijo-Basar line. 132 kV Ziro – Daporijo line tripped at 15:00 Hrs of 13- 01-2025. At 15:45 Hrs of 13-01-2025, 132 kV Daporijo-Basar line

tripped resulting in GD in Daporijo area of Arunachal Pradesh Power System. Load loss of 3 MW occurred.



As per DR analysis, B-phase to E fault occurred in 132 kV Ziro-Daporijo Line at 15:00:13.363 Hrs and fault was cleared from Ziro on Z-1 within 57 msec, A/R successfully operated and Daporijo on Z-1 within 56 msec, A/R not attempted. At 15:43:18.118 Hrs, another R-Y fault occurred in 132 kV Basar-Daporijo line and fault was cleared from Basar on Z-1 operation within 80 msec. There was no tripping from Daporijo as radially connected.

Protection issues observed

- Reason for non-operation of A/R at Daporijo for Ziro line needs to be checked by DoP, AP and corrective actions may be updated.
- Fault location of 677.24 Kms from Ziro seems erroneous. The same need to be reviewed by POWERGRID by simulating the same fault with test kit.
- The fault on 132 kV Basar-Daporijo line is of a Ph-Ph nature, there is likely clearance issue that required immediate attention. DoP AP is requested to investigate and update the root cause of tripping at earliest.
- Huge time drift of 2 mins in DR observed from Basar. Healthiness of GPS may be checked and time to be adjusted as per grid code.
- SOE not recorded for tripping of all the elements. The same needs immediate attention from DoP AP team for ensuring IEGC compliance.

DoP AP and PGCIL may update the actions taken on the above-mentioned issues.

Deliberation of the sub-committee

Regarding the AR issue at Daporijo, DoP Ar. Pradesh stated that Relay setting and AR logic are OK, so no apparent reason for the failure of AR was found. DoP AP informed that shutdown will be availed for checking of A/R logic at Daporijo for Ziro line in coordination with POWERGRID.

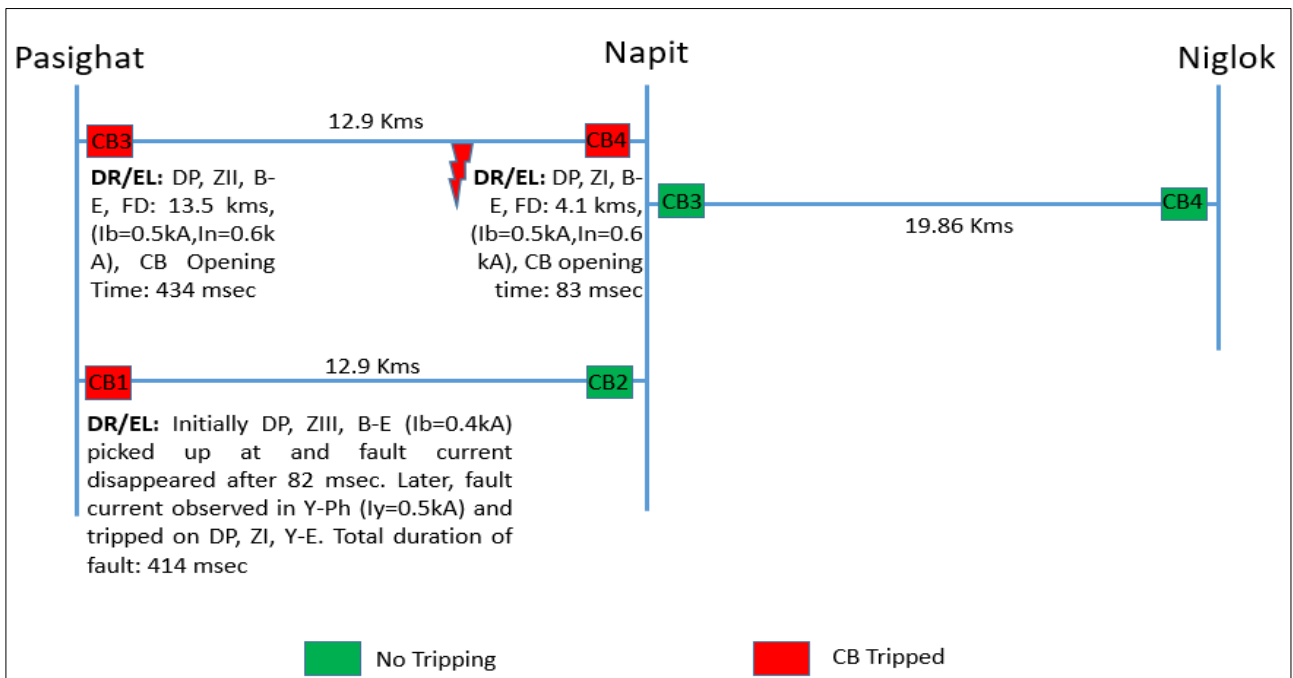
DoP AP informed that inspection of 132 kV Basar-Daporijo line has been done and no phase clearance issue has been found. They further informed that proper checking of conductor spacing will be conducted shortly.

Regarding issue at Basar, DoP Ar. Pradesh informed that the substation is being maintained by Comprehensive team and they have been intimated regarding the issue. Regarding DR time drift at Basar, the same has been informed to NERPSIP for rectification.

Regarding fault distance from Ziro PGCIL informed that fault distance was 67.724 Km.

B.11 Grid disturbance in Napit area of Arunachal Pradesh Power System on 07-01-2025:

Napit and Niglok area of Arunachal Pradesh Power System were connected with rest of NER Grid via 132 kV Pasighat- Napit D/C Lines. At 22:25 Hrs of 07-01-2025, 132 kV Pasighat-Napit D/C Lines tripped leading to blackout in Napit and Niglok areas of Arunachal Pradesh Power System. Load loss of 5 MW occurred.



As per DR analysis, B-phase to E fault occurred in 132 kV Pasighat- Napit 1 Line at 22:25:35.347 Hrs and fault was cleared from Napit on ZI within 57 msec and Pasighat on ZII within 434 msec. At the same time, for 132 kV Pasighat- Napit 2 Line, ZIII, B-E (Ib=0.4kA) started initially and fault current disappeared within 83 msec. Later fault current observed in Y-Ph (Iy=0.5kA) tripped on ZI from Pasighat end and fault cleared in 414 msec.

Protection issues observed:

- No carrier aided tripping observed in 132 kV Pasighat- Napit 1 Line at Pasighat end
- Tripping of 132 kV Pasighat- Napit 2 Line on ZI from Pasighat end seems unwanted. Zones setting need to be reviewed at Pasighat for Napit-2 line.
- SOE not recorded for tripping of 132 kV Pasighat-Napit D/C Lines which is the non-compliance of Grid code.
- Huge time drift of 10 mins and 6 mins observed in submitted DR from Pasighat ends for both lines

DoP AP may update the actual root cause of the event and remedial measures that has been taken against above mentioned issues.

Deliberation of the sub-committee

The forum opined that the during the event there may be two separate faults. First fault was in Pashighat-Napit 1 line which was cleared from Pashighat end on Zone 2 and from Napit end on Zone 1 in 83 msec. Other fault may have occurred in

Pashighat-Napit line 2 which was cleared from Pashighat end on Zone 1. NERLDC informed that no DR was available for CB2.

DoP Ar. Pradesh informed that the fault was due to vegetation.

