Agenda

for

79th PCCM

Govt. of India

Ministry of Power

North Eastern Regional Power Committee

Shillong

North Eastern Regional Power Committee

Agenda for

79th Protection Coordination Sub-Committee Meeting

Date: 19/05/2025 (Monday)

Time: 11:00 hrs.

Venue: NERPC conference Hall, Shillong

A. CONFIRMATION OF MINUTES

1. CONFIRMATION OF MINUTES OF THE 78th PROTECTION SUB-COMMITTEE MEETING OF NERPC.

Minutes of the 78th PCC Meeting held on 21st April, 2025 at NERPC Conference Hall, Shillong was circulated vide letter No.: NERPC/SE (O)/PCC/2025/536-577 dated 5th May 2025.

No comments were received from the constituents

Sub-committee may confirm the minutes of the 78th 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

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.

Status of Internal/External Audit (78th PCCM):

Sr No	Utility/ Constituents	Internal Audit		External audit	
		Latest Status	**report**	**Latest Status**	**report**
1.	Ar. Pradesh	Lekhi SS next month (Total Substation: 09)	Report of Chimpu shared	representative of A.P. MS NERPC stated that that audit of	NA

				Pashighat, Along and Roing substations may be conducted in the last week of April'25. Powergrid requested NERPC to conduct the nearby substations of Powergrid also.	
2.	Assam	For FY 2025-2026, audits to start from May'25. (Total Substation: 75)	Submitted for FY 2024-25	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 for FY 2024-25. Forum requested to plan for FY 2025-26. (Total Substation: 08)	Submitted	8 SS to be done, Schedule to be decided, subject to law and Order situation. Audit of Yurembam ss and Ningthounkong ss may be done by NERPC team in May'25	NA
4.	Meghalaya	Internal audit of 132kV Subtations completed except for two substations namely., IIM &	Reports shared	Audit of 6 SS (Killing, EPIP I, EPIP II, NEHU, Mawlai an Mawphlang) done. For other substations, seek offer from CBIP, yet to receive offer. 3rd	Report shared

		Mustem also done. (Total Substation: 22)		party audit of Lumshnong may be done by NERPC in May'25.	
5.	Mizoram	Done for all SS (Total Substation: 10)	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 10 SS	Report shared. Action plan to be 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 out of 18 done, rest by April'25. For 66kV SS - audit by Mar'25. (Total Substation: 18)	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 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)	All 22 SS done	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	Audit done	To be shared soon	To be done later this year (2025)	
10	KMTL	No representative, forum suggested NERLDC to send a letter to CERC regarding non-compliance			
11	MUML/NBTL	No representative	Internal Audit done		
12	NEEPCO (Total Substation: 10)	All done	Shared for Pare and Turial and AGBPP. Shared for Kameng. RC Nagar report will be shared shortly	AGTCCPP done (by M/s ERDA Gujrat), report to be shared shortly. Kameng being planned, discussion with CPRI underway. Doyang in May 2025	
13.	OTPC (Palatana)	Done	Shared	Done	shared
14.	NTPC (BgTPP)	Done	shared	Done (by CPRI)	Complete Report shared. Action plan 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 have intimated Dikshi HEP to provide status to NERPC*

Further deliberations of 78th PCCM

Many constituents expressed the need of imparting knowledge and skill for protection system to their officers. MS, NERPC stated that a protection audit training program can be arranged at NPTI Guwahati for all the utilities and NERPC secretariat will communicate with NPTI on this matter.

Regarding formation of the protection expert group in NER for conducting the external audits, Assam updated that nominations from their side, have been sent to NERPC. MS NERPC requested all the state utilities and CPSUs to send their nominations to NERPC within one week so that the audit expert members list will be ready.

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 further deliberate

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

NERLDC Agenda

B.3 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of April'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 01-04- 2025 to 30-04-2025 as on **09-05-2025** is given below:

Owner Name	Total No of FIR/DR/EL/TR to be submitted(SEND+REND)	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	58	2	31	**33**	2	98	100	10	90	100
APGCL (Cumulative) *No Unit Tripping	6	0	0	0	0	0	0	0	0	0
DoP, AP (Cumulative) *No Unit Tripping	29	38	52	90	41	48	90	38	52	90
DoP, Nagaland (Cumulative) *No Unit Tripping	8	50	38	88	0	88	88	63	25	88
KMTL	2	100	0	100	0	0	0	100	0	100
MePGCL (Cumulative) *No Unit Tripping	8	0	100	100	13	88	100	13	38	50
MePTCL	23	96	4	100	96	4	100	57	43	100
MSPCL	14	14	21	36	21	14	36	29	7	36
NBTL	10	60	0	60	40	20	60	50	10	60
NEEPCO (Cumulative)	40	53	43	95	55	38	93	55	40	95
NHPC (Cumulative) *No Unit Tripping	2	50	0	50	50	0	50	50	0	50
NTL	2	50	50	100	50	50	100	0	100	100
P&ED, Mizoram (Cumulative) *No Unit Tripping	5	0	100	100	0	100	100	0	100	100
POWERGRID	94	65	35	100	71	28	99	68	31	99
TSECL	34	0	12	12	29	71	100	24	76	100

