



सत्यमेव जयते

Agenda
for
77th PCCM

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

North Eastern Regional Power Committee

Agenda for

78th Protection Coordination Sub-Committee Meeting

Date: 21/04/2025 (Monday)

Time: 11:00 hrs.

Venue: NERPC conference Hall, Shillong

A. CONFIRMATION OF MINUTES

1. CONFIRMATION OF MINUTES OF THE 77th PROTECTION SUB-COMMITTEE MEETING OF NERPC.

Minutes of the 77th PCC Meeting held on 24th March, 2025 at NERLDC Conference Hall, Guwahati was circulated vide letter No.: NERPC/SE (O)/PCC/2025/144-185 dated 1st April 2025.

No comments were received from the constituents

Sub-committee may confirm the minutes of the 77th 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 where audit is required to be carried out	Conditional responsibility

	Annual audit plan	All users	Annual audit plan to be submitted to RPC by 31st October	Annual
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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 77th PCCM, following points were discussed -

Utilities updated as follow-

Sr No	Utility/ Constituents	Internal Audit		External audit	
		Latest Status	report	Latest Status	report

1.	Ar. Pradesh	No representative of A.P.	Report of Chimpu to be submitted by March'25	representative of A.P. MS NERPC stated that that audit of Pashighat and Along substations may be conducted on 11-12 th April'25. Powergrid requested NERPC to conduct the nearby substations of Powergrid also. MS agreed.	NA
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. External audit of only Karimganj S/s is left
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 last week of April'25.	NA
4.	Meghalaya	Internal audit of 132kV Substations completed	Reports shared	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an Mawphlang) done.	Report shared

		except for two substations namely., IIM & Mustem Will be completed shortly		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 May'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 April or May'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 by April'25	Requested NERPC to conduct4 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	No representative. MS stated that a letter will be issued by NERPC to them on the matter			
10	KMTL				
11	MUML	No representative			
12	NEEPCO	Pare, Ranganadi Kopili and Turial done. Kathalguri (AGBPP) also done. RC Nagar and Kameng done. Monarch being done	Shared for Pare and Turial and AGBPP. Shared for Kameng. RC Nagar report will be shared shortly	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.	Internal and external audit of AGTCCPP have been done and reports submitted. External audit of Kameng was done on March'25. External audit report of Monarchak will be submitted shortly.

13.	OTPC (Palatana)	Done	Shared	Done	shared
14.	NTPC (BgTPP)	Done	shared	Done (by CPRI)	Complete Report shared.
15.	NHPC (Loktak)	By Mar'25	Internal audit will be done by April'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, Stg III and stg IV to be done by April'25	Submitted for st I and stg II. Internal audit of Umiam Stg 3 and 4 by April'25.	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 of 77th PCCM

Regarding formation of the protection expert group in NER for conducting the external audits, Assam updated that nominations will be sent this week. MS NERPC requested all the state utilities and CPSUs to send their nominations to NERPC within one week so that the audit committee may be formed within ten days.

With respect to internal protection audits, MS NERPC requested the utilities to prepare a list of shortcomings observed and corresponding action plans and submit to NERPC and NERLDC along with the protection audit reports. Also, he advised NERLDC to prepare compliance reports, utility wise, and present regularly in the PCC meetings.

Sub-committee may deliberate

B.2 Analysis and Discussion on Grid Disturbances which occurred in NER grid in March'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 March 2025 based on the draft report prepared by NERLDC (attached as **annexure B.2**).

Sub-committee may deliberate

NERLDC Agenda

B.3 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of March'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 01-03- 2025 to 31-03-2025 as on **11-04-2025** is given below:

Owner Name	Total No of FIR/DR/EL/ TR to be submitted(SEND+REN)	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	25	0%	52%	52%	0%	56%	56%	0%	56%	56%
DoP, Arunachal Pradesh	18	67%	22%	89%	22%	66%	88%	28%	56%	83%
DoP, Nagaland	8	38%	50%	88%	63%	25%	88%	50%	38%	88%
KMTL	4	100%	0%	100%	0%	0% (Only .cfg file submitted)	0%	0%	100%	100%
MePGCL	2	0%	100%	100%	50%	50%	100%	100%	0%	100%
MePTCL	6	83%	17%	100%	0%	100%	100%	0%	100%	100%
MSPCL	23	17%	65%	83%	48%	13%	61%	30%	35%	65%
NEEPCO	26	50%	38%	88%	27%	58%	85%	27%	58%	85%
NHPC	8	0%	38%	38%	38%	62%	100%	38%	62%	100%
NTL	1	0%	100%	100%	100%	0%	100%	100%	0%	100%
OTPC	3	0%	67%	67%	0%	67%	67%	0%	67%	67%
POWERGRID	51	75%	24%	98%	14%	84%	98%	18%	80%	98%
TSECL	7	0%	86%	86%	71%	29%	100%	71%	29%	100%

Concerned Utilities are requested to upload Disturbance Recorder (DR), Event Logger (EL) outputs for grid events along with a First Information Report (FIR) in Tripping Monitoring Portal (<https://tripping.nerldc.in/Default.aspx>) for analysis purpose. In light of the cybersecurity measures implemented by Grid India to safeguard sensitive information, NERLDC has created the email address nerldcso3@gmail.com. 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.

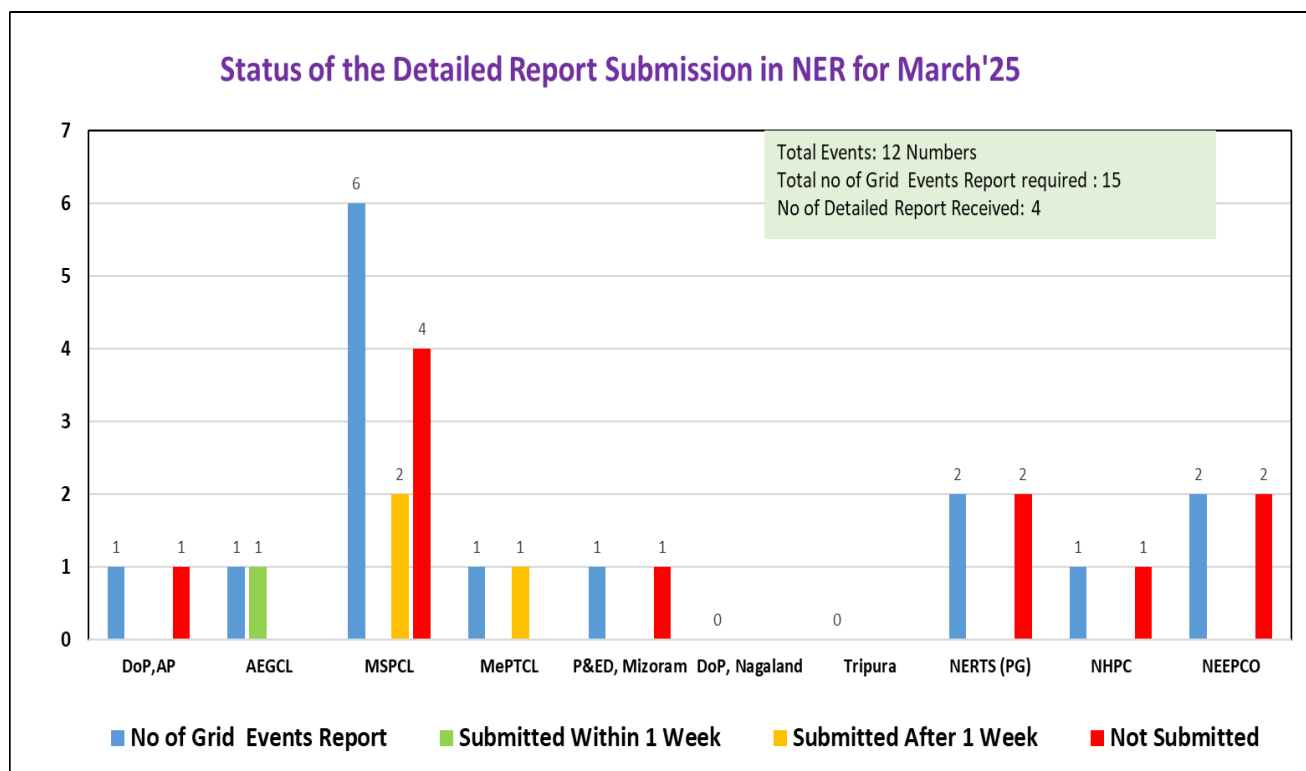
Also, all utilities are requested to nominate a nodal officer responsible for the submission of FIR, DR & EL in Tripping Monitoring Portal (<https://tripping.nerldc.in/Default.aspx>)

Sub-committee may deliberate

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 **March, 2025** as on **11-04-2025** is shown below:



DoP AP, MSPCL, P&ED Mizoram, NERTS, NHPC and NEEPCO have not submitted the detailed report of grid disturbance

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.

Sub-committee may deliberate

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

Sl. No	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility
1	132 kV AGTCCPP - Kumarghat Line	16-03-2025 20:32:00	DP, ZI, B-E, FD: 22.08 Kms, A/R Not Operated	DP, ZI, B-E, FD: 76.656 Kms, A/R Operated Successfully	AGTCCPP (NEEPCO)	
2	132 kV Roing - Tezu Line	18-03-2025 15:56:00	DP, ZI, B-E, FD: 47.961 Kms, A/R Not Operated	No Tripping	Roing (POWERGRID)	
3	132 kV Basar-Daporijo Line	19-03-2025 08:44:00	DP, ZI, R-Y, FD: 33.15 km, A/R Not Operated	DP, ZI, R-Y, A/R Operated Successfully	Basar (DoP, Arunachal Pradesh)	
4	132 kV Pare - Itanagar Line	23-03-2025 17:18:00	DP, ZI, R-E, FD: 11.41km, A/R Not Operated	No Tripping	Pare (NEEPCO)	

Utilities may update

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 11.04.2025, **MUML, NBTL, BGTPP, MEPTCL, POWERGRID, Kopili, Monarchak and DoP, Nagaland** has submitted protection performance indices for the month of March'25.