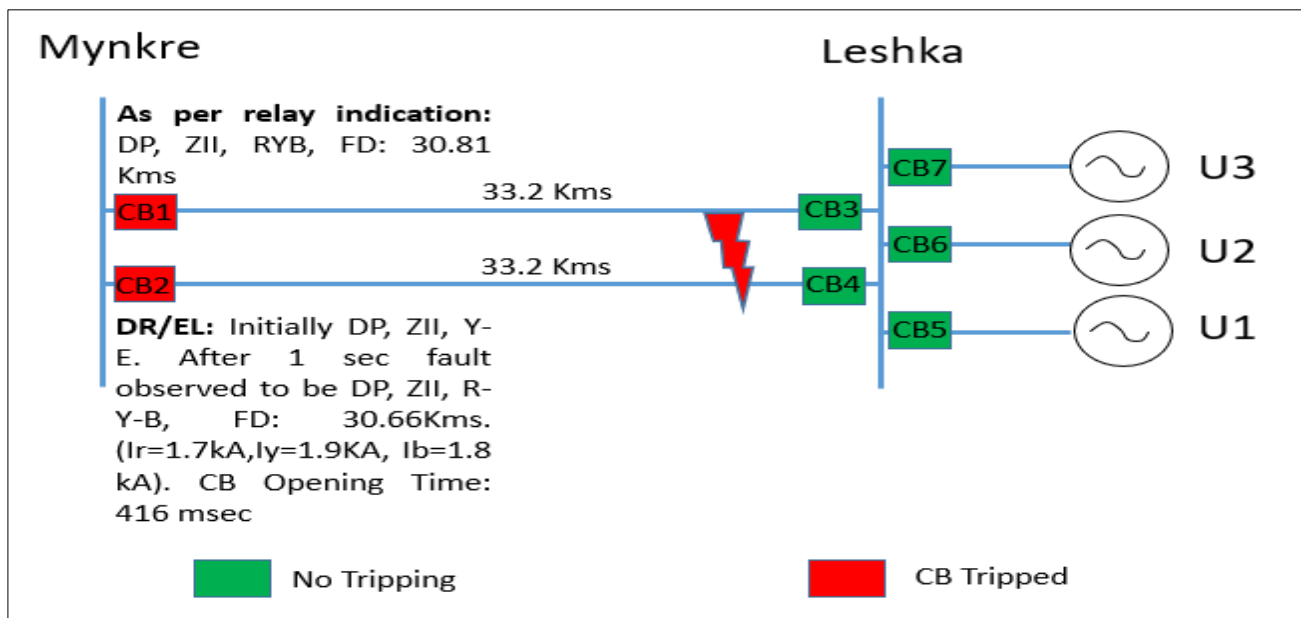
Protection setting of Pasighat end for 132 kV Pasighat-Napit II line needs to be submitted by DOP to NERPC and NERLDC for review.

Regarding non-operation of carrier aided tripping from Pashighat end, DoP Ar. Pradesh was directed to look into the matter and resolve at the earliest.

Regarding issue at Napit end DoP Ar. Pradesh informed that the matter has been intimated to Comprehensive team.

B.12 Grid disturbance in Leshka HEP of Meghalaya Power System on 20-01-2025:

Leshka HEP of Meghalaya Power System was connected with rest of NER Grid via 132kV Mynkre-Myntdu Leshka D/C lines. At 09:16 Hrs of 20-01-2025, 132kV Mynkre-Myntdu Leshka D/C lines tripped, resulting in grid disturbance due to loss of evacuation path of Leshka HEP area of Meghalaya Power System. At the same time Umiam stg1 Unit 1, Umiam stg1 Unit 2 and Umiam stg1 Unit 4 also tripped which seems to be nuisance tripping. Generation loss of 62 MW observed.



As per detailed report submitted by MePGCL, the 132kV link line from the 11kV/132kV Transformer Bay to the Switchyard passes through forest. Fault may have occurred in this line which is protected by O/C E/F relay.

Protection/Operational issues observed:

- Root cause of the tripping and the exact location of the fault may be shared by MePTCL and MePGCL
- Mynkre end DR channels for 132KV-Myntdu Leshka-Mynkre 1 Line are not standardised due to which proper analysis could not be done. The DR duration to be enhanced to 3 sec with Pre fault time of 500 msec and post fault of 2.5 sec. Also, voltage channel to be configured in analogue channel of DR in line with DR Parameter Standardisation report of FOLD Working Group-3. Action- MePTCL
- A huge time drift of 4 mins observed from Mynkre ends DR for 132KV-Myntdu Leshka-Mynkre D/C Lines. GPS need to be checked and time to be aligned to get correct sequence for analysis. Action-MePTCL.
- SOE not recorded for tripping of all elements from Mynkre and Leshka HEP. The same needs attention by team MeTCL and MePGCL.
- Reason for tripping of 3 units from Umium stage-1 along with actions taken may be updated by MePGCL
- MePGCL may submit the Switchyard layout of Leshka for understanding of equipment location

Deliberation of the sub-committee

MePGCL informed that the fault occurred (vegetation fault) in the link line (from generator to the switchyard). He further informed that only B/U OC and EF protection is provided for this link.

Forum exhorted Meghalaya to implement the Line differential protection for the link. MePGCL informed that LDP procurement is in process.

MePGCL informed that correct DR for 132 kV Mynkre-Leskha I line will be submitted shortly.

Regarding tripping of Umiam Stg-I Unit-1,2&4, MePGCL informed that units tripped on operation of OC & EF relay. Tripping of Umiam Stg-I Unit-1,2&4 for fault in 132 kV link line at Leshka is unwanted which needs to be thoroughly investigated.

Forum referred the matter to PSAG for further analysis.

B.13 Monitoring of internal and external audit by Users

IEGC 2023, Regulation 15 mandates all Users to conduct an internal audit annually and a third-party protection audit for substations at 132kV and above every five years or as recommended by NERPC.

Also, the third-party protection audit report must be submitted to NERPC and NERLDC within one month of the audit completion. Till 17.02.2025, key observations from the third-party audit reports submitted by AEGCL are mentioned in ***Annexure B.13***. However, no rectification reports after third party audit are submitted by MePTCL till 17.02.2025. Hence, MePTCL is requested to submit the protection audit reports, along with action plan for rectification of deficiencies detected, to the NERPC and NERLDC

It is essential to maintain a list that monitors the proposed dates for internal and external audits versus their actual completion dates. To facilitate this, ***NERLDC has created a Google spreadsheet that includes details of protection audits, the AR status of lines, and SPS mapping on SCADA. All utilities are kindly requested to update the latest status to facilitate easy tracking and ensure onward IEGC compliance.***

Deliberation of the sub-committee

Forum exhorted, in line with discussions in agenda B.1, all the utilities to update the google sheet and comply with the IEGC regulations.

Forum urged all utilities to submit action plan and compliance report on audit findings to NERLDC & NERPC for further deliberation in PCCM.

B.14 Implementation of SPS related to overloading of 2x160 MVA 220/132 kV ICTs at BTPS

Reporting party: APGCL

Classification: SPS related to overloading of Transformer

Operation: Load disconnection

The purpose of this SPS is for preserving system stability against loss of N-1 contingency for 2x160MVA, 220/132kV ICTs at BTPS(Assam) during peak load conditions by implementing load shedding in case of loss of one ICT during peak load condition.