FIR/DR/EL submission status of utilities having tripping of Generating Units as on 09-05-2025:

Owner Name	Total No of FIR/DR/EL/TR to be submitted(SEND+REND)	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 %
NEEPCO *Unit Tripping	18	-	-	94	-	-	93	-	-	93
TPGCL (Cumulative) *1 case of Unit Tripping only	1	0	0	0	0	0	0	0	0	0
NTPC *2 cases unit Tripping only	2	0	0	0	0	100	100	0	100	100

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

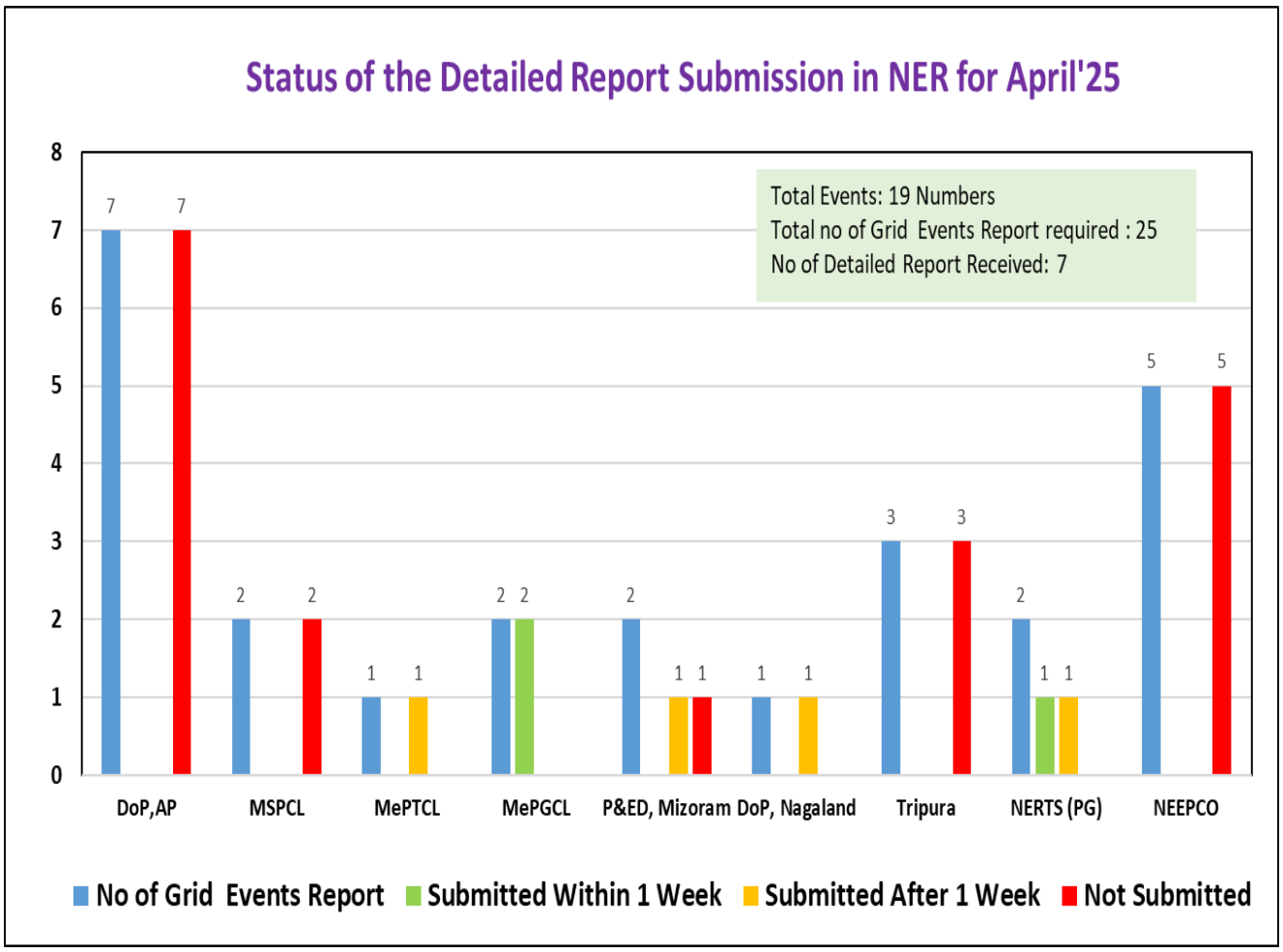
Also, all utilities are requested to nominate a nodal officer responsible for the submission of FIR,DR & EL in Tripping Monitoring Portal (https://tripping.nerldc.in/Default.aspx)