SN	Name of Transmission Licencee	D= (Nc/ Nc+Nf)	S= (Nc/ Nc+Nu)	R= (Nc/Nc+Ni)	Remarks
1	MUML	-	-	-	No tripping during Mar'25
2	NBTL	-	-	-	No tripping during Mar'25
3	BGTPP	-	-	-	No tripping during Mar'25
4	MePTCL	1	0.667	0.667	<p>(1) Tripping of 132kV NEHU-Mawlyndep at 12:09 Hrs of 23-03-2025: Overreaching of Zone-1 protection of 132kV NEHU-Mawlyndep on Zone-1. The problem has been rectified after reviewing the line length as per LFL data from 18kM to 17.26kM and also the setting has been accordingly reset.</p> <p>(2) Tripping of 220/132kV, 160MVA ICT-1 at Mawphlang at 15:58 Hrs of 26-03-2025: Un-intentional tripping of 220/132kV, 160MVA ICT-1 at Mawphlang S/S during testing works. The</p>

					ICT was charged again and hence normalized.
5	POWERGRID	1	1	1	
6	NEEPCO Kopili	1	0.333	0.333	Unwanted Tripping of 220 kV Kopili - Misa 1 Line at 18:07 Hrs and 23:18 Hrs of 11.03.2025. As per SOPR Report- Under Observation
7	Monarchak	1	1	1	
7	DoP Nagaland	1	1	1	

Protection Performance Indices not received from transmission utilities such as **DoP, Arunachal Pradesh, AEGCL, MSPCL, P&ED Mizoram, TSECL, NETC, KMTL**. Also, not received from Generating companies such as **OTPC, NHPC and NEEPCO (AGBPP, AGTCCPP, Kameng and Doyang)**.

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.

Sub-committee may deliberate

B.7 Time Drift issue of submitted Disturbance recorder during March 2025:

As per Regulation No. 17(1) of IEGC 2023- All users shall keep the recording instruments (disturbance recorder and event logger) in proper working condition.

As per Regulation No. 17(3) of IEGC 2023, The time synchronization of the disturbance recorders shall be corroborated with the PMU data or SCADA event loggers by the respective RLDC. Disturbance recorders which are non- compliant shall be listed out for discussion at RPC.

List of elements with time drift issue in the submitted DRs for March 2025 are as follows:

sl. No.	Element Name	Tripping Date and Time	Time Drift Issue in DR submitted from	Time Drift duration	Remarks
1	132 kV Gohpur - Pavoi 2 Line	26-03-2025 17:38	Gohpur (AEGCL)	56 mins	
2	132 kV Gohpur - Nirjuli Line	13-03-2025 21:49	Nirjuli (POWERGRID)	31 mins	
3	132 kV Karong - Kohima Line	02-03-2025 01:40	Kohima (Nagaland)	22 mins	
4	132 kV Loktak - Ningthoukhong Line	24-03-2025 11:38	Ningthoukhong (MSPCL)	7 mins	
5	132 kV Baramura - Jirania Line	17-03-2025 20:40	Jirania (TSECL)	6 mins	
6	132 kV Dimapur (PG) - Kohima Line	13-03-2025 09:12	Kohima (Nagaland)	5 mins	
7	132 kV P K Bari (Sterlite Power) - P K Bari (TSECL) Line	19-03-2025 15:34	P K Bari (Sterlite Power) and P K Bari (TSECL)	1 min and 6 mins respectively	
8	132 kV Agartala - Rokhia 2 Line	22-03-2025 22:11	Agartala & Rokhia (TSECL)	3 mins both ends	
9	132 kV Mawlyndep- Mustem Line	23-03-2025 12:09	Mustem (MEPTCL)	3 mins	

sl. No.	Element Name	Tripping Date and Time	Time Drift Issue in DR submitted from	Time Drift duration	Remarks
10	132 kV Agartala - Surajmaninagar 1 Line	05-03-2025 05:09	Agartala and Surajmaninagar (TSECL)	2 mins and 8 mins respectively	
11	132 kV Karong - Kohima Line	01-03-2025 10:39	Kohima (Nagaland)	2 mins	
12	132 kV Aizawl - Kolasib Line	30-03-2025 13:08	Aizawl and Kolasib (POWERGRID)	1 min and 2 mins respectively	
13	400 kV New Kohima - New Mariani 2 Line	29-03-2025 11:13	New Mariani (POWERGRID)	1 min	
14	132 kV Along - Pasighat Line	25-03-2025 15:21	Along (DoP, AP)	1 min	
15	132 kV Basar-Daporijo Line	19-03-2025 08:44	Daporijo (DoP, AP)	1 min	
16	132 kV Aizawl - Tipaimukh Line	13-03-2025 09:36	Aizawl (POWERGRID)	1 min	
17	132 kV Jiribam - Tipaimukh Line	13-03-2025 09:36	Jiribam (POWERGRID)	1 min	
18	132 kV Basar-Daporijo Line	05-03-2025 21:25	Basar (DoP, AP)	1 min	

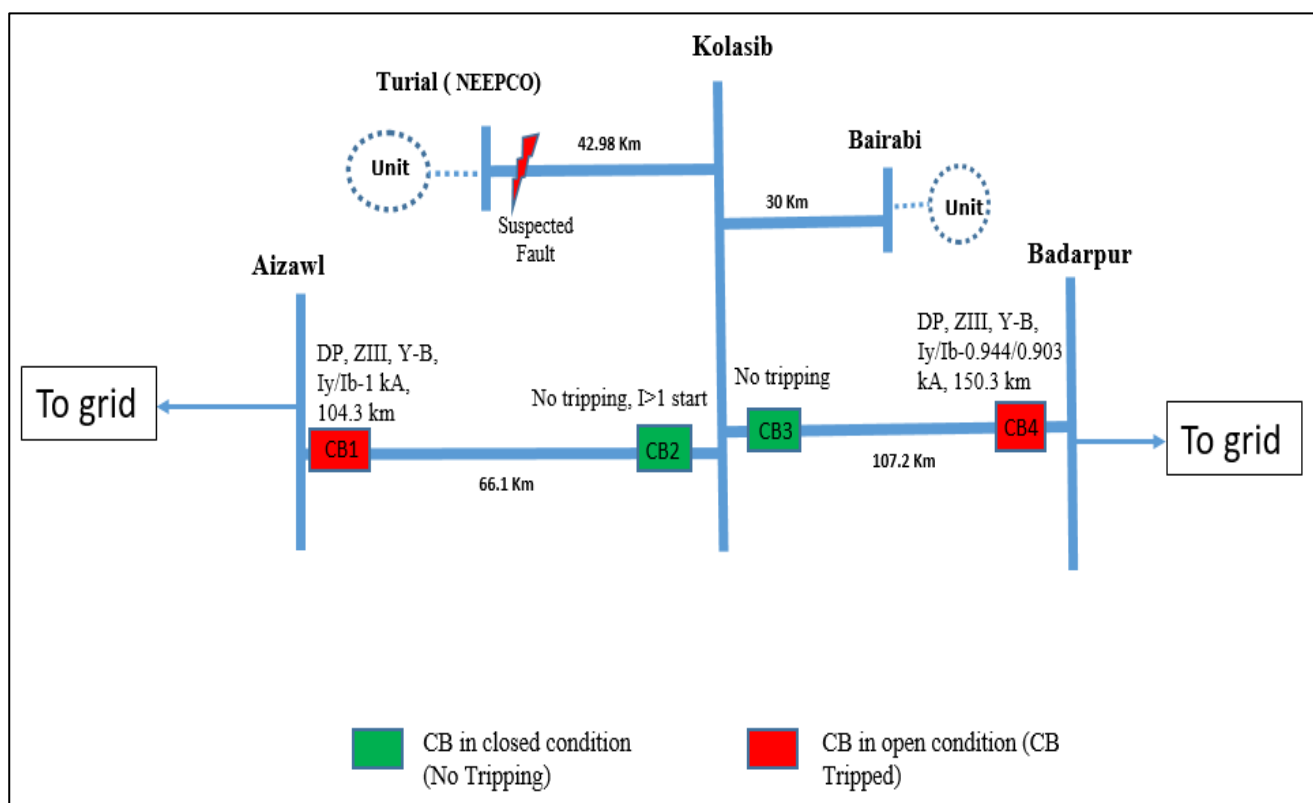
Utilities should ensure that the submitted DR and EL files have correct time synchronization for proper analysis purposes. Healthiness of GPS may be checked and time to be adjusted as per grid code.

Sub-committee may deliberate

B.8 Grid Disturbance in Tuirial S/S of NEEPCO & Kolasib and Bairabi areas of Mizoram Power System on 20-03-2025:

Kolasib area of Mizoram Power System was connected with rest of NER Grid through 132 kV Kolasib-Badarpur and 132 kV Kolasib – Aizawl lines. Tuirial and Bairabi S/S are connected with Kolasib via 132 kV Kolasib – Tuirial line and 132 kV Kolasib – Bairabi line.

At 14:24 Hrs of 20-03-2025, 132 kV Aizawl-Kolasib and 132 kV Badarpur-Kolasib lines tripped resulting in grid disturbance Tuirial S/S of NEEPCO & Kolasib and Bairabi areas of Mizoram. Load loss of 6 MW occurred. There was no generation loss.



As per DR analysis, Y-B phase fault with I_y-1 kA, I_b-1 kA initiated at 14:24:10.766 Hrs which was cleared from Aizawl end within 861 msec and from Badarpur end within 853 msec on operation of DP, ZIII. There was no tripping from Kolasib end for both the lines.

Fault is suspected in 132 kV Kolasib-Tuirial line.

Following observations:

- Fault is suspected in 132 kV Kolasib-Tuirial line which was not cleared from Kolasib end resulting in tripping of healthy 132 kV Aizawl-Kolasib and 132 kV Badarpur-Kolasib lines from remote end on operation of DP, ZIII.
- Protection system of 132 kV Kolasib-Tuirial line failed to isolate the fault. P&ED Mizoram needs to ensure healthiness of protection system of 132 kV Kolasib-Tuirial line.
- Non-submission of Flash report and detailed report by P&ED Mizoram & NEEPCO which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

Similar kind of event occurred at 03:34 Hrs of 07-04-2025 in which tripping of 132kV Aizawl-Kolasib and 132kV Badarpur-Kolasib lines tripped leading to loss of power in Tuirial HEP, Kolasib S/S, and Bairabi HEP area of Mizoram Power system (Load loss: 1 MW). Such repeated grid disturbances are the cause of concern.