The total load shedding of 140MW will be done in two stages. Stage-1 would include the 33kV feeders associated with “GROUP-A” and Stage-2 would include the 33kV feeders associated with “GROUP-B” Scheme:

If any of the 2x160 MVA 220/132 kV ICTs at BTPS (Assam) are loaded to 122% of their full load capacity, Overcurrent Stage-2 will operate within 2 seconds and Stage-3 will operate after 3 seconds

Scheme already reviewed by NERLDC and comments shared on 23/09/2024 AEGCL to update the status of implementation of the same.

Deliberation of the sub-committee

AEGCL updated that the SPS will be implemented in 2nd week of March'25

B.15 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 is 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)	

Display of SPS SCADA Mapping

07-Feb-2025 11:56:35 SPS STATUS & OPERATION			
STATION	SPS	SPS ON/OFF	SPS OPTD.
BGTPP_NTPC	BGTPP U-3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PALATANA_OTPC	SPS-2 Bangladesh	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	SPS-4 Bangladesh	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	SPS -2 HSR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	SPS -3 HSR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ZIRO_PG	ZIRO SPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SARUSAJAI_AS	SARUSAJAI SPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IMPHAL_PG	IMPHAL SPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SM NAGAR (ST)	SM NAGAR B/R -1 SPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SM NAGAR (ST)	SM NAGAR B/R -2 SPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PK BARI (ST)	PK BARI B/R -1 SPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PK BARI (ST)	PK BARI B/R -2 SPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TINSUKIA (AS)	TINSUKIA SPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

At present, there are 22 numbers of SPS under operation and 3 numbers 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 75 th PCCM
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1	<p><u>Tripping of 400kV Palatana-Silchar D/C-</u></p> <p>when both modules of Palatana are in service causes tripping of HV side breaker of 2x125 MVA, 400/132 kV ICT at Palatana</p>	<p>After commissioning of 400 kV Palatana - Surajmaninagar line-1, there is no requirement of 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</p>	Done
2	<p>SPS related to overloading of 220kV BTPS- Salakati D/C- Tripping of 220kV Agia – Boko and 220kV Agia – Mirza</p>	<p>After upgradation of 220 kV BTPS-Salakati D/C lines, this SPS is kept OFF</p>	Done
3	<p><u>Related to the safe evacuation of power from BgTPP(NTPC) generation</u> - BgTPP generation reduction to 600 MW</p>	-	Done
4	<p><u>Related to Generation evacuation from Monarchak(NEEPCO) Power Plant</u> - Tripping of STG at Monarchak under outage of any one circuit of 132 kV Monarchak – Rokhia line & 132 kV Monarchak-Udaipur</p>	<p>Commissioning of 132 kV Monarchak-Surajmaninagar line</p>	<p>Mapping done till SLDC. To be extended till NERLDC by the SLDC</p>
5	<p>Outage of 220 kV BTPS (Salakati) – Rangia I & II - load shedding</p>	<p>Commissioning of 400 kV Rangia SS and LILO of 400 kV Bongaigaon-Balipara 1 & 2 Line at Rangia.</p>	Done

6	<u>Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS)</u> - 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	-	Done
7	<u>Related to the tripping of Bus Reactors at 400 kV P K Bari (ISTS)</u> - 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	-	Done
8	<u>Related to the tripping of Bus Reactors at 400 kV Imphal (PG)</u> - 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
9	<u>Related to Outage of any one of the 400/132kV 2x360MVA ICTs at Panyor Lower Hydro Power Station</u> - Disconnection of One Unit of Panyor (135 MW) and One Unit of Pare (55 MW)	After restoration of 132 kV Panyor -Itanagar & 132 kV Panyor -Pare line (expected by 31st Mar'24)	“SPS operated” status already mapped. “SPS ON/OFF” status pending which needs to be checked.

10	<u>SPS related to outage of 220 kV Azara-Sarusajai DC -</u> <u>On tripping of 220 kV Azara-Sarusajai D/C:</u> 140-150 MW load disconnection is to be done at Sarusajai and Kahilipara areas	Commissioning of 400 kV Sonapur Substation. LILO of 400 kV Bongaigaon-Byrnihat Line at Sonapur.	Done
11	<u>SPS related to outage of 220 Misa-Samaguri DC:</u> <u>On tripping of 220 kV Misa-Samaguri DC:</u> Load reduction of 50-60 MW at Samaguri area	Commissioning of 400 kV Sonapur Substation. LILO of 400 kV Bongaigaon-Byrnihat Line at Sonapur.	RTU issue. By March'25
12	<u>SPS related to the outage of 132 kV Panyor HEP-Ziro Line</u> - Tripping of 132 kV Panyor-Ziro will cause disconnection of 33kV Load at Ziro	Commissioning of 132 kV Khupi - Along Link/220 kV AGBPS-Namsai D/C	Done
13	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
14	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	RTU issue. By March'25
15	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	i) Commissioning of 220kV Kathalguri-Namsai D/C ii) Reconductoring of 132kV Tinsukia-Ledo and 132kV Tinsukia - Rupai Lines	Done

	132kV Tinsukia - Ledo or 132KV Tinsukia - Rupai line, Triggering criteria-2: Overloading of 132 kV Tinsukia-Rupai line when current in the line crosses 300 Amps. , 8-10 MW of load at 132kV Rupai GSS will be shed.		
16	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	By Mar'25
17	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	Reconductoring of 132 kV Khliehriat – Leshka D/C	By Mar'25
18	Related to 132kV SM Nagar(ISTS) - SM Nagar line to prevent Overloading	i) Commissioning of 132kV Monarchak - SM Nagar D/C ii) HTLS Reconductoring of 132kV SM Nagar(ISTS) - SM Nagar, 132kV SM Nagar(ISTS) - Budhjungnanagar, 132kV PK Bari(ISTS) - Ambasa and 132kV PK Bari(ISTS) - PK Bari	By Mar'25
19	SPS at Tezu substation to prevent under voltage issue prior to connection of Niglok load at Pasighat area of Arunachal Power System		PGCIL by March'25
20	SPS at Namsai substation to prevent under voltage issue prior to connection of Niglok load at		Done

	Pasighat area of Arunachal Power System		
21	<u>Related to Outage of 400 kV Palatana – Surajmani Nagar line (charged at 132 kV)</u> - 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)	Upgradation of 132 kV Surajmaninagar(TSECL) to 400 kV	Done
22	<u>Related to Outage of both 400/132 kV, 2x125 MVA ICTs at Palatana</u> - 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
Sl. No.	SPS under implementation	Long term measures	
1	SPS at Pasighat substation for preventing Overloading of 132 kV Tinsukia-Rupai/Tinsukia-Ledo Lines in the event of a tripping on the 132 kV Paynor-Ziro Line	Commissioning of 220kV Kathalguri – Namsai D/C lines	
2	SPS related to overloading of 2x160 MVA 220/132 kV ICTs at BTPS	Feb'25	
3	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	

Sub-committee noted as above

Agenda from AEGCL

B.16 Issues faced during shutdown of 220kV Sarusajai-Mirza DC line-

- i)** Gateway Validation during upgrading of CT ratio for a feeder. As per technical observation, Gateway signal validation is not necessary during CT ratio upgradation.
- ii)** Delay in settings approval during CT ratio upgradation of a feeder which led to delay in charging of a crucial 220kV link in Guwahati capital area

Detailed description of the issues has been provided in the **annexure B.15**

Deliberation of the sub-committee

Point no. i

NERLDC informed that gateway signal validation during upgrading of CT ratio for a feeder is required as a precautionary measure to ensure correct data at NERLDC control centre.

Point no. ii

NERPC stated that in such scenario utilities have the option to provide excel calculation sheet of the settings and provisional approval may be provided beforehand and verification may be done after charging of the element. Forum noted the same.