All the utilities are requested to submit details of tripping of downstream feeder on monthly basis to NERLDC.

Members may discuss.

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 **April, 2025** as on **09-05-2025** is shown below:



DoP AP, MSPCL, P&ED Mizoram, TSECL and NEEPCO have not submitted the detailed report of grid disturbance. Also, we have received 3 reports within one week of time.

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.

Members may discuss.

B.5 <u>Non-operation of auto recloser in Important Grid Elements for transient faults in April 2025:</u>

Sl. No.	Element Name	Tripping Date and Time	RELAY_A	RELAY_B	Auto-Recloser not Operated	Remarks from Utility
1	132 kV Jiribam - Tipaimukh Line	05-04-2025 20:05:00	DP, ZI, R-E, FD: 48.14 Kms, AR Operated Sucessfully	DP, R-E,16.7 KM, Ir-0.81 KA	Tipaimukh (MSPCL)	
2	132 kV Lekhi - Nirjuli Line	05-04-2025 20:56	DP, ZI, Y-E, FD: 0.489 km	DP, ZI, Y-E, FD: 5.9 Kms, AR Operated Unsucessfully	Lekhi (AP)	
3	132 kV Loktak - Rengpang Line	05-04-2025 21:12:00	DP, ZI, B-E, FD: 15.44 Kms	Loss of Voltage	Loktak(NHPC)	
4	132 kV Pare - Itanagar Line	05-04-2025 22:30:00	DP, ZI, R-E	DP, ZII, R-E, FD: 29.9 KM	Both Ends	
5	132 kV Khandong - Khliehriat 2 Line	06-04-2025 16:35:00	M1:B-N ,Z-1, 4.129 KA, 2.057 KM, AR Operated Sucessfully	M1:B-N ,Z-1, 4.129 KA, 2.057 KM	Khliehriat (POWERGRID)	
6	220 kV Sarusajai-Sonapur Line	10-04-2025 12:44	DP, ZI, R-E, FD: 6.9 Kms; AR Not Operated	DP, ZI, Y-E, FD: 36.9Kms; AR Operated Sucessfully	Sarusajai (AEGCL)	

7	220 kV Mariani (AEGCL) - Samaguri Line	13-04-2025 10:04	DP, ZI, Y-E, FD: 146.7 Kms; AR Operated Sucessfully	DP, ZI, Y-E, FD:2.4 kms; AR Not Operated	Samaguri (AEGCL)	
8	132 kV Aizawl - Kumarghat Line	14-04-2025 17:34	DP, ZI, R-B, FD: 76.53Kms; AR Operated Sucessfully	DP, ZI, R-Y, FD: 58.18 Kms; AR Not Operated	Kumarghat (POWERGRID)	
9	220 kV Kopili - Misa 2 Line	16-04-2025 11:25	DP, ZI, R-E, FD: 1.050 kms; AR Not Operated	DP, ZII, R-E, FD: 86.81 Kms; Carrier received; AR Operated Sucessfully	Kopili (NEEPCO)	
10	400 kV Misa - Silchar 2 Line	16-04-2025 11:55	DP, ZI, R-E, FD: 78Kms; AR Not Operated	DP, ZI, Y-E, FD: 157.682Kms; AR Operated Sucessfully	Misa (POWERGRID)	
11	132 kV Dimapur (PG) - Kohima Line	17-04-2025 13:35	DP, ZI, B-E, FD: 37.04Kms, AR Operated Unsucessfully	DP, ZI, B-E; AR Not Operated	Kohima (DoP, Nagaland)	