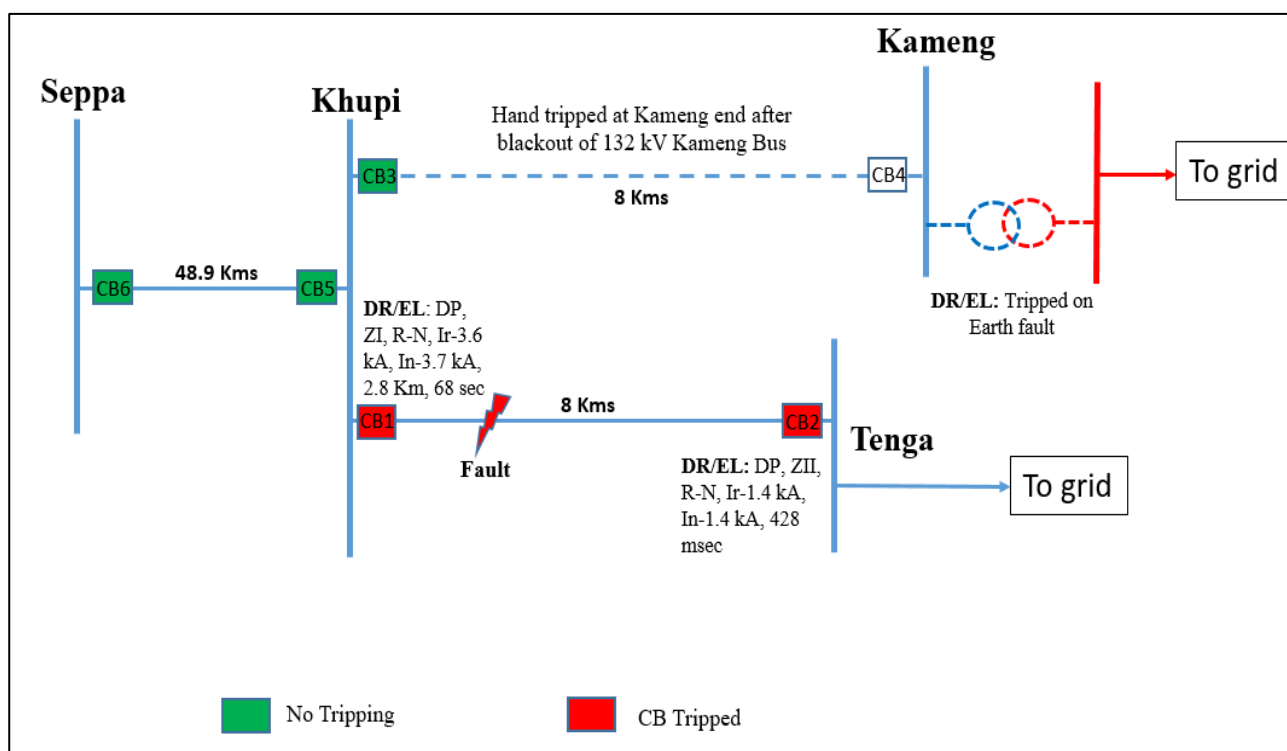
Similar incident occurred at 03:34 Hrs of 07-04-2025.

P&ED Mizoram and NEEPCO may update the actions taken on the above mentioned issues.

B.9 Grid Disturbance in 132 kV Kameng S/S of NEEPCO and Khupi and Seppa areas of Arunachal Pradesh Power System on 23-03-2025

132 kV Kameng S/S of NEEPCO and Khupi and Seppa areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Tenga-Khupi line and 132 kV Kameng-Khupi line and 400/132 kV ICT at Kameng.

At 18:18 Hrs of 23.03.2025, 400/132 kV ICT at Kameng and 132 kV Tenga-Khupi line tripped. Due to these trippings, 132 kV Kameng S/S, Khupi and Seppa areas resulting in grid disturbance at 132 kV Kameng S/S of NEEPCO and Khupi & Seppa areas of Arunachal Pradesh got isolated from NER Grid and collapsed due to no source available in these areas. Load loss of 3 MW occurred.



As per DR analysis, R-N fault (Ir-3.6 kA, In-3.7 kA) in 132 kV Tenga-Khupi line at a distance of 2.8 Km from Khupi initiated at 18:18:13.361 Hrs and cleared within 68 msec from Khupi end on operation of DP, ZI. Fault cleared within 428 msec from Tenga end on ZII.

At 18:18:14.141 Hrs, Kameng ICT tripped on E/F which seems to be unwanted.

Following observations:

- Tripping of 400/132 kV ICT at Kameng on Earth fault Stg-1 before fault could be cleared from Khupi end of 132 kV Tenga - Khupi Line is inferred misoperation. Root cause of unwanted tripping of 400/132 kV ICT at Kameng needs to be intimated.
- The back-up protection settings at Kameng, Khupi and Tenga needs to be reviewed and coordinated as per NER protection philosophy.
- DR analog and digital channel of Kameng ICT needs to be standardized as per recommendations in FOLD working group.
- SOE not recorded for tripping of 132 kV Tenga-Khupi line at 18:18 Hrs. The same needs attention from DoP Arunachal Pradesh/SLDC Arunachal Pradesh.

- Non-submission of flash report and detailed report by DoP Arunachal Pradesh & NEEPCO which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

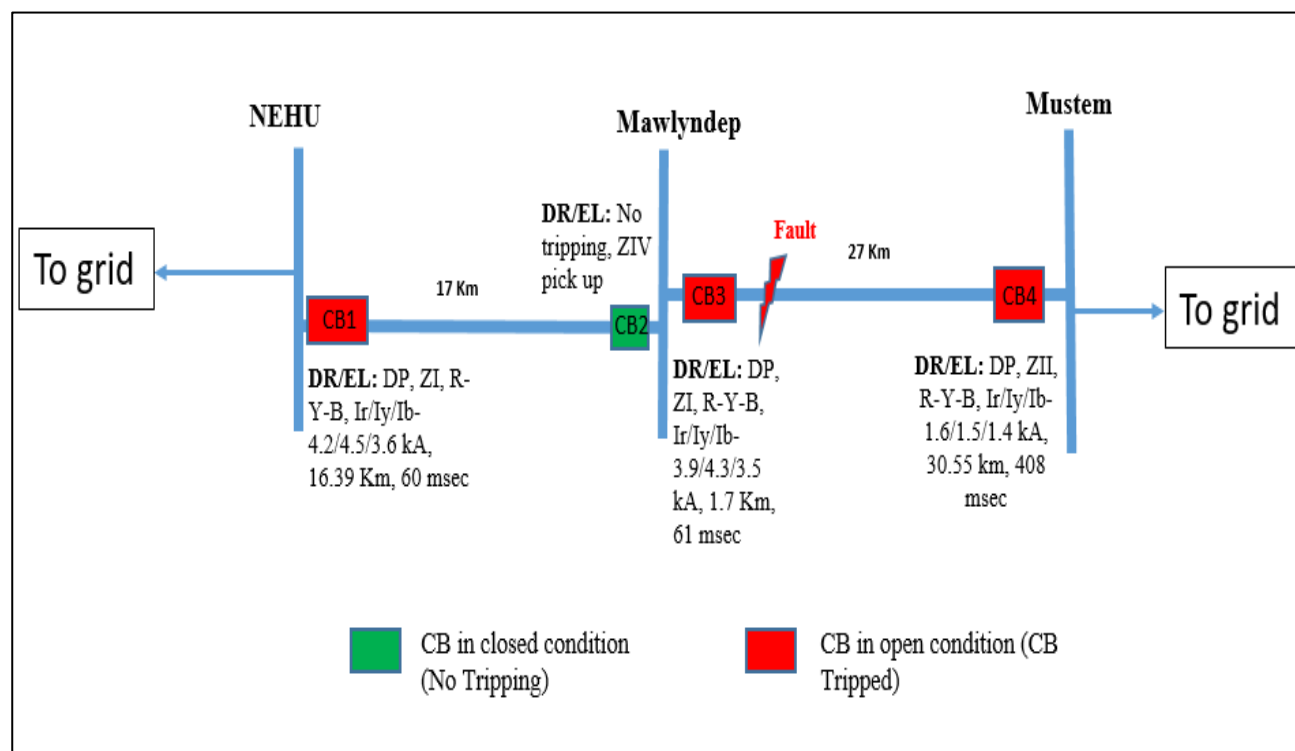
Similar incident occurred at 15:25 Hrs of 13-02-2025.

DoP Arunachal Pradesh and NEEPCO may update the actions taken on the above-mentioned issues.

B.10 Grid Disturbance in Mawlyndep area of Meghalaya Power system on 23-03-2025

Mawlyndep area of Meghalaya Power System was connected with rest of NER Grid through 132 kV NEHU-Mawlyndep & 132 kV Mawlyndep-Mustem lines.

At 12:09 Hrs of 23-03-2025, 132 kV Mawlyndep-Mustem and 132 kV Mawlyndep-NEHU lines tripped resulting in blackout of Mawlyndep area of Meghalaya. Load loss of 12 MW occurred.



As per DR analysis, R-Y-B fault in 132 kV Mustem-Mawlyndep line with Ir-1.6 kA, Iy-1.5 kA, Ib-1.4 kA initiated at 12:06:38.585 Hrs and cleared within 408 msec on operation of DP, ZII (fault distance- 30.55 Km) from Mustem end. Fault cleared within 61 msec from Mawlyndep on ZI. Carrier was send from Mawlyndep end. However, Mustem CB tripped after ZII time delay.

For 132 kV NEHU-Mawlyndep line, R-Y-B fault (Ir-4.2 kA, Iy-4.5 kA, Ib-3.6 kA) initiated at 12:09:18.501 Hrs and cleared within 60 msec on operation of DP, ZI from NEHU end. There was no tripping from Mawlyndep end (ZIV pickup)

Root cause: Lightning Fault in 132 kV Mustem-Mawlyndep line at a distance of 1.7 Km from Mawlyndep end.

Following observations:

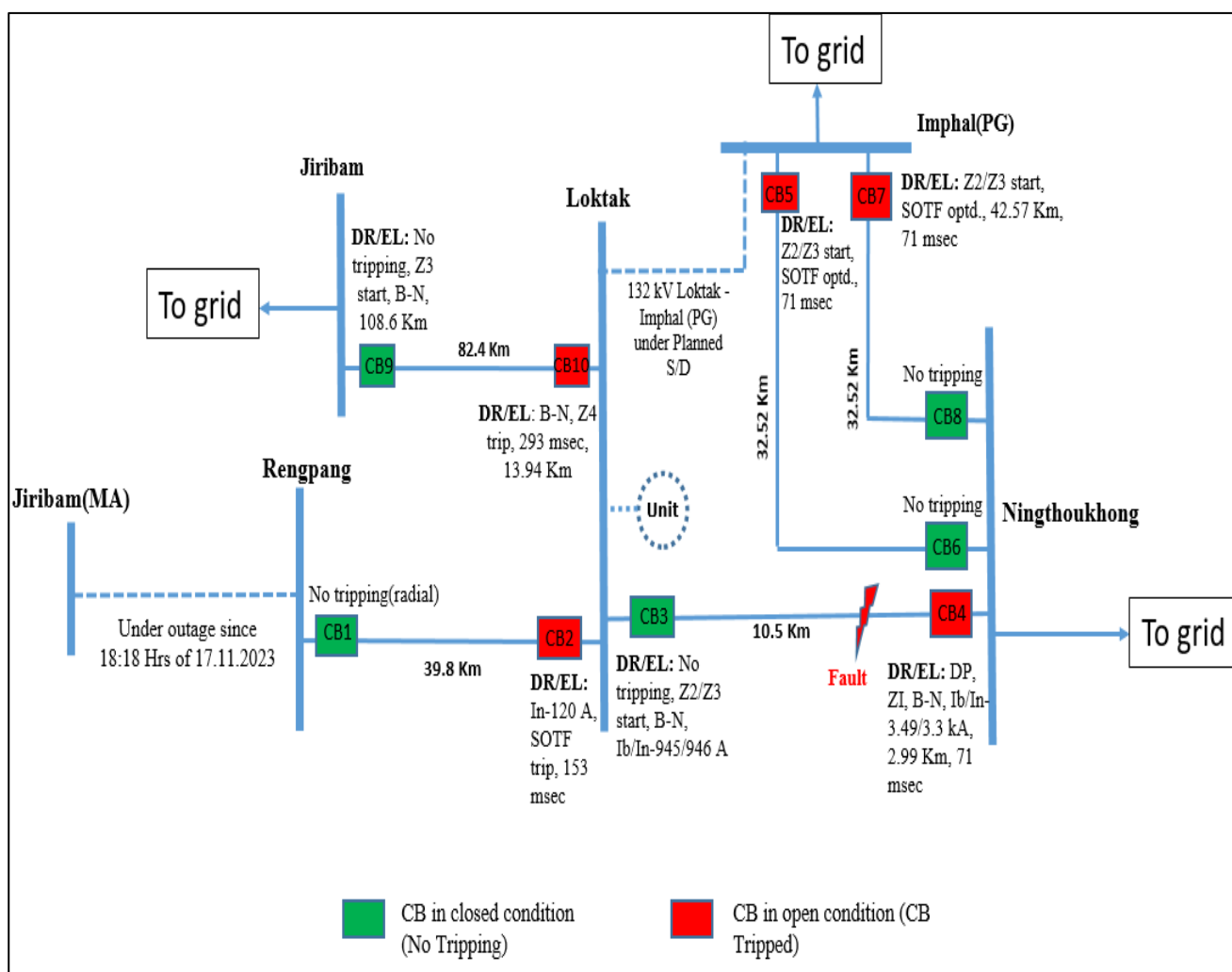
- Tripping of 132 kV NEHU-Mawlyndep line on ZI from NEHU for fault in 132 kV Mustem-Mawlyndep line is inferred unwanted as ZI overreached from NEHU end.
- ZI setting at NEHU for 132 kV Mawlyndep line needs to be reviewed by MePTCL.
- “Carrier send” signal high at Mawlyndep end. However, 132 kV Mustem-Mawlyndep line tripped after ZII time delay. The same needs to be checked by MePTCL.
- SOE not recorded for tripping of 132 kV NEHU-Mawlyndep & 132 kV Mustem-Mawlyndep lines. The same needs attention from MePTCL/SLDC Meghalaya.
- Time drift of 3 min observed at Mustem end for 132 kV Mustem-Mawlyndep line.

MePTCL may update the actions taken on the above-mentioned issues.

B.11 Grid Disturbance in Loktak HEP of NHPC & Rengpang area of Manipur Power system on 24-03-2025

Loktak HEP of NHPC and Rengpang area of Manipur power system were connected with rest of NER grid through 132 kV Loktak-Jiribam, 132 kV Loktak-Imphal(PG), 132 kV Loktak-Ningthoukhong and 132 kV Loktak-Rengpang lines. Prior to the event, 132 kV Loktak-Imphal(PG) line was under planned shutdown and all units of Loktak were withdrawn as per schedule. Also, 132 kV Jiribam(MA)-Rengpang line was under outage since 17-11-2023.

At 11:38 Hrs of 24.03.2025, 132 kV Loktak-Jiribam, 132 kV Loktak-Ningthoukhong and 132 kV Loktak-Rengpang lines tripped resulting in blackout of Loktak HEP & Rengpang. Load loss of 1 MW occurred.



As per DR analysis, resistive B-N fault (Ib-3.49 kA, In-3.3 kA) in 132 kV Loktak-Ningthoukhong line at a distance of 2.99 Km initiated at 11:38:07.129 Hrs which was cleared within 71 msec from Ningthoukhong end on operation of DP, ZI. ZII started at Loktak end (no tripping) and fault current disappeared within 293 msec. 132 kV Loktak-Jiribam line tripped from Loktak end on Z4 within 293 msec (FD: 13.94 Km). Z3 start from Jiribam end and no tripping.

132 kV Imphal(PG)-Ningthoukhong II & III lines tripped on SOTF within 71 msec (Z2/Z3 started and FD: 42.57 Km).

Suspected fault is in 132 kV Loktak-Ningthoukhong line. Tripping of 132 kV Loktak-Jiribam line at Loktak end prior to CB opening at Loktak for 132 kV Ningthoukhong line led to blackout in Loktak HEP and Rengpang S/S.

Following observations:

- Tripping of 132 kV Loktak-Jiribam line on Z4 from Loktak within 293 msec seems misoperation. Z4 time delay setting needs to be reviewed and set as per NER protection philosophy.

- Tripping of 132 kV Imphal (PG)-Ningthoukhong II & III lines on SOTF operated from Imphal (PG) for fault beyond the line is inferred unwanted.
- 132 kV Loktak-Rengpang line tripped on SOTF within 153 msec. The same needs to be checked by NHPC.
- Time drift of 7 min observed at Ningthoukhong end for 132 kV Loktak-Ningthoukhong line which need to be sync with GPS.
- Non-submission of flash report and detailed report by NHPC & MSPCL which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

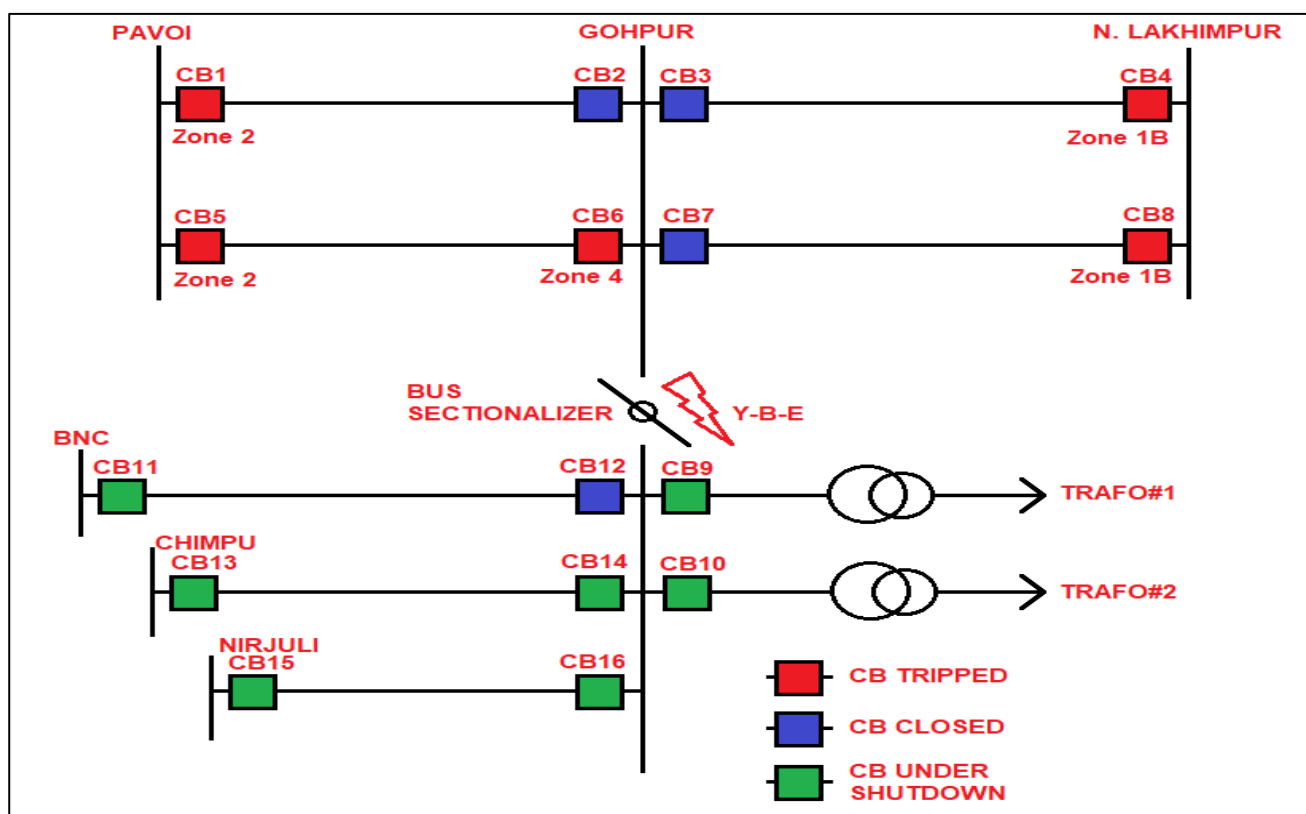
NHPC & MSPCL may update the actions taken on the above-mentioned issues.

B.12 Grid Disturbance in Gohpur area of Assam power system on 26-03-2025:

Gohpur area of Assam power system was connected with the rest of the NER grid through 132 kV Gohpur-Nirjuli, 132 kV Gohpur-BNC(PG), 132 kV Gohpur-Itanagar, 132 kV Gohpur-North Lakhimpur D/C lines & 132 kV Gohpur-BNC(AS) D/C lines. 132 kV Bus at Gohpur GSS is divided into two sections, separated by a Bus Sectionalizer isolator.

Bus shutdown was taken at Gohpur for installation of Bus isolators, alignment works (New 132 kV Railway traction bay).

During restoration of the bus shutdown, all the 132 kV feeder breakers were closed one by one. But it was noticed that, the spring charging motor of the 132 kV Gohpur – BNC (PG) bay malfunctioned.



To address the issue with CB12 of BNC feeder, the CB was attempted to be opened but operation was unsuccessful. As a result, to isolate the CB of BNC bay, a shutdown of the bus section connected to BNC bay was availed.

All the feeders connected to the bus section connected to 132 kV BNC feeder were opened (CB11, CB13, CB14, CB15, CB16, CB9 and CB10). BNC was opened at remote end (CB11).

A flashover was observed during the opening operation of the bus-Sectionalizer which resulted in the blackout of Gohpur S/S.

Following observations:

- As per DR analysis, phase-phase-ground fault initiated at 17:39:18.281 Hrs and cleared on ZII from Pavoii end and on Z1B from North Lakhimpur end. Z4 trip from Gohpur end for 132 kV Pavoii II line.
- Root cause of flashover in bus sectionalizer isolator is unclear.
- CB4 and CB8 at North Lakhimpur end tripped on Zone1B protection instantaneously. Carrier Aided protection scheme for 132 kV Gohpur – North Lakhimpur I & II lines needs to be checked.
- Time drift of 45 min observed at Gohpur end for 132 kV Gohpur-Pavoii II line which need to be sync with GPS.

- SOE not recorded for tripping of 132 kV Gohpur-North Lakhimpur I & II lines.
The same needs attention from AEGCL/SLDC Assam team.