C. FOLLOW-UP AGENDA ITEMS

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 63rd 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 75th PCCM, NERLDC informed that the progress report for Dec'24 have been received from Manipur and Tripura only. Forum requested rest of the states to timely submit the reports. NERPC Secretariat to send the consolidated report to Honble CERC on priority.

Deliberation of the sub-committee

NERPC stated that the quarterly report for July-Sept quarter and Oct-Dec quarters have been prepared and will be sent to CERC shortly.

Forum requested the concerned states to provide the monthly reports timely to NERPC and NERLDC

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:

Utilities updated in 76th PCCM as provided in the table below:

Sl No	Element Name	Tripping date and time	Relay End1	Relay End2	A/R not Operated	Remarks from Utility (76th PCCM)
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, but control cable has been arranged. AR (without carrier) to be enabled by Mar'25

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 Oct'25
6	132 kV Aizawl - Tipaimukh Line	02-11- 2024 10:22	DP, ZII,Y- E, FD: 32.4 KM, Carrier received after CB opening , No Carrier aided tripping	LLG fault. IL1 1.06kA IL2 0.88 kA FD: 63.3 km (A/R Successfu l)	Aizawl(PG CIL)	PGCIL informed that carrier from Tipamukh was received only after tripping of CB, so no Carrier aided tripping occurred, so no AR. MSPCL to check the time delay settings for sending carrier at Tipaimukh. MSPCL updated that issue could not be resolved due to law & Order issue in the state
7	220 kV Behiating - Tinsukia 1 Line	02-11- 2024 10:32	DP, ZI, B- E, 1.1 kA	DP, ZI, B- E	Both ends	AEGCL updated that AR has not been enabled by NERPSIP and the matter is being taken up with them

9	132 kV Panchgram - Lumshnong Line	04-11- 2024 12:50	DP, ZI, Y- E, FD: 12.5km, 3.2kA	DP, ZI, Y- E, FD: 39.9 km	Both Ends	AR in disabled mode at both ends. To be enabled after CT replacement at Lumshnonng end by MePTCL by first week of Mar'25
11	132 kV Bokajan - Dimapur Line	10-11- 2024 13:08	DP, ZI, Y- E, FD: 20.3 kms	DP, ZI, Y- E, FD: 8.4 KM, AR Successfu 1	Bokajan (AEGCL)	Issues with pneumatic breakers at Bokajan end. Orders have been placed for new breakers. Expected to be completed by mid of Mar'25
	132 kV Bokajan- Sarupathar Line	28-12- 2024 12:52	DP, ZI, Y- B, FD: 1.7 Km	DP, ZI, Y- B	Both ends	3 Ph AR enabled

Sub-committee note as above

C.3 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 75th PCCM, M/s PRDC updated that training may be conducted in Feb'25 on a date suitable to the forum. Forum decided that PRDC may conduct the training on 11th and 12th Feb'25 in Guwahati and requested the utilities to send the nominations to PRDC timely.

Deliberation of the sub-committee

M/s PRDC updated that the training was conducted on 11th and 12th Feb'25 and further trainings may be conducted as and when directed by the forum. Further, the forum noted that Network has to be updated in the PDSM software and requested the utilities to provide updated network details and relay settings to M/s PRDC to help complete the network.

C.4 Implementation of Uniform Protection protocol vis-à-vis review of protection settings

The Uniform Protection Protocol has been approved by 15th NPC on 14.11.24. As the protocol, review of protection setting of following power system elements have to be done -

- 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.

In 73rd PCCM, 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 71st PCCM for the purpose and the first meeting of the sub-group will be held shortly.

In 74th PCCM, Forum requested NERPC sub-committee (which has been formed to review setting of Protection protocol in NER) to review the settings of Tripura State power system and submit the report in next PCC meeting.

In 75th PCCM, NERPC informed that NERLDC has shared a google spreadsheet requiring details on reviewing of protection settings by every utility. It was further informed that once Tripura provides the required information, the meeting of the sub-committee will be held.

Forum requested all the concerned utilities to provide the details timely.

Deliberation of the sub-committee

NERLDC informed that Tripura is yet to provide the required details in the google spreadsheet. Forum exhorted Tripura to provide the details at the earliest so that review of settings can be done timely.

C.5 Tripping of 132 kV Dimapur-Doyang I line on 09-Nov-24:

At 08:34 Hrs of 09-11-2024, 132 kV Dimapur-Doyang I tripped.

As per submitted DR, there was no fault in the system. At 08:34:42.728 Hrs, Bus Bar protection operated at Doyang end and CB open at 08:34:42.758 Hrs. There was no tripping from Dimapur (PG) end.

NEEPCO is requested to furnish the reason of Bus bar protection operation at Doyang end and its remedial measures.

In 75th PCCM, NEEPCO informed that there is some issue with the BB protection at Doyang. He further stated that there is urgent requirement of external protection audit at the substation in order to identify all the protection issues, including the issue with the BB protection, and suggest remedial measures.

Forum advised NEEPCO to conduct the BB stability test at the earliest. Forum also suggested that NEEPCO may take support of NTPC in this regard.

Forum also noted that checking of BB protection stability test reports can be made a part of FTC procedure for charging of elements.