12	132 kV AGTCCPP - Kumarghat Line	21-04-2025 05:51	DP, ZI, B-E, FD: 22.69kms; AR Not Operated	DP, ZI, B-E, FD: 77.191kms; AR Operated Sucessfully	AGTCCPP (NEEPCO)	
13	132 kV Dimapur (PG) - Kohima Line	23-04-2025 16:04	DP, ZI, B-E, FD: 49.123 Kms; AR Operated Unsucessfully	DP, ZI, B-E; AR Not Operated.	Kohima (DoP, Nagaland)	
14	132 kV Dimapur (PG) - Kohima Line	27-04-2025 04:00	DP, ZI, B-E, FD: 18.662 Kms; AR Not Operated.	DP, ZI, B-E; AR Not Operated.	Dimapur (POWERGRID) & Kohima (DoP, Nagaland)	
15	132 kV Badarpur - Silchar 1 Line	28-04-2025 10:48	DP, ZI, Y-E, FD: 2.76 Kms; AR Not Operated.	DP, ZI, Y-E, FD: 15.53 Kms; AR Operated Sucessfully	Badarpur (POWERGRID)	
16	132 kV Gohpur-Itanagar Line	28-04-2025 10:15	DP, ZII, B-N, 40.3 Km, AR not operated	DP, ZI, B-N, 0.89 Km, AR successful	Gohpur (AEGCL)	

Utilities may update

B.6 <u>Submission of Protection Performance Indices by Transmission Utilities:</u>

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 13.05.2025, **NETC, NTPC, OTPC, DoP Nagaland, NEEPCO (Kopili & TGBPS), POWERGRID, MUML, NBTL, AEGCL, NTL & MePTCL** has submitted protection performance indices for the month of April'25.

Sl. No.	Name of Transmission Licencee	D= (Nc/Nc+Nf)	S= (Nc/Nc+Nu)	R= (Nc/Nc+Ni)	Remarks
1	NETC	-	-	-	No bay owned by NETC
2	MUML	-	-	-	No tripping during April'25
3	NTPC	1	1	1	
4	OTPC	1	1	1	
5	DoP Nagaland	1	1	1	
6	NEEPCO (TGBPS & Kopili)	1	1	1	
7	POWERGRID	1	1	1	
8	NBTL	0	0	0	At 20:44 Hrs of 26-04-2025, 220 kV Nangalbibra Bus-I tripped due to fault in 220 kV Bongaigaon-Nangalbibra I Line. Also, 31.5 MVAR B/R-I&II & 160 MVA ICT-I&II tripped which is unwanted.
9	AEGCL	1	0.862	0.862	• Unwanted tripping of 220 kV NTPS-Tinsukia Line, ICT-I at Tinsukia on 25.04.2025: Due

					to faulty cable. Rectified. • Unwanted tripping of 220 kV NTPS-Tinsukia Line on 20th, 21st, 23rd & 24th April'25: Spurious DT received at NTPS (No trip at Tinsukia). Issue Rectified. • Unwanted tripping of 220 kV Jawaharnagar-Samaguri Line on 14th & 18th April'25: Spurious DT received at Jawaharnagar end.
10	NTL	1	0.8	0.8	• Tripping of 132 kV Gohpur-Itanagar Line on 28th April, 25
11	MePTCL	0.93	0.875	0.823	• Tripping of 132 kV Umiam Stg-I-Umiam Line on 01st April, 25: Tripped at Umiam Stg-I end due to operation of highset O/C

					protection which is unwanted. • Unwanted tripping of 132 kV Lumshnong-Panchgram Line at 08:10 Hrs & 20:21 Hrs of 24th April, 25.
12	DoP Arunachal Pradesh	-	-	-	Not Submitted
13	MSPCL	-	-	-	Not Submitted
14	P&ED Mizoram	-	-	-	Not Submitted
15	TSECL	-	-	-	Not Submitted
16	KMTL	-	-	-	Not Submitted

Sl. No.	**Name of Generating Company**	**D= (Nc/Nc+Nf)**	**S= (Nc/Nc+Nu)**	**R= (Nc/Nc+Ni)**	**Remarks**
1	APGCL	-	-	-	Not Submitted
2	MePGCL	-	-	-	Not Submitted
3	TPGCL	-	-	-	Not Submitted
4	NHPC	-	-	-	Not Submitted
5	NEEPCO(AGBPP, AGTCCPP, Kameng, Doyang, Panyor & Pare)	-	-	-	Not Submitted

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 April 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 April 2025 are as follows:

SL No	Element Name	Tripping Date and Time	End 1 Owner	End 2 Owner	Time Drift observed at Substation & duration	Remarks
1	132 kV Umiam - Umiam St I Line	01-04-2025 01:55	MePTCL	MePGCL	Umiam : 1 Hr time lead (02:55 Hrs)	
2	132kV Khleiriat(ME) - Lumshong Line	01-04-2025 03:45	MePTCL	MePTCL	Khleiriat(ME) : 3 min time lag (03:41:58 Hrs)	
3	132 kV Pare - Itanagar Line	05-04-2025 22:30	NEEPCO	DoP, Ar. Pradesh	Pare: 8 min time lead (22:30 Hrs)	
4	132 kV Khandong - Khliehriat 2 Line	06-04-2025 16:35	POWER GRID	POWER GRID	Khandong: 9 min time lag (16:26 Hrs) in Main II DR (Main I is time synchronized)	
5	132 kV Kamalpur - P K Bari Line	07-04-2025 02:22	TSECL	TSECL	Kamalpur : 63 min time lag (01:19 Hrs)	
6	132 kV Badarpur - Kolasib Line	07-04-2025 03:34	POWER GRID	POWER GRID	Kolasib : 5 min time lag (03:39 Hrs)	
7	220 kV Balipara - Sonabil 1 Line	09-04-2025 06:50	POWER GRID	AEGCL	Sonabil: 5 min time lag (06:45 Hrs)	

8	132 kV Dharmanagar - P K Bari Line	10-04-2025 08:30	TSECL	TSECL	Dharmanagar: 17 min time lag (08:13 Hrs) P K Bari: 3 min time lag (08:27 Hrs)	
9	132 kV Sarusajai - Umtru 2 Line	10-04-2025 12:43	AEGCL	MePGCL	Umtru: 29 min time lag (12:14 Hrs)	
10	132 kV Dharmanagar - Dullavcherra Line	10-04-2025 13:22	TSECL	AEGCL	Dharmanagar: 2 min time lead (13:22 Hrs)	
11	132 kV Chapakhowa - Rupai Line	13-04-2025 13:05	AEGCL	AEGCL	Umiam : 5 min time lag (13:01 Hrs)	
12	132 kV Along - Pasighat Line	16-04-2025 14:00	DoP, Ar. Pradesh	DoP, Ar. Pradesh	Along : 2 min time lag (13:58 Hrs) Pasighat : 4 min time lag (13:56 Hrs)	
13	132 kV Monarchak - Udaipur Line	17-04-2025 12:47	NEEPCO	TSECL	Monarchak : 10 min time lag (12:37 Hrs) Udaipur : 2 min time lag (12:45 Hrs)	

14	132 kV Monarchak - Rokhia Line	17-04-2025 12:49	NEEPCO	TSECL	Monarchak : 10 min time lag (12:37 Hrs) Udaipur : 2 min time lag (12:45 Hrs)	
15	132 kV Ranganadi - Pare 1 Line	18-04-2025 11:33	NEEPCO	NEEPCO	Pare : 1 hr time lead (12:33 Hrs) in Main I No time drift in Main II	
16	132 kV Panchgram - Lumshnong Line	27-04-2025 02:58	AEGCL	MePTCL	Panchgram : 3 min time lag (02:55 Hrs)	
17	132KV-Myntdu Leshka-Mynkre 1 Line	28-04-2025 07:04	MePGCL	MePTCL	Mynkre : 10 min time lag (06:54 Hrs)	
18	132KV-Myntdu Leshka-Mynkre 2 Line	28-04-2025 07:04	MePGCL	MePTCL	Mynkre : 10 min time lag (06:54 Hrs)	
19	132 kV Dharmanagar - P K Bari Line	28-04-2025 09:07	TSECL	TSECL	Dharmanagar : 18 min time lag (08:49 Hrs) P K Bari : 4 min time lag (09:07 Hrs)	
20	400 kV Balipara - Bongaigaon 4 Line	28-04-2025 09:13	POWER GRID	POWER GRID	Bongaigaon: 5 min time lag (09:08 Hrs)	
21	132 kV Agartala - Rokhia 1 Line	28-04-2025 10:34	TSECL	TSECL	Agartala: 1 Hr time lag (09:34 Hrs)	

22	132 kV Bodhjannagar - Jirania Line	29-04-2025 11:57	TSECL	TSECL	Bodhjannagar: 3 min time lag (11:54 Hrs)	