AEGCL may update the actions taken on the above-mentioned issues.

B.13 Grid Disturbance in Thoubal(Old) area of Manipur power system on 29-03-2025:

Thoubal(Old) area of Manipur power system was connected to rest of NER grid through 132 kV Thoubal(New)-Thoubal(Old) & 132 kV Thoubal(Old)-Kakching lines. At 14:27 Hrs 29-03-2025, due to wildfire near Thoubal S/S, 132 kV Thoubal(Old)-Kakching, 132 kV Thoubal(New) – Kongba I and 132 kV Thoubal(New) – Kakching lines tripped. Also, 400/132 kV ICT at Thoubal and 132 kV Thoubal(New) – Thoubal(Old) lines were hand tripped.

Due to tripping of these elements, Thoubal(Old) area of Manipur got isolated from rest of NER grid due to no source available in this area. Load loss of 11 MW occurred.

The details of tripping are shown below:

क्रम. संख्या Sl. No.	नाम Name	ट्रिपिंग का समय Trip time (hh:mm)	पुनर्स्थापना का समय Restoration time	उप केंद्र 1 रिले संकेत Relay indications End 1	उप केंद्र 2 रिले संकेत Relay indications End 2
1	132 kV Thoubal(New) – Kongba I Line	14:27	-	Tripped on Overcurrent	
2	132 kV Thoubal(Old)-Kakching Line	14:27	-	Tripped on Overcurrent	
3	132 kV Thoubal(New)-Kakching Line	14:27	-	Tripped on Overcurrent	
4	315 MVA, 400/132 kV ICT at Thoubal(new)	14:27	17:45	Hand Tripped	
5	132 kV Thoubal(New) – Thoubal(Old) Line	14:27	17:45	Hand Tripped	

Following observations:

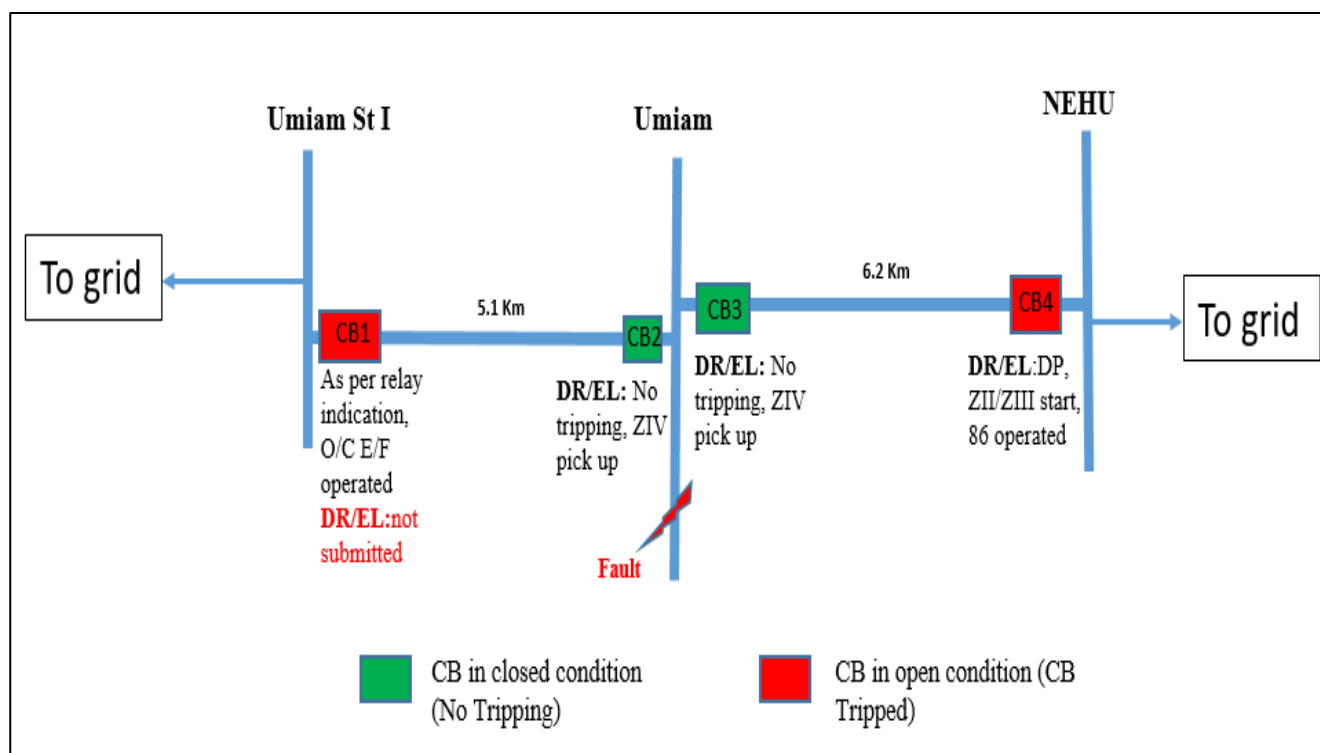
- DR/EL not submitted by MSPCL for tripping of the elements which is a violation of Clause 37.2 (c) of IEGC-23.
- Non-submission of flash report and detailed report by NHPC & MSPCL which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.
- SOE not recorded for tripping of 132 kV Thoubal(New)-Kongba I, 132 kV Thoubal(Old)-Kakching, 132 kV Thoubal(New)-Kakching lines and 400/132 kV ICT at Thoubal(New). The same needs attention from MSPCL/SLDC Manipur team.

Similar event occurred at 21:56 Hrs of 29-03-2025.

MSPCL may update the root cause and remedial measures taken.

B.14 Grid disturbance in 132 kV Umiam S/S of Meghalaya Power system on 01-04-2025:

At 01:55 Hrs of 01-04-2025, 132 kV Umiam-Umiam Stg I and 132 kV NEHU-Umiam Lines tripped resulting in blackout of 132 kV Umiam S/S of Meghalaya Power system.



As per DR analysis, R-N fault (Ir-3.1 kA, In-2.9 kA) initiated at 01:55:31.117 Hrs which was cleared within 121 msec from NEHU end. ZII/ZIII start and 86 operated at 01:55:31.202 Hrs. Z4 pickup at Umiam end (no tripping).

For 132 kV Umiam St I-Umiam line, Z4 started at Umiam end and fault current disappears after 255 msec. FIR/DR/EL of Umiam Stg I end not submitted by MePGCL.

Z4 pickup at Umiam end for tripping of 132 kV NEHU-Umiam and 132 kV Umiam-Umiam St I line indicates that fault is in 132 kV Umiam Switchyard.

As per FIR, R-phase CT blast at 132 kV Umiam S/S.

Following observations:

- It is not clear which protection system operated at NEHU end for 132 kV Umiam line and cleared the fault.
- FIR/DR/EL at Umiam St I end for 132 kV Umiam St I-Umiam Line not submitted by MePGCL which is a violation of Clause 37.2 (c) of IEGC-23.
- Time drift of 1 Hour observed at Umiam end for 132 kV Umiam St I Line.
- Flash report and detailed report not submitted by MePTCL Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

MePTCL/MePGCL is requested to provide update on the above-mentioned issues

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

11-Apr-2025 17:18:12		SPS STATUS & OPERATION	
STATION	SPS	SPS ON/OFF	SPS OPTD.
BGTPP_NTFC	BGTPP U-3	ON	NRML
PALATANA_OTPC	SPS-2 Bangladesh	OFF	NRML
	SPS-4 Bangladesh	OFF	NRML
	SPS -2 HSR	ON	NRML
	SPS -3 HSR	ON	NRML
ZIRO_PG	ZIRO SPS	ON	NRML
SARUSAJAI_AS	SARUSAJAI SPS	S OFF	S NRML
IMPHAL_PG	IMPHAL SPS	ON	NRML
SM NAGAR (ST)	SM NAGAR B/R -1 SPS	OFF	NRML
SM NAGAR (ST)	SM NAGAR B/R -2 SPS	OFF	NRML
PK BARI (ST)	PK BARI B/R -1 SPS	OFF	NRML
PK BARI (ST)	PK BARI B/R -2 SPS	OFF	NRML
TINSUKIA (AS)	TINSUKIA SPS	ON	NRML
BONGA_AS	SPS Stage -1	ON	NRML
	SPS Stage -2		NRML

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 77 th PCCM
1	Tripping of 400kV Palatana-Silchar D/C- when both modules of Palatana are in service	After commissioning of 400 kV Palatana - Surajmaninagar line-1, there is no requirement of	Done. Modified logic to be mapped after implementation

	causes tripping of HV side breaker of 2x125 MVA, 400/132 kV ICT at Palatana	this SPS and hence, it is to be kept OFF. However, the SPS at Palatana is to be kept ON during shut down of 400 kV Palatana-Surajmaninagar(ISTS) line-1	
2	<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	Commissioning of 132 kV Monarchak-Surajmaninagar line	Mapping done till SLDC. To be extended till NERLDC by the SLDC
3	<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
4	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
5	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 second week for April'25