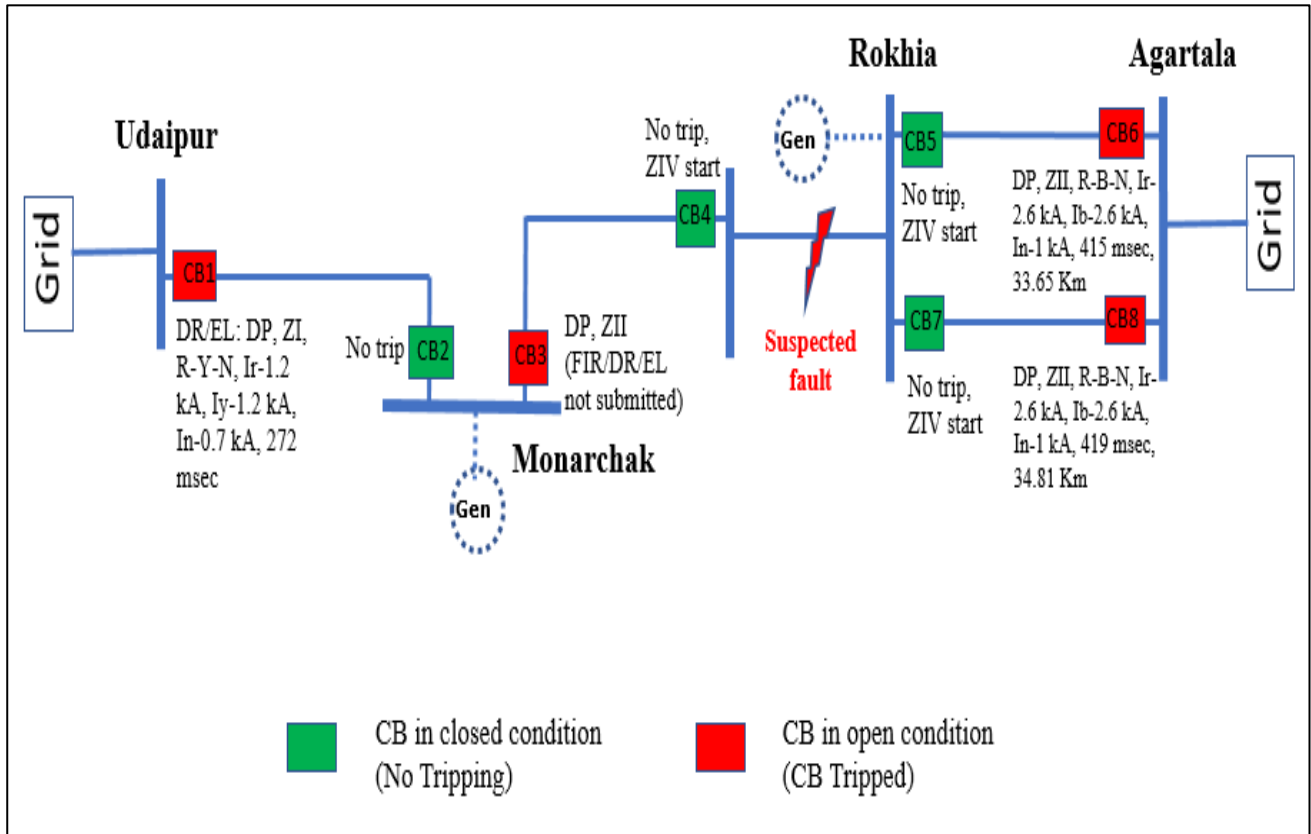
Deliberation of the sub-committee

NEEPCO updated, regarding BB protection stability test, that matter is being taken up with the OEM (M/s ABB) and the test will tentatively be conducted in April'25

C.6 Grid Disturbance in Monarchak and Rokhia areas of Tripura on 06-12-2024:

Monarchak and Rokhia generating station of Tripura Power System was connected with rest of NER Grid through 132 kV Monarchak – Udaipur Line, 132kV Monarchak

– Rokhia line and 132kV Rokhia – Agartala D/C lines. At 13:06 Hrs of 06.12.2024, 132 kV Monarchak – Udaipur Line, 132kV Monarchak – Rokhia line and 132 kV Rokhia – Agartala D/C lines tripped along with Rokhia unit-9. Load loss of 8 MW and generation loss of 17 MW occurred.



As per DR analysis, R-B-N fault initiated at 13:05:19.698 Hrs and cleared within 415 msec from Agartala end on operation of DP, ZII. No tripping from Rokhia end (ZIV start)

132 kV Monarchak-Rokhia line tripped on ZII from Monarchak (No FIR/DR/EL submitted). There was no tripping from Rokhia end (ZIV start)

Following observations:

- Suspected fault in 132 kV Rokhia-Rokhia link feeder which was not cleared leading to tripping of healthy lines 132 kV Monarchak-Rokhia line & 132 kV Agartala-Rokhia D/C lines on ZII from remote ends.
 - At the same time, 132 kV Monarchak-Udaipur line tripped on ZI from Udaipur end which seems unwanted.
 - At the same time, AGTCCPP Unit-2 & 6 tripped which seems to be misoperation.
- TPTL/NEEPCO is requested to:
- Share the root cause and remedial actions taken.

- Update the status of installation of Line differential protection in 132 kV Rokhia-Rokhia Link feeder.
- Furnish the reason of tripping of 132 kV Monarchak-Udaipur line for fault in 132 kV Rokhia S/S.
- Reason of tripping of AGTCCPP Unit-2 & 6.
- Submit detailed report in compliance with IEGC-23
- Submit DR/EL within the specified timeline as per IEGC-23

As per 75th PCCM minutes

1. TSECL informed that fault was near the main bus at Rokhia S/S as a CCTV cable snapped and came near the bus and flashover occurred.
2. Regarding the Line Differential Protection on the Rokhia-N.Rokhia link, Tripura updated that CB and CT have been installed, optical fiber is yet to be installed and protection relays will be operational by Feb'25. Forum advised TSECL to commission distance protection and EF protection in the link at the earliest.
3. Regarding the replacement of relay panels at AGTCCPP, NEEPCO shutdown is planned for Feb'25
4. TSECL to review the zone 1 settings at Udaipur end for Monarchak line.

Tripura and NEEPCO may update

Deliberation of the sub-committee

Regarding the LDP on the Rohia-N.Rokhia link, Tripura updated that the same will be commissioned by March'25

Regarding replacement of relay panels at AGTCCPP, NEEPCO updated that one panel has been replaced and the other will be replaced in next shutdown

C.7 Status Update on Parameter standardization of Disturbance Recorder (DR):

The parameter standardization of Disturbance Recorder (DR) was approved during the 59th PCCM (B.30 Standardization of Disturbance Recorder (DR) Channels). Subsequently, it has been incorporated into the Protection Protocol of the North Eastern Region by NERPC (62nd PCCM 20th December 2023). As per the Uniform Protection Protocol, DR parameters are to be standardized in line with the recommendations of the FOLD working group-3.

Status as updated by the utilities in the 75th PCCM -

Sl. No.	Utility Name	Status update (75 th PCCM)
1	DoP Arunachal Pradesh	By Feb'25
2	DEPL	
3	AEGCL	Standardised as per FOLD Working Group-3 report
4	APGCL	
5	MSPCL	By Feb'25
6	MePTCL	By Feb'25
7	MePGCL	By Feb'25
8	P&ED Mizoram	By Jan'25
9	DoP Nagaland	Will update before next PCCM
10	TSECL	By Feb'25
11	TPGCL	
12	POWERGRID	Most are standardized. Internal review is ongoing and remaining will be done by Jan'25
13	NEEPCO	Almost all standardized. The rest will be done by Feb'25
14	NHPC	By Feb'25
15	NTPC	
16	OTPC	Done
17	NTL	
18	MUML	
19	KMTL	

All utilities are requested to provide an update on the status of uniform adoption of parameter standardization for Disturbance Recorder (DR).

NERLDC has prepared a google sheet with substation wise and feeder wise details of each state. All utilities are requested to update the status of DR parameter standardization in the google spreadsheet.

Deliberation of the sub-committee

NERLDC informed that only Meghalaya and MUML have updated the status in the google spreadsheet. Forum exhorted other utilities to update at the earliest.

C.8 Modification of SPS Scheme related to the outage of 132 kV Leshka – Khliehriat D/C after LILO at 132 kV Mynkre S/S:

With the recent LILO (Line In Line Out) of the 132 kV Leshka – Khliehriat D/C at the 132 kV Mynkre Substation, which is now connected to the 132 kV Goldstone generating station, the existing SPS scheme at Leshka requires modification to accommodate changes in the evacuation of power from both Leshka HEP and Goldstone generating station.

Proposed modification: The modified SPS scheme should ensure the safe evacuation of both Leshka HEP and Goldstone Generation under the condition that any one circuit of the 132 kV Leshka – Mynkre D/C or 132 kV Khliehriat – Mynkre D/C trips or goes under outage.

With the integration of 132 kV Mynkre Substation and the connection of 132 kV Goldstone Generation to the Leshka – Khliehriat D/C, the evacuation of power via a single circuit becomes insufficient.

If one of the circuits trips, both Leshka and Goldstone generation cannot be fully evacuated, necessitating a reduction in generation from both sources to prevent overloading the remaining line. **Trigger condition:** If any one circuit of the 132 kV Leshka – Mynkre D/C or 132 kV Khliehriat – Mynkre D/C trips or goes under outage.

Action taken: One unit of Leshka HEP and one unit of Goldstone Generation will trip in the event of a circuit trip.

As per 75th PCCM minutes

Forum noted that the SPS has to be revised and MePTCL to prepare the scheme.