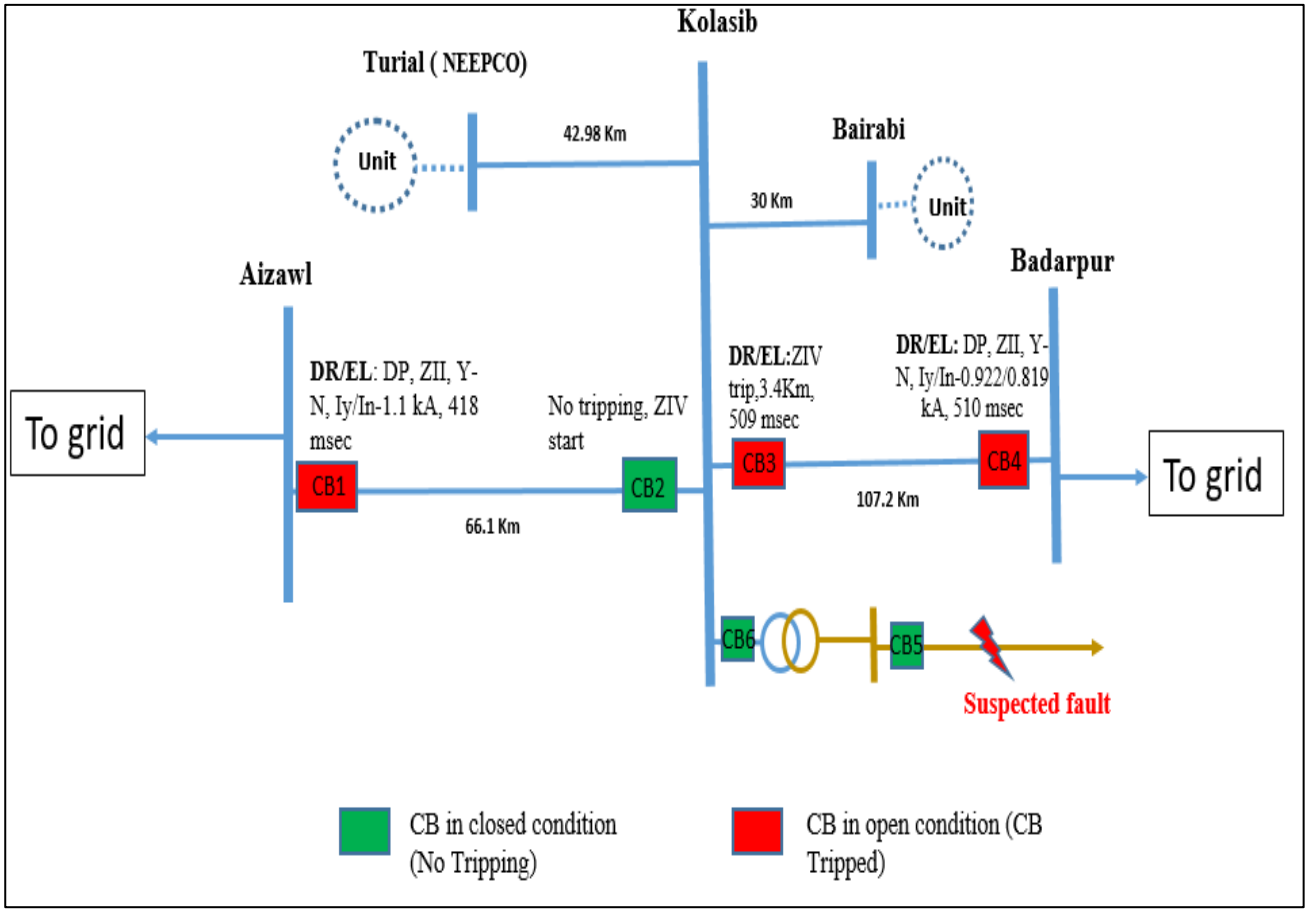
Utilities should ensure that the submitted DR and EL files have correct time synchronisation for proper analysis purposes. Healthiness of GPS may be checked and time to be adjusted as per grid code.

Members may discuss

B.8 Grid Disturbance in Tuirial HEP of NEEPCO & Kolasib and Bairabi areas of Mizoram Power System on 07-04-2025:

Kolasib and Bairabi areas of Mizoram & Tuirial HEP of NEEPCO were connected with rest of NER Grid through 132 kV Kolasib-Badarpur and 132 kV Kolasib – Aizawl lines.

At 03:34 Hrs of 07-04-2025, 132 kV Aizawl-Kolasib and 132kV Badarpur-Kolasib lines tripped. Due to tripping of these elements, Kolasib, Turial and Bairabi areas of Mizoram Power system got isolated from NER grid and collapsed due to no source available in these areas. Load loss of 1 MW occurred.



As per DR analysis, Y-N fault with Iy-922 A, In-819 A initiated at 03:34:05.236 Hrs which was cleared within 510 msec from Badarpur end on operation of DP, ZII (ZIII start) and within 509 msec on ZIV trip from Kolasib end. For 132 kV Aizawl-Kolasib line, fault cleared within 418 msec from Aizawl end on DP, ZII (ZIII start). DR of different time submitted at Kolasib end. There was no tripping from Kolasib end (ZIV start as per EL)

Fault is suspected fault in downstream of Kolasib S/S as ZIV operated from Kolasib end (Fault distance-3.4 Km as per EL).