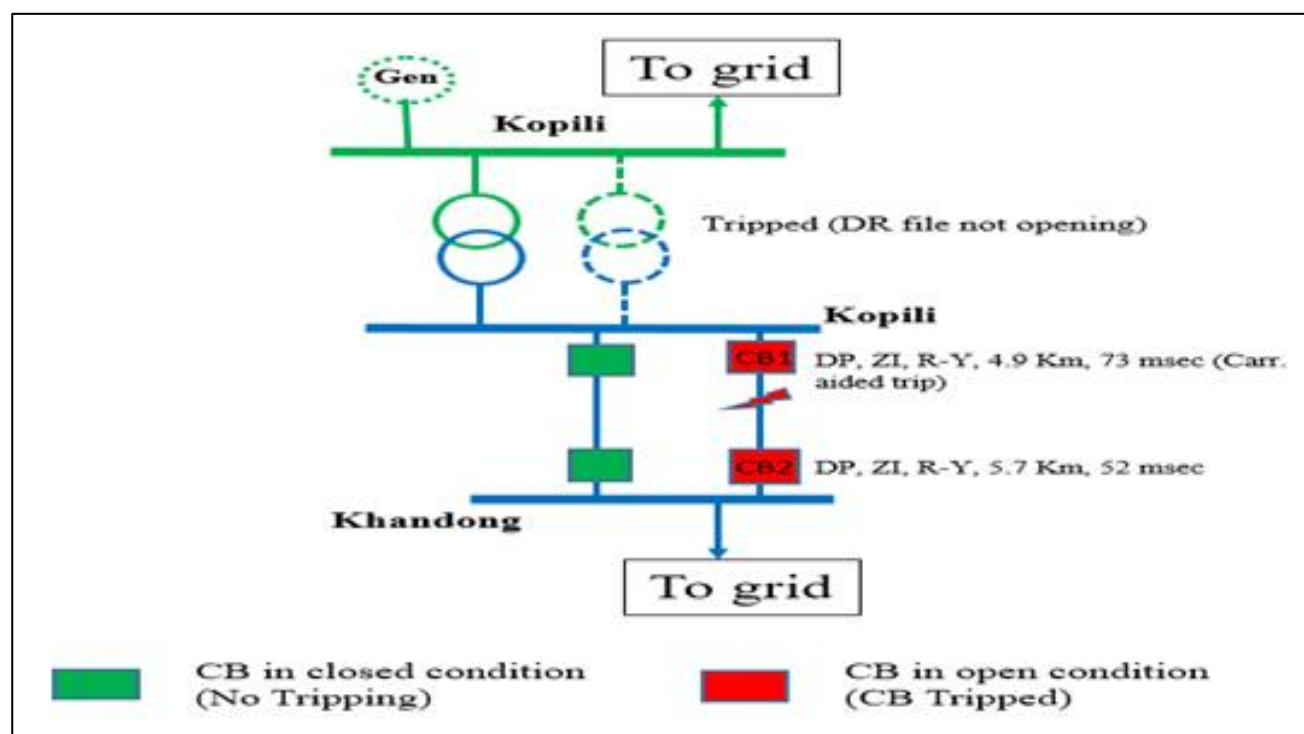
6	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	Reconductoring of 132 kV Khliehriat – Leshka D/C	By second week for April'25
7	Related to 132kV SM Nagar(ISTS) - SM Nagar line to prevent Overloading	i) Commissioning of 132kV Monarchak - SM Nagar D/C ii) HTLS Reconductoring of 132kV SM Nagar(ISTS) - SM Nagar, 132kV SM Nagar(ISTS) - Budhjungnagar, 132kV PK Bari(ISTS) - Ambasa and 132kV PK Bari(ISTS) - PK Bari	By March'25
8	<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
9	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	
Sl. No.	SPS under implementation	Long term measures	

1	SPS related to overloading of 2x160 MVA 220/132 kV ICTs at BTPS	Feb'25
2	Related to Outage of one circuit of 400 kV Surajmani Nagar (TSECL)-South Comilla line (Charged at 132 kV)	Upgradation of Comilla SS to 400 kV level

Utilities may update

B.16 Tripping of 220/132 kV Kopili ICT-II on 17.03.2025

At 13:53 Hrs of 17.03.2025, 132 kV Khandong-Kopili I line and 160 MVA, 220/132 kV ICT-II at Kopili tripped.



As per DR analysis, R-Y phase fault (I_r -3.2 kA, I_y -3.3 kA) in 132 kV Khandong-Kopili I line initiated at 13:53:51.371 Hrs and cleared within 52 msec on operation of DP, ZI from Khandong end. At Kopili end, fault cleared within 73 msec on operation of DP, ZI (Carrier aided tripping).

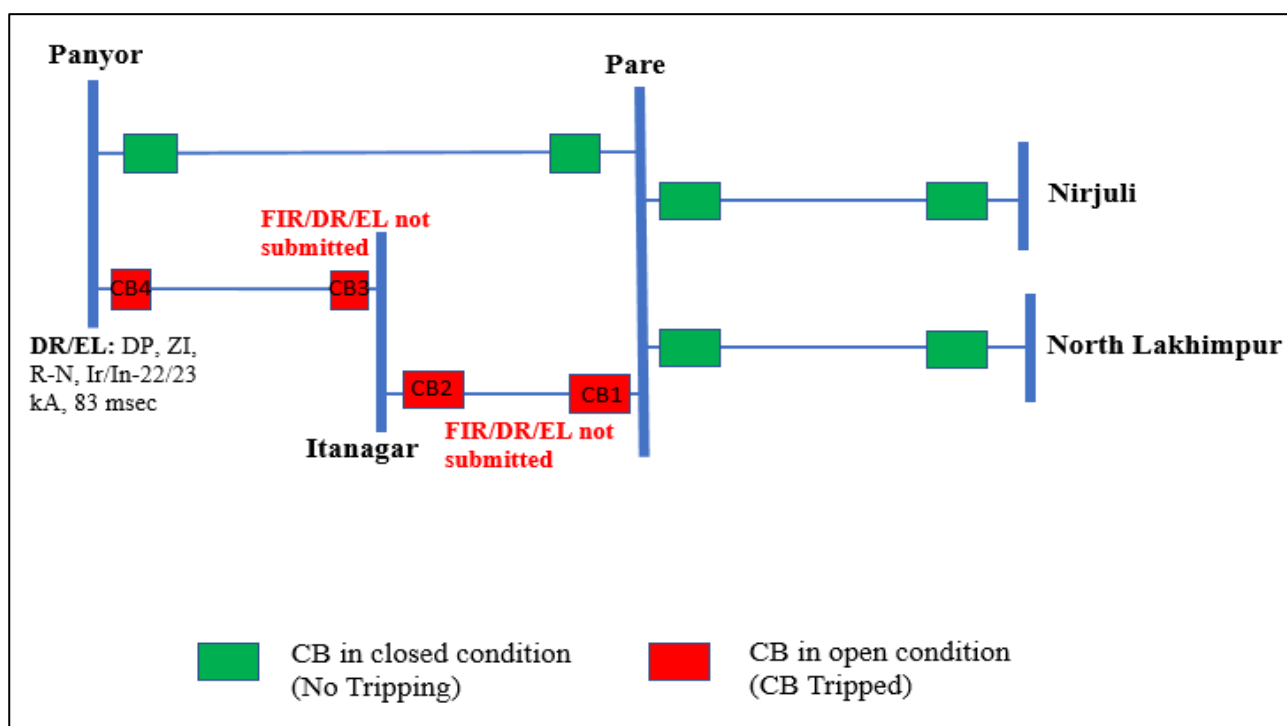
At 13:53:53 Hrs, 220/132 kV ICT-II at Kopili tripped on operation of end fault protection (EFP) of 220kV Busbar Protection as per information received from POWERGRID. (Submitted DR file is not opening)

Tripping of 220/132 kV ICT-II at Kopili for fault in 132 kV Khandong-Kopili I line is inferred unwanted.

NEEPCO may update the reason for operation of end fault protection of 220/132 kV Kopili ICT-II for fault beyond line and its corrective measures.

B.17 Multiple Tripping of 132 kV Pare-Itanagar & 132 kV Panyor-Itanagar Lines on 28-03-2025:

At 18:10 Hrs of 28-03-2025, 132 kV Pare-Itanagar line & 132 kV Panyor-Itanagar Line tripped.



As per DR analysis, R-N fault (Ir-22 kA, In-23 kA) initiated at 18:10:13.739 Hrs which was cleared within 83 msec from Panyor end on operation of DP, ZI.

At the same time, 132 kV Pare-Itanagar Line tripped which seems to be unwanted.

Following observations:

- It is not clear which protection system operated at Itanagar as FIR/DR/EL not submitted at Itanagar end for tripping of 132 kV Panyor-Itanagar Line.
- FIR/DR/EL not submitted for tripping of 132 kV Pare-Itanagar Line.

NEEPCO/DoP Arunachal Pradesh may update the root cause and unwanted tripping of 132 kV Pare-Itanagar Line.

Agenda from DoP Arunachal Pradesh**B.18 Review of Protection Settings of 33 kV Outgoing Feeders of POWERGRID Substations in Arunachal Pradesh**

The protection settings of the 33 kV outgoing feeders at POWERGRID substations in Arunachal Pradesh are observed to be excessively sensitive and significantly deviate from the recommendations of the NER Protection Protocol. A specific instance is highlighted below for the **33 kV Medo Feeder at Tezu Grid Substation**, where the sensitivity of the protection settings hinders effective fault isolation within the downstream elements of the Medo Substation. The details of the current protection settings implemented at Tezu (PG) Substation for the Medo feeder are as follows:

Protection Function	Char	Pickup Current	TMS
I> (Stage 1)	IEC S Inverse	39 A	0.03
I>> (Stage 2)	DT	150 A	0
IN> (Stage 1)	IEC S Inverse	6 A	0.08
IN>> (Stage 2)	DT	51 A	0

Observations:

1. **TMS for I> (SI curve)** is set at **0.03**, against the recommended value of 0.1, providing minimal time discrimination margin for downstream fault clearance.
2. **Pickup current** is configured at **39 A (Primary)**, which is considerably lower than the recommended settings. This setting should be revised upwards to allow for better coordination.
3. **I>> (DT function)** is set at **150 A (Primary)** with **0 sec time delay**. The pickup is not only considerably lower than the recommended settings, but also lower than the recommended pick up for stage 1 protection, causing indiscriminate tripping of the Tezu feeder for phase-to-phase faults even within downstream systems, potentially resulting in complete blackout of the Medo Bus and other connected systems.
4. **Earth Fault Settings** are similarly sensitive and inconsistent with the NER Protection Protocol.

Such repeated tripping at POWERGRID substations due to overly sensitive settings projects a misleading impression that the Department of Power's (DoP) protection systems are incapable of isolating faults within their own network.

In view of the above, it is requested that the protection settings at the POWERGRID end be reviewed and revised in line with the NER Protection Protocol to ensure proper coordination, selective tripping, and overall system reliability.

Sub-committee may deliberate

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 77th PCCM, NERLDC all the concerned states have submitted the progress report till Feb'25 except for Manipur which has not submitted the report for Feb'25. MSPCL assured that the report will be sent shortly.

Sub-committee may deliberate

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 77th 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 (77th PCCM)
1	132 kV Agartala - Surajmaninagar 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	Surajmaninagar	The Relay Testing kit has been received, but control cable has not been arranged at SM Nagar. Work to be completed by April'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 May'25

3	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)	Carrier signal issue at Tipaimukh end. 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
4	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 matter has been raised to NERPSIP, awaiting the response of NERPSIP.
5	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. FTC related issue, to be discussed in 224 th OCCM.

6	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 l	Bokajan (AEGCL)	Issues with pneumatic breakers at Bokajan end. New CBs in transit, to reach the site by end of April'25
7	132 kV Daporijo - Ziro Line	13-01- 2025 15:00:00	DP, ZI, B- E, AR Not Operated	DP, ZI, B- E, FD: 67.724K ms, A/R Operated Successfu lly	Daporijo (DoP AP)	No representative of Ar. Pradesh
8	132 kV Ranganadi- Itanagar line	22-02- 2025 08:26:00	DP, ZI, Y- B, FD: 6.132kms, A/R Not Operated	DP, ZI, Y- B, FD: 22.57 km, A/R Operated Successfu lly	Ranganad i (NEEPCO)	Single phase AR has been enabled at Ranganadi end while the fault was phase to phase. Forum directed Ar. Pradesh to enable SPAR at the place of 3PH AR at Itanagar end for the line.