MePTCL may update

MePTCL informed that the revised scheme has been shared with Mynkre S/S and will be implemented by March'25.

C.9 Requirement of SPS in Arunachal Pradesh Power system:

Reporting party: DoP Arunachal Pradesh & POWERGRID

Classification: SPS related to reliable power supply to Arunachal Pradesh

Operation: Load disconnection

1. Special Protection Scheme (SPS) at Tezu substation to prevent under voltage issue prior to connection of Niglok load at Pasighat area of Arunachal Power System:

The purpose of this SPS is to mitigate low voltage issues at Namsai and Tezu Substations by implementing a coordinated load-shedding scheme through automatic disconnection of 132/33 kV ICTs during specific low-voltage conditions.

Scheme:

When voltage at Tezu drops to 105 kV for 2.5 sec, a signal will be generated to trip HV side CB of ICTs at Tezu.

Deliberation of the sub-committee

DoP Ar. Pradesh and PowerGrid updated that the scheme has been implemented

C.10 Special Protection Scheme (SPS) at Pasighat substation for preventing Overloading of 132 kV Tinsukia-Rupai/Tinsukia-Ledo Lines:

The purpose of this SPS is to mitigate overloading on the 132 kV Tinsukia-Rupai line in the event of a tripping on the 132 kV Paynor-Ziro Line through automatic disconnection of 132 kV Pasighat-Napit line under specific conditions, after the connection of the Niglok load in the Pasighat area of Arunachal Power System.

Scheme:

Trigger condition:

- i) Power flow direction change: The power flow in the 132 kV Pasighat-Along Line changes from import to export mode, with a current magnitude of 10 Amperes.
- ii) Overloading of Pasighat-Napit Line: The current on the 132 kV Pasighat-Napit Line exceeds 65 Ampere with a time delay of 3.5 seconds.

If both of the above conditions are fulfilled, a signal will be generated to trip the CB of 132 kV Pasighat-Napit line at Pasighat.

As per 75th PCC minutes, regarding SPS 1, NERLDC informed that the SPS has been commissioned and functional and has operated successfully during low voltage situation (105kV at Tezu) on 10th Jan'25

Regarding the SPS2, DoP Ar. Pradesh updated that the SPS will be implemented by end of Jan'25

Deliberation of the sub-committee

DoP Ar. Pradesh updated that the scheme has been implemented.

C.11 Relay Setting Database for 66 kV and Above Substations:

Maintaining a comprehensive relay setting database is essential for effective protection analysis and ensuring accurate coordination of the protection system. A well-maintained database benefits all stakeholders by enhancing the accuracy and reliability of these records.

All utilities are requested to share the substation-wise relay setting status on the PDMS portal of NERPC in comparison with the actual settings implemented at site.

As per 74th PCC minutes, Forum requested all the utilities to update the relay settings of 66 kV *and above elements in the PDMS portal at the earliest.*

As per 75th PCC minutes, NERTS updated that they have started the process of updating the settings in PDMS. Forum requested all the utilities to update their settings in PDMS portal as well as the Google sheet prepared by NERLDC for updating relay settings *within three months, i.e. by April'25.*

NERLDC has prepared a google spreadsheet containing substations of each state. All utilities are requested to review and update relay settings in the google spreadsheet.

Deliberation of the sub-committee

Forum exhorted the utilities to update the relay settings in PDMS database as well as the google spreadsheet.

D. ITEMS FOR STATUS UPDATE

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 57th and 56th 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 76th PCCM

Sl no	State	Important Transmission lines where AR has to be enabled at the earliest	Status (74th/73rd/72nd PCCM)	Status as per 76th PCCM
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	220 kV -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.	132 kV – Completed except for 2 lines. The same will be completed shortly
3.	Manipur	132kV Imphal-Ningthoungkong	1. In 71 st 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	Annexure (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-regulation3 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 61st PCC meeting the status for different STUs/ISTS licensees are as follows:

Status as updated in 76th PCCM -

Name of utility	Last updated status (74th/73rd/72nd PCCM)	Status as per 76th PCCM
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AEGCL	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. MS, NERPC stated that funding for the LDP considering the special case of NER has been taken up as resolution by RPC forum	Pending with PSDF
MSPCL	DPR under preparation, to be submitted within one month.	DPR has been approved & NIT to be floated
MePTCL	LDP operation for 9 feeders. For Neighrims-NEHU line, waiting for dark fiber. For other lines, OPGW not available commissioned after OPGW link is established. (Annexure D.2) 7 Feeder operational for rest OPGW work is pending OPGW to be installed on 16 lines. LDP will be enabled after that.	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. 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&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 from 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 th July.	<ol style="list-style-type: none"> 1. NEEPCO updated that GE engineers had visited the site and work had been completed. 2. Report has been submitted to NERPC. 3. Agenda may be dropped
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 76th PCCM:

Sl No	Details of the events(outage)	Remedial action suggested	Name of the utility & previous update	Status as per 76th PCCM
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-Imphalline, 132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Units 1,2 and 3 on 3rdAug	> 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 th and 26 th 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 Lumshnonong	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 th 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

Annexure-I**List of Participants in the 76th PCC Meeting held on 27.02.2025**

SN	Name & Designation	Organization	Contact No.
1	Sh. Tarik Mize, E.E (E)	Ar. Pradesh	09436059758
2	Sh. Ojing Jerang, EE (E), SLDC	Ar. Pradesh	08974640622
3	Sh. Abhishek Kalita, Dy.Mgr, AEGCL	Assam	08486213068
4	Sh. S.Dutta, AM (E), AEGCL	Assam	09706455233
5	Sh. Hanjabam V. Sharma, Dy.Mgr, MSPCL	Manipur	08131026640
6	Sh. Marem Malungsing, Mgr, MSPCL	Manipur	09774133713
7	Sh. C.Daniela, EE (MRT)	Mizoram	09774692380
8	Sh. Hamjingai Law, EE, MePGCL	Meghalaya	07005208427
9	Sh. A.G.Tham, AEE (MRT), MePTCL	Meghalaya	09774664034
10	Sh. Paul Warjri, JE, MePTCL	Meghalaya	08014773964
11	Sh. Alex E.Ngullie, JE, SLDC	Nagaland	08837080321
12	Sh. Manoj Sarma, Sr.Mgr, TSECL	Tripura	09402137133
13	Sh. Krishnadhan Biswas, Sr.Mgr, TPTL	Tripura	09862478930
14	Sh. Nirupam Guha, AGM, TPTL	Tripura	09436502631
15	Sh. Amaresh Mallick, ED	NERLDC	09436302720
16	Sh. Subhra Ghosh, AM	NERLDC	08415857079
17	Sh. Bimal Swargiyari, DGM	NERLDC	
18	Sh. Manash Jyoti Baishya, Ch.Manager	PGCIL	09435555740
19	Sh. M.Talukdar, GM (T)	NEEPCO	09435339690
20	Sh. Manas Pratim Sharma, Sr.Mgr	NEEPCO	08729901871
21	Sh. Alok Kumar Gautam, Lead-Operation	OTPC	07368069397
22	Sh. Ashim De, DM(E)	NHPC	09800284587
23	Sh. Jyotirmoy Barman, AM	NETC	07002036191
24	Sh. Sajeev Mohandas, AGM	NTPC	09496006403
25	Sh. Basab Maity, Engineer PSS	PRDC	09732416233
26	Sh. Mahesh Bhagat, Mgr	STERLITE	09206682124
27	Sh. K.B.Jagtap, Member Secretary	NERPC	-
28	Smt. Maya Kumari, Dy. Director	NERPC	-
29	Sh. Vikash Shankar, AD-I	NERPC	09455331756