Following observations:

- Protection system of downstream feeder and HV side transformer failed to isolate the fault due to which fault was cleared by tripping of healthy 132 kV Aizawl-Kolasib & 132 kV Badarpur-Kolasib lines. P&ED Mizoram needs to ensure healthiness of protection system of 132 kV Kolasib-Tuirial line.
- DR time drift of 5 min observed at Kolasib end for 132 kV Badarpur Line & 2 min for 132 kV Aizawl 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 incident occurred at 15:33 hrs of 05.05.2024, 15:28 hrs of 13.08.2024, 14:24 Hrs of 20-03-2025 & 05:52 Hrs of 12.05.2025.

P&ED Mizoram to share the root cause of the event and update the actions taken on the above-mentioned issues.

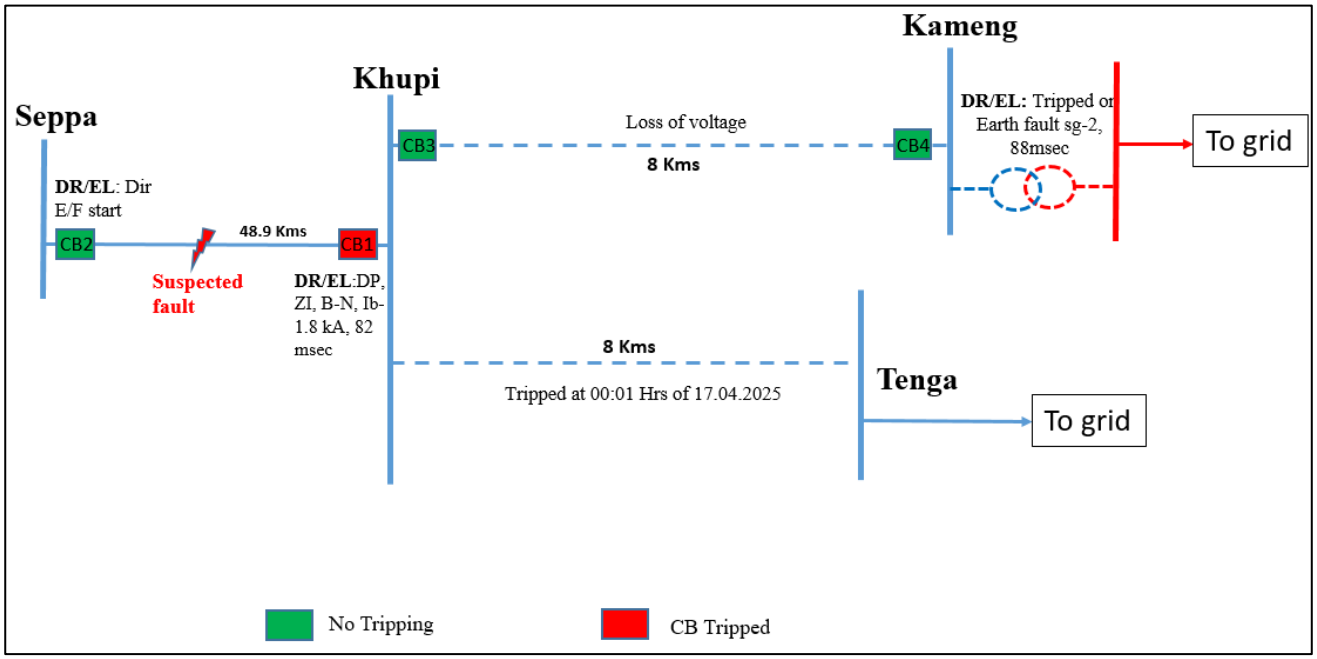
B.9 Frequent tripping of 400/132 kV Kameng ICT and Grid disturbances in Tenga, Khupi and Seppa areas of Arunachal Pradesh during April, 2025:

400/132 kV Kameng ICT tripped twice during Apr'2025 causing grid disturbance in Tenga, Khupi & Seppa areas of Arunachal Pradesh which is a matter of serious concern.

Event 1: At 13:58 Hrs of 17th April'25

Prior to the event, 132 kV Tenga-Khupi Line tripped at 00:01 Hrs of 17-04-2025. At 13:58 Hrs of 17.04.2025, 400/132 kV ICT at Kameng and 132 kV Khupi-Seppa line

tripped resulting in grid disturbance in 132 kV Kameng S/S of NEEPCO, Khupi and Seppa areas of Arunachal Pradesh. Load loss of 1 MW occurred.