Utilities may further update

C.3 Multiple tripping of 220 kV Kopili - Misa 1 Line:

220 kV Kopili - Misa 1 Line tripped twice at 18:07 Hrs and 23:18 Hrs on 11-03-2025 on DT received at Misa end. As per PMU, there is no fault in the system. Thus, tripping on DT received seems like a spurious DT operation.

NEEPCO may update the root cause as well as the remedial measures.

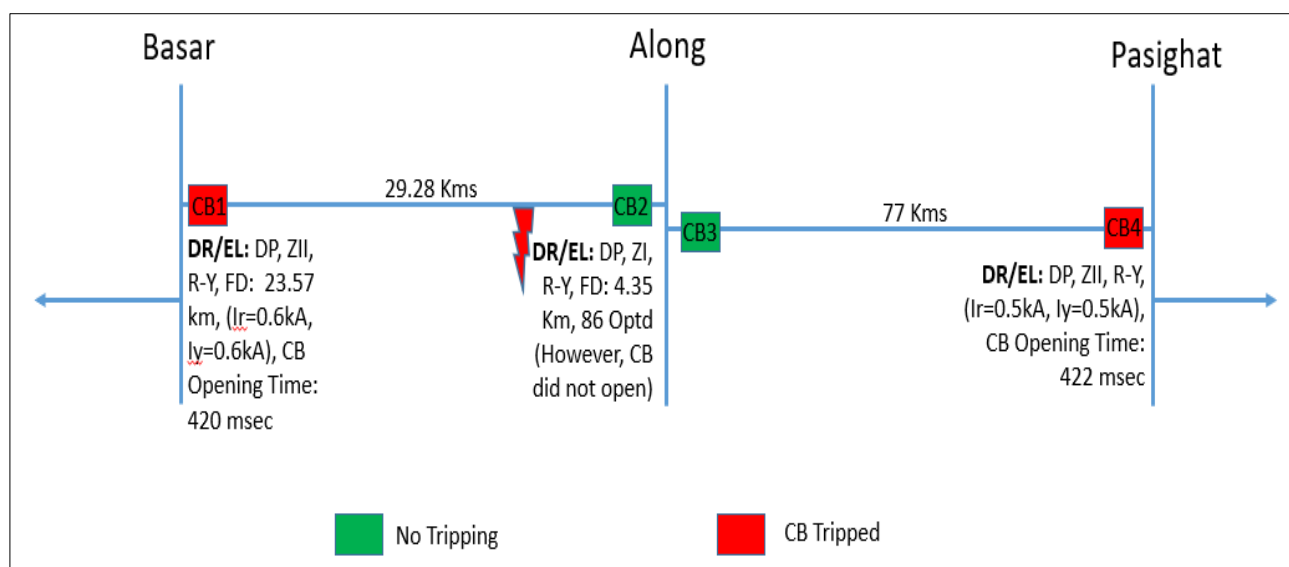
In 77th PCCM, NEEPCO stated that apparently there was no fault in the system and spurious signal was sent to Misa end. PowerGrid suggested that there might be fault in the cable used for DT. Forum advised NEEPCO to check for any faults in the cable and update in next PCC meeting.

NEEPCO may update

C.4 Grid Disturbance in Along area of Arunachal Pradesh on 15-02-2025:

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

At 00:38 Hrs of 15-02-2025, 132 kV Along-Pasighat and 132kV Along-Basar lines tripped resulting in grid disturbance in Along area of Arunachal Pradesh. Load loss of 4 MW occurred.



As per DR analysis, high resistive R-Y fault (Ir-697 A, Iy-683 A) in 132 kV Along-Basar line initiated at 00:39:00.712 Hrs which was cleared within 420 msec from Basar end on operation of DP, ZII, R-Y, FD: 23.57 km. 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 422 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. In the 76th PCCM, 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.
- DoP AP to implement multiphase along with 1-Ph A/R for continuity of power supply in case of transient multiphase fault.
- After 302 msec of initiation of fault, LBB operated at Along end for Basar line. However, 132 kV Along-Pasighat line did not open. LBB time delay setting and its wiring circuit to all feeders at Along to be reviewed
- SOE not recorded for tripping of 132 kV Along-Basar line. The same needs attention from DoP Arunachal Pradesh/SLDC Arunachal Pradesh
- Time drift of 1 min observed at both Pasighat end for 132 kV Along-Pasighat line and at Basar end for 132 kV Along-Basar line which need to be sync with GPS.

It is to be mentioned that similar kind of disturbance observed on 08th Dec'24, 23rd January'25 and 05th Feb'25 and it was already highlighted in the 75th & 76th PCC meeting. In the 76th PCCM, DoP Arunachal Pradesh updated that CBs at Along to be replaced and proposal have been put up to higher authorities. DoP AP informed that they are facing fund issue for procurement of CB. Also, there are no spare CB available. The forum strongly advised DoP Arunachal Pradesh to replace the CBs on urgent basis as multiple blackouts have occurred due to the CB issue.

Despite the recommendations provided in the 76th 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 77th PCCM

Zone III settings at Pasighat modified from 120% to 100% as informed by POWERGRID.

PowerGrid suggested that till the CBs are procured, any CB from tie bays of other substation may be used in the main bay of Basar line at Along ss. Forum endorsed the view of PowerGrid and requested DoP Ar. Pradesh to look into the advice of Powergrid.

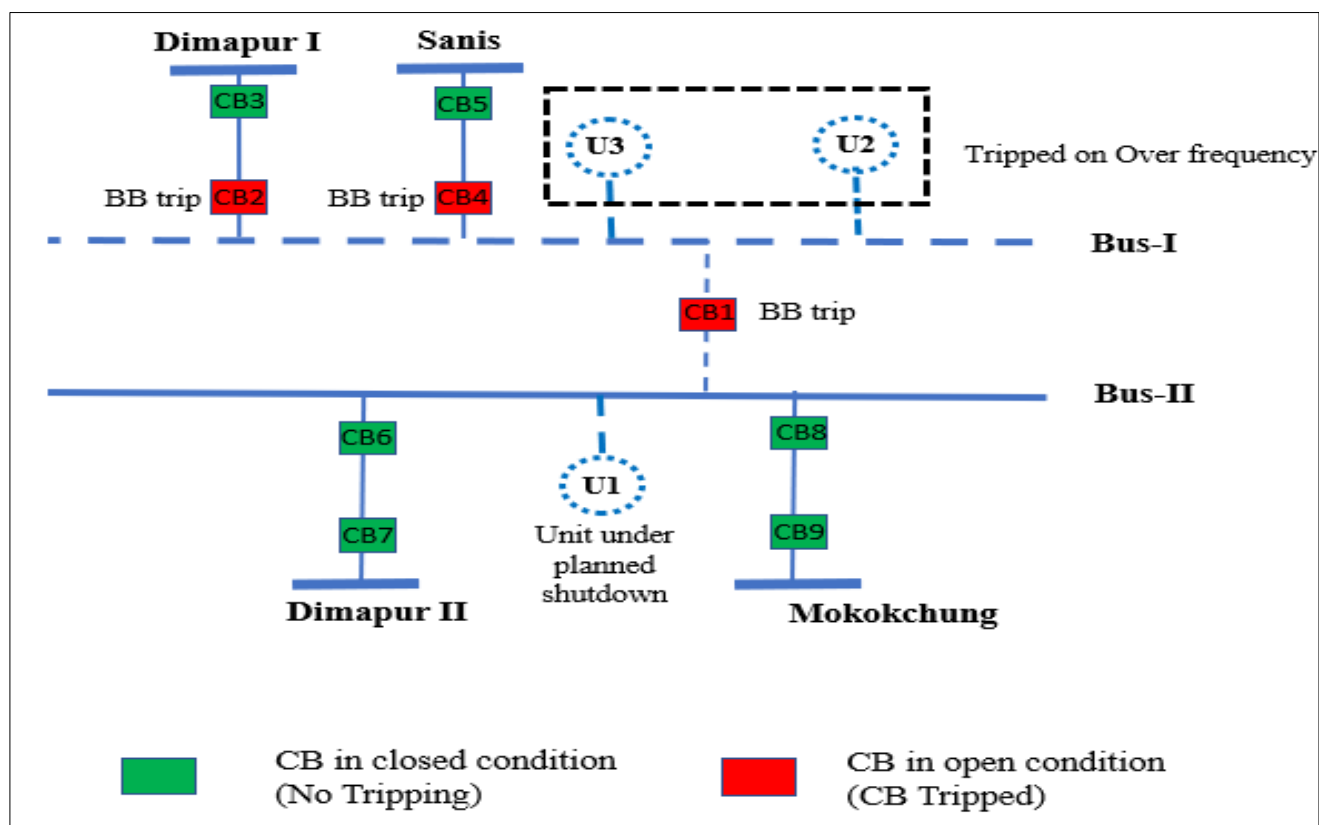
DoP Ar. Pradesh may update

C.5 Near Miss Event in Doyang S/S of NEEPCO on 16-02-2025:

Doyang S/S of NEEPCO was connected with rest of NER Grid through 132 kV Dimapur-Doyang D/C lines, 132 kV Doyang-Sanis line and 132 kV Doyang-Mokokchung Line.

Prior to the event, 132 kV Doyang-Dimapur I line, 132 kV Doyang-Sanis line, Doyang Unit-2 & 3 were connected to Bus-I and 132 kV Doyang-Dimapur II line and 132 kV Doyang-Mokokchung line were connected Doyang Bus-II. Doyang Unit-I was under planned shutdown.

At 19:59 Hrs of 16-02-2025, during desynchronization of Doyang Unit-2, 132 kV Bus-I at Doyang tripped on operation of bus bar protection resulting in tripping of all elements connected to Doyang Bus-I.



As per DR analysis of 132 kV Doyang-Dimapur I line, R-B ($I_r=1.04\text{kA}$, $I_b=0.9\text{kA}$) fault initiated at 19:59:32.761 Hrs. Fault was cleared within 52 msec from Doyang end on operation of Bus bar Trip. Also, Z5(rev) started at 19:59:32.786 Hrs.

As informed by NEEPCO, during desynchronization of Doyang Unit-II, due to Gen CB trip coil faulty / burned, CB unable to open due to Excitation trip.

Observation:

- DR/EL submitted for Doyang Unit-2 and Doyang Unit-3 does not open due to which proper analysis could not be done. NEEPCO is requested to submit correct DR/EL files.

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

In 77th PCCM, NEEPCO informed that CB trip coil of Unit II got burned and the same might have caused fault in the system and BB operation.

NERLDC stated that complete analysis of the Units could not be done due to nonavailability of DR.

Forum requested NEEPCO to provide all the DR to NERLDC and referred the matter to PSAG for further analysis.

C.6 Bus bar protection at Surajmaninagar (TSECL):

As per the monthly progress report submitted by Tripura (Petition No535/MP/2020) for the month of December, 2024, the progress regarding implementation of Bus bar Protection at SM Nagar (TSECL) 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.