Annexure I

Observations and Recommendations of Third-Party Protection Audit

Third Party Protection Audit Of 220/132/33kV Salakati (BTPS) Substation of AEGCL Conducted by NERPC on 31.01.2024

1. Switchyard illumination is poor. It is recommended to improve the illumination at the earliest
2. High vegetation growth is observed in the switchyard. It is recommended to clean the switchyard perimeters.
3. Bay name plates are not proper and bay equipments are not marked. It is recommended to properly mark the bays and bay elements as per colour coding.
4. Surge arrestors are not properly maintained. It is recommended to replace all the non-functioning surge arrestors.
5. AEGCL has to ensure that relay settings of each element are as per the NER protection protocol. Any miscoordination and shortcoming in the relay settings have to be immediately brought to the notice of NERPC.
6. Earthing pits are not maintained properly. It is recommended to carry out the requisite tests of earthing pits at the earliest and proper numbering of earthing pits shall be done.
7. Silica Gel of transformers to be monitored properly for moisture check.
8. Power transformer radiator fans are missing. It is recommended to reinstall the missing radiator fans.
9. All 132 kv isolators are in poor shape. It is recommended to replace all the 132 kV isolators and 33 kv spare isolators should also be maintained.
10. Specific record of consumption of SF6 gas should be maintained.
11. Above recommendations have to be complied within 2 years and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC.

Third-Party Protection Audit Of 132/33kv Gauripur Substation of AEGCL Conducted by NERPC on 09.05.2024

1. As per protection philosophy AR shall be implemented in 132 kV feeder.
2. Adequate safety kit is not available.
3. Disposal of scrap materials.
4. Partial oil leakage in station transformer observed. Transformer is very old.
5. Air cell of both ICT-I&II found discharge condition.
6. Mandatory span of 132kV & 33kV level shall be maintained as per norms.

132kV

- i. CB -01 no.
- ii. CT-NIL
- iii. LA-02 Nos.
- iv. Isolator-01 Nos.

33 kV

- i. CB-01no.
- ii. CT- 03Nos.
- iii. LA- 02 Nos.
- iv. Isolator- 01 No.

- 7. Coolong system in C/R and Battery room shall be improved.
- 8. The existing KVM switch getting frequently disturbance. The same shall be replaced.
- 9. Second battery bank(110V) along with Battery charger shall be required for two separate DC Source in CRP panel.
- 10. Previous testing reports and protection audit reports have to be maintained at the substation
- 11. Above recommendations have to be complied within 2 years and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC

Third-Party Protection Audit Of 220/33kV Jawaharnagar Substation of AEGCL Conducted by NERPC on 08.05.2024

- 1. Bay Marking is not done properly. Bay Marking and equipment identification should display in GIS.
- 2. Rusting at LA counter reading Monitor, same needed to be painted.
- 3. Test results of Earth pit value shall be displayed on cover slab of Earth pit.
- 4. The silica gel has deteriorated in both the ICT's and needs urgent replacement.
- 5. Hole sealed to be done in all CVT JB, ICT MB, CT JB, Isolator MOM Box etc.
- 6. Equipment identification to be done in Isolator, CT, CVT, LA in AIS as well as GIS equipment.
- 7. Air Cell found in discharged condition.
- 8. Earthing of 220kV Tower shall be done as per Tower Earthing norms.
- 9. Water logging observed in NIFPS tank in both the ICT-I & ICT-II
- 10. Bay marking and equipment identification shall be displayed in GIS.
- 11. Mandatory spare of 220 kV ,33 kV voltage level shall be maintained (as per norms).

12. RTU is not reporting, same need to be rectified.
13. M1 & M2 relay in line protection found same make and model
14. Cover slab found in open condition in 33kV system.
15. 33kV LA is not available in 33kV outgoing feeder.
16. Painting shall be done in ICT MB and CVT JB.
17. Discharge test of both Battery Bank-I & II shall be carried out.
18. Previous testing reports and protection audit reports have to be maintained at the substation.
19. Above recommendations have to be complied within stipulated time limit and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC

Third-Party Protection Audit Of 132/33kV Kahilipara Substation of AEGCL Conducted by NERPC on 31.01.2024

1. OPGW is available for only Sarusajai feeder, while other feeders have only PLCC link. It is recommended that OPGW link, for tele-protection, should be commissioned on rest of the feeders
2. Auto reclosure (3 phase) on all the emanating feeders has to be enabled at the earliest.
3. Auto-run mode of DG set has to be enabled and fuel level in DG set has to be maintained at or above 50 percent.
4. AEGCL have to ensure that relay settings of each element are as per the NER protection protocol. Any miscoordination and shortcoming in the relay settings have to be immediately brought to the notice of NERPC.
5. Some bay equipment like LA, CVT, CT, isolators, MBs etc. along with one station auxiliary transformer are old and rusted. The same have also been highlighted in the third-party protection audit conducted on 17.11.2021. These elements need to be replaced at the earliest
6. Nitrogen injection Based Transformer Fire Protection System (NIFPS) should be provided for all the ICTs subject to space constraints
7. DG set
8. Proper lighting system and firefighting provisions have to be ensured in the Switch yard
9. Previous testing reports and protection audit reports have to be maintained at the substation
10. Above recommendations have to be complied with within 2 years and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC

**Final Report of Third-Party Protection Audit of 220/132kV Salakati Substation of Power Grid
Conducted by NERPC on 09.05.2024**

1. Oil Seepage observe in ICT-I.
2. Proper air Conditioning in the control room needs to be maintained.
3. Cover slabs are missing and damaged over the cable trenches.
4. OPGW may be used for the protections.
5. Previous testing reports and protection audit reports have to be maintained at the substation
6. Above recommendations have to be complied as early as possible and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC.

**Final Report of Third-Party Protection Audit of 220/132kV Salakati Substation of Power Grid
Conducted by NERPC on 09.05.2024**

1. 132kV Transfer bus is out of service as bus coupler is non-functional. It is recommended that the bus-coupler be brought in service at the earliest.
2. OPGW, for tele protection, is available for Mirza and Kahilipra feeders only. It is recommended that OPGW link should be used for tele protection on rest of the feeders at the earliest.
3. Bus Bar protection for 220kV Bus is out of service, the same has to be enabled at the earliest
4. Tripping details of Auxiliary supply has to be maintained
5. AEGCL have to ensure that relay settings of each element are as per the NER protection protocol. Any miscoordination and shortcoming in the relay settings have to be immediately brought to the notice of NERPC
6. Auto reclosure (3 phase) on all the feeders has to be enabled at the earliest
7. RTUs, for Auxiliaries, are not reporting to SCADA. Same has to be ensured
8. Nitrogen injection Based Transformer Fire Protection System (NIFPS) should be provided for all the ICTs
9. Proper lighting system and firefighting provisions like foam extinguisher etc. have to be ensured in the Switch yard
10. Previous testing reports and protection audit reports have to be maintained at the substation
11. Above recommendations have to be complied with within 2 years and progress report on above recommendations have to be regularly put up in monthly Protection coordination sub-committee meeting of NERPC

ISSUES REGARDING GATEWAY SIGNAL VALIDATION WHEN CT RATIO IS CHANGED

The following issue has been faced during the shutdown of 220kV Sarusajai – Mirza Double Ckt lines at AEGCL

Validation of Gateway signals after upgradation of CT Ratio for the element:

- i) Gateway reporting of Analog and digital signals at AEGCL following the sequence:
The signals from the respective bays are received by the Gateway via IEC 61850 protocol and the signals are then sent to the SLDC via IEC 101 or IEC 104 protocol. The further transmission of signals from SLDC to the RLDC is via IEC ICCP protocol

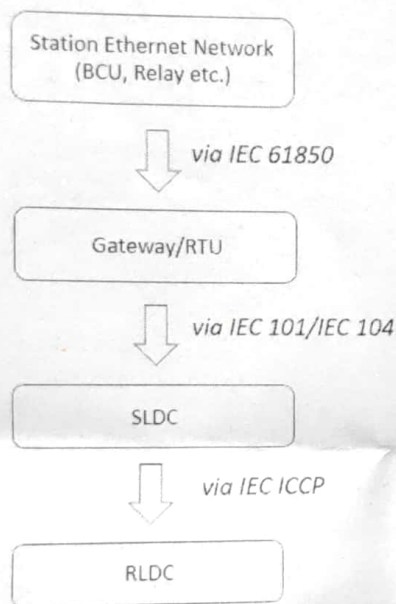


Fig: Gateway communication process from station to control centre

- ii) The IO Address (IO Address is unique for each signal) is provided by the SCADA team at SLDC and the same is configured at Substation level in the Gateway/RTU system. The IO Address is configured with respect to the IEC 61850 corresponding signals

E.g. If the IO Address for R phase current is set as "208" by the SLDC, the address is put against the IEC 61850 signal "MMXU.phsA.mag.f"

During the commissioning of the Gateway at the Substation, signal validation was done successfully. As such, when the CT ratio is upgraded at the substation, technically there should not be any requirement for Gateway signal validation to be repeated.

At field level, after each CT ratio change/upgradation, the current value's verified at BCU and relays by CT primary injection. The Gateway addressing is never affected in such cases.

We request that, NEPRC should consider the above argument and remove Gateway signal validation works during charging permission of elements including CT ratio change/upgradation works

DELAY FOR RETURNING SHUTDOWN OF 220kV SARUSAJAI – MIRZA LINES I & II

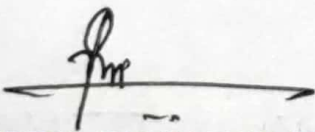
Case	Element Name	Time of Shutdown	Time of charging	Remarks
1	220kV Sarusajai – Mirza Line I	08:08Hrs on 13.02.2025	22:46Hrs on 13.02.2025	Delay due to settings approval from NERPC
2	220kV Sarusajai – Mirza Line II	08:17Hrs on 14.02.2025	10:15Hrs on 15.02.2025	Delay due to settings approval from NERPC

Description of the issue: The CT ratio for 220kV Sarusajai – Mirza Lines I & II was upgraded from 800/1A to 1600/1A. The shutdown was availed under (D-3)

In cases such as CT ratio upgradation, the .csv files from the relays can only be generated for the new settings after the line is under shutdown. Hence, the setting files cannot be sent for validation beforehand.

As per the above table, the charging of the line was delayed due to delay in approval of relay settings from NERPC end. In Case:2, the charging was delayed by a whole day and the critical capital area of Guwahati was dependent on only one line 220kV Sarusajai – Mirza line I due to the delay in approval for charging the ckt II. (N-1) redundancy was absent during the whole time.

AEGCL request NERPC to kindly make certain changes in the “Relay settings approval” rule. The utility should be allowed to charge the element and the relay settings approval can be received post facto. Else, the utility can provide a demo relay settings beforehand (considering the changes) for the approval and the settings from field relay can be sent on the day of shutdown



ASHUTOSH BHATTACHARJEE
General Manager
Testing & Commissioning and
Communication
Narengi, Ghy- 26

Annexure D.1
Annexure C.1

Name of the line	Status as updated in 56/57th PCC meeting	Latest Status
132 kV Agia - Mendipathar	PLCC works completed. AR operation configuration to commence from March'22. Latest Status to be intimated.	
132 kV EPIP II - Byrnihat D/C		
132 kV EPIP II - Umtru D/C		
132 kV Kahilipara - Umtru D/C		
132 kV Khliehriat – Mustem		
132 kV Mustem - NEHU line		
132 kV Khliehriat (MePTCL) - Khliehriat (PG) Ckt#II		
132 kV Khliehriat- NEIGRIHMS		
132 kV NEHU – Mawlai		
132 kV Mawlai - Umiam Stage I		
132 kV Mawphlang - Nongstoin		
132 kV Mawphlang - Umiam Stg I D/C		
132 kV Mawphlang- Mawlai		
132 kV Mendipathar – Nangalbibra		
132 kV Myntdu Leshka - Khliehriat D/C		
132 kV Nangalbibra – Nongstoin		
132 kV NEHU – NEIGRIHMS		
132 kV NEHU – Umiam		
132 kV Sarusajai - Umtru D/C		
132 kV Umiam - Umiam St I	By March'22	
132 kV Umiam St I - Umiam St II		
132 kV Umiam St I - Umiam St III D/C		
132 kV Umiam St III -Umiam St IV D/C		
132 kV Umiam St III - Umtru D/C		
132 kV Umtru - Umiam St IV D/C		

MePTCL

STATUS OF LINE DIFFERENTIAL PROTECTION PROJECT UNDER PSDF					
Sl. No	Feeder Name	Installation		Commissioning	Remarks
		End A	End B		
1	EPIP-I - EPIP II Line I	Completed	Completed	Completed	
2	EPIP-I - EPIP II Line II	Completed	Completed	Completed	
3	EPIP -I - Killing Line I	Completed	Completed	Completed	
4	EPIP -I - Killing Line II	Completed	Completed	Not Completed	Fiber Network Not Available
5	EPIP -I - M/S Maithan Alloy	Completed	Completed	Not Completed	
6	EPIP -I - Shyam Century	Completed	Completed	Not Completed	
7	EPIP-II - Umtru Line I	Completed	Completed	Not Completed	
8	EPIP-II - Umtru Line II	Completed	Completed	Completed	
9	EPIP II - New Umtru	Completed	Completed	Completed	
10	EPIP II - Killing Line I	Completed	Completed	Not Completed	Fiber Network Not Available
11	EPIP II - Killing Line II	Completed	Completed	Not Completed	
12	Umtru- New Umtru	Completed	Completed	Completed	
13	LUMSHNONG- M/S MCL	Completed	Completed	Not Completed	Fiber Network Not Available
14	LumSHNONG- M/S ACL	Completed	Completed	Not Completed	
15	Lumshnong - M/S MPL	Completed	Completed	Not Completed	
16	UMIAM - Stage I	Completed	Completed	Not Completed	
17	Umiam - NEHU	Completed	Completed	Completed	
18	UMIAM STAGE-I - Umiam Stage II	Completed	Completed	Not Completed	Fiber Network Not Available
19	NEHU - NEIGHRIMS	Completed	Completed	Not Completed	Awaiting for Commissioning of fiber under NERFO
20	NEHU - MAWLAI	Completed	Completed	Completed	
21	KHLIEHRIAT (MePTCL)- KHLIEHRIAT(PG) line-II	Completed	Completed	Completed	
22	Stage-III - Stage IV Line I	Completed	Completed	Not Completed	Fiber Network Not Available
23	Stage-III - Stage IV Line II	Completed	Completed	Not Completed	