As per 76th PCC minutes

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 not in service at 132kV Agartala SS. Further it was noted that due to non-availability of Busbar protection at 132 kV 79 Tilla (Agartala SS), Z4 timing of all 132 kV feeders may be revised to 200 msec considering the criticality of the substation which is catering to the capital city load.

Tripura to update the latest status.

In 77th PCCM, Tripura updated that the proposal has been sent to the state government for funding. Further Tripura apprised that in the DPR CTs are also proposed to be replaced with higher ratings. NERTS informed that to commission Bus Bar protection there is no requirement of CT replacement. Forum requested Tripura to reconsider on the matter.

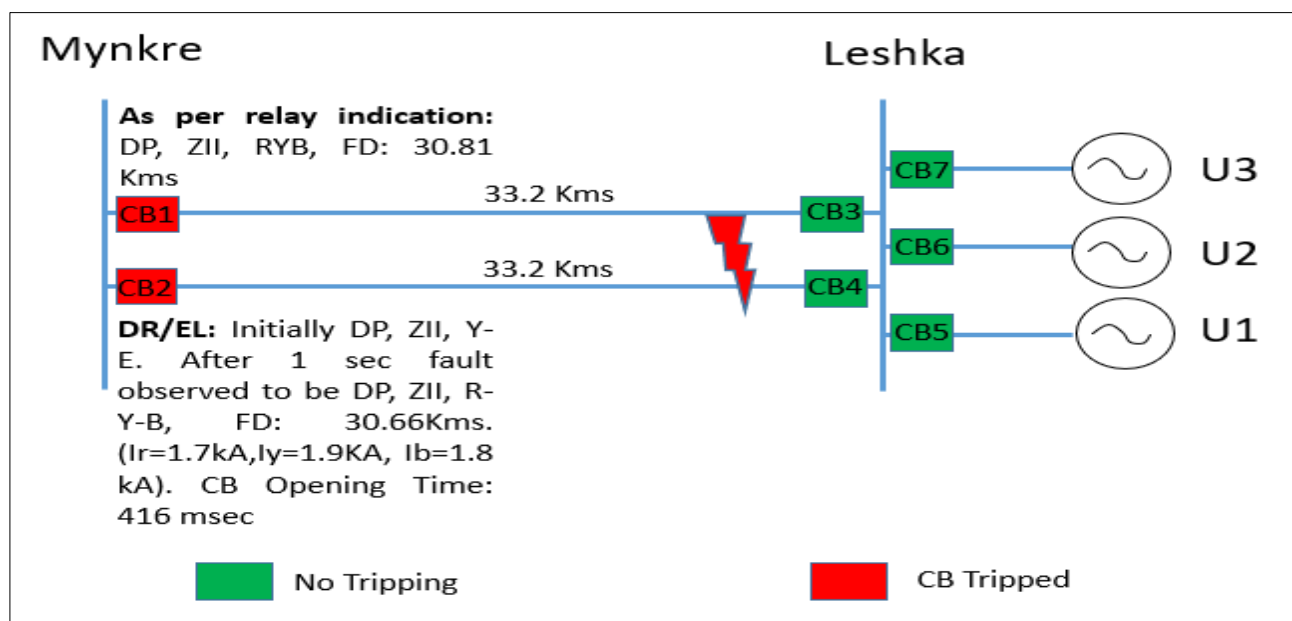
Regarding revision of Z4 timing at Agartala ss, PowerGrid updated that revision has been done their feeders, Tripura updated that the work will be done within one week.

Tripura to update

C.7 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 76th PCCM

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.

PSAG may update

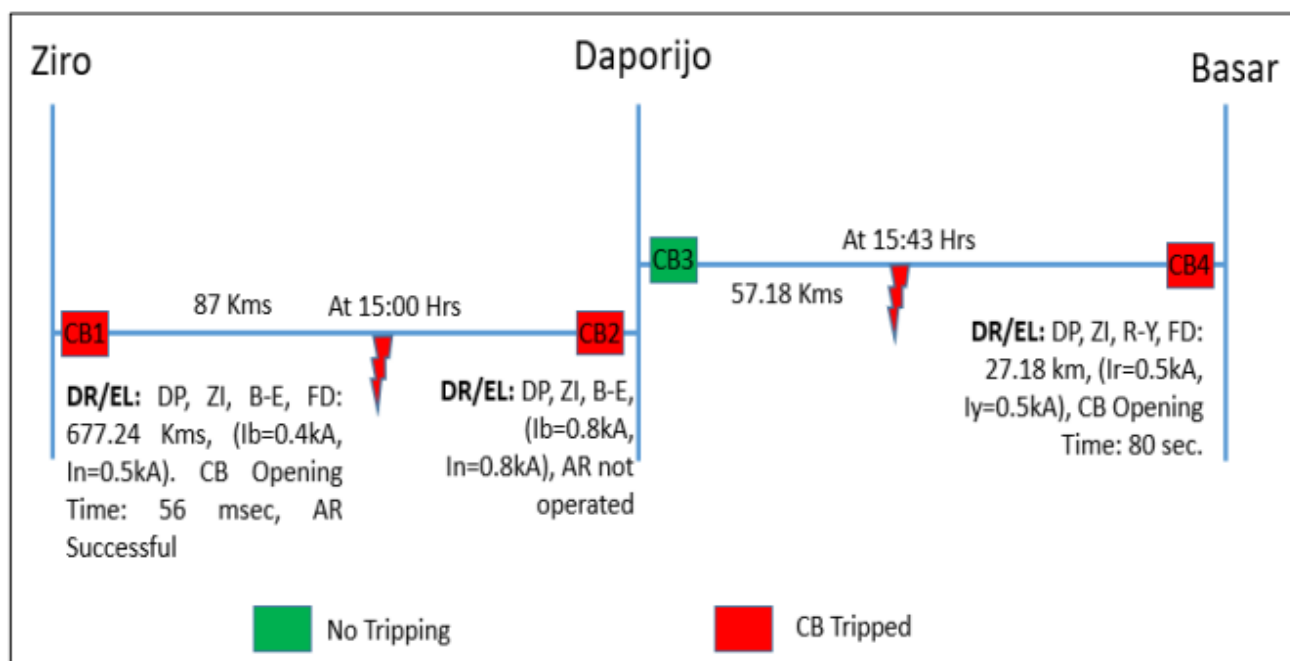
In 77th PCCM, NERPC updated that the PSAG meeting will be held next week on the matter.

Regarding Differential protection on the link line, MePGCL informed that the DPR has been sent to PSDF on the matter.

PSAG may update

C.8 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.

As per 76th PCC minutes,

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.

DoP AP may update the actions taken.

C.9 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.

In 76th PCCM, 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.

In 77th PCCM, 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 by next PCC meeting.

Tripura informed that the settings of substations of TPTL have been sent to NERPC and NERLDC on 25.02.2025. Forum noted the same and asked Tripura to provide data as required in google sheet also.

Tripura may update

C.10 Status on resolution of protection issues as discussed in 77th and 76th PCCM

SN	<i>Protection issues to be resolved as decided in 77th and 76th PCCM</i>	<i>Concerned Utility</i>	<i>Previous status</i>	<i>Latest status</i>
1.	Spurious tripping of Bus coupler(132kV) at Kameng during the Grid Disturbance in Khuppi and Seppa areas of Arunachal Pradesh Power System on 13-02-2025	NEEPCO	NEEPCO informed that DR could not be captured as relay malfunctioned. Further he stated that the relay will be replaced as and when next tripping occurs. Forum opined that there might be issues with the settings of Bus-coupler at Kameng and asked	

			NEEPCO to send the settings to NERPC and NERLDC for vetting.	
2.	LDP on Rokhia-N.Rokhia link	TSECL	March'25	RoW issue hampering the work. Matter escalated to higher level. MS stated that the matter will be taken up MD TSECL in a separate meeting
3.	Replacement of relay panels (electromechanical to numerical) at AGTCCPP	NEEPCO	one panel has been replaced and the other will be replaced in next shutdown	WIP. To be completed by 28.03.2025
4.	BB protection stability test at Doyang	NEEPCO	that matter is being taken up with the OEM (M/s ABB) and the test will tentatively be conducted in April'25	Price offer awaited from ABB
5.	Modification of SPS Scheme related to the outage of 132 kV Leshka -Khliehriat D/C after LILO at 132 kV Mynkre S/S	MePTCL	the revised scheme has been shared with Mynkre S/S and will be implemented by March'25.	Matter has been taken up with NERPSIP. Also, Protection coupler is not present there,

				in talk with ABB
6.	Implementation of SPS related to overloading of 2x160 MVA 220/132 kV ICTs at BTPS	AEGCL	SPS will be implemented in 2 nd week of March'25	Done, but the logic for failure of carrier has not been done yet. To be completed within one week.

Sub-committee may deliberate

C.11 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 77th PCCM -

Sl. No.	Utility Name	Status update (77 th PCCM)
1	DoP Arunachal Pradesh	By Feb'25
2	DEPL	
3	AEGCL	Standardized 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.

In 76th PCCM, NERLDC informed that only Meghalaya and MUML have updated the status in the google spreadsheet. Forum exhorted other utilities to update at the earliest.

Utilities may update

C.12 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.

In 76th PCCM, Forum exhorted the utilities to update the relay settings in PDMS database as well as the google spreadsheet.

Deliberation of the 77th PCCM

All utilities except Powergrid are yet to start the updating of relay settings in PDMS. Forum directed all the utilities to complete the exercise at the earliest as any relay settings coordination exercise through PSCT tool requires updating of network and relay settings in the PDSM database. Further, the forum requested NERLDC to prepare a google spreadsheet utility and substations wise and take update regularly.

Utilities may update

C.13 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 77th PCCM –

Name of utility	Last updated status (77th/76rd/75nd PCCM)	Status as per 77th PCCM
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	<p>Lines identified 132kV Khamzawl - Khawiva.</p> <p>Mizoram stated that DPR in final stage. Price offer has been received from one vendor and awaited form other vendors. The DPR would be prepared by end of Sept.'24.</p>	DPR prepared and will be sent to PSDF shortly.
DoP Nagaland	<p>LDP Doyang-Sanis line, LDR to be installed by NEEPCO.</p> <p>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 15th July.</p>	<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	<p>132kV 79 Tilla-Budhjungnagar. DPR to be prepared. Cost estimate submitted to TIDC to arrange for ADB funding.</p> <p>TIDC approval is still waited for fund.</p> <p>Approved for ADB funding. E-tendering underway.</p> <p>Regarding Rokhia-N.Rokhia link, he updated that the breaker has been received.</p> <p>MS, NERPC suggested to apply under PSDF</p>	DPR has been sent to PSDF committee for funding.

Utilities to update