As per DR analysis, B-N fault with Ib-1.8 kA initiated at 14:01:22.820 Hrs which was cleared within 82 msec from Khupi end on operation of DP, ZI. Directional E/F started at 13:58:54.479 Hrs and no tripping from Seppa end.

As intimated by DoP Arunachal Pradesh, vegetation B-N fault in 132 kV Khupi-Seppa Line at a distance of 28.3 Km from Khupi end.

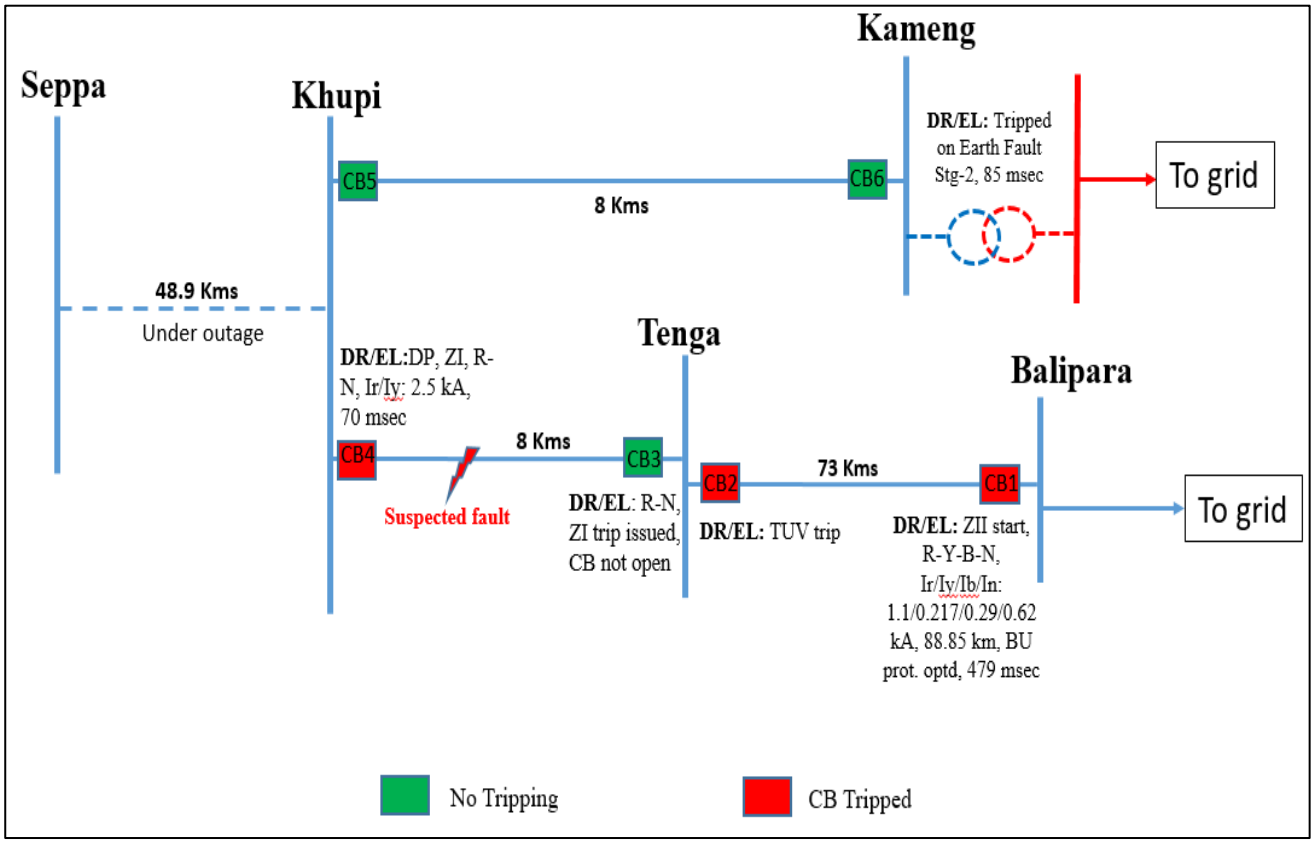
At 13:58:52.814 Hrs, Kameng ICT tripped on E/F Stg-II within 88 msec which seems to be unwanted.

Following observations:

- Instantaneous tripping of Kameng ICT on E/F Stg-II during fault in downstream lines is unwanted. Maloperation of the ICT HV side protection is likely due to very low current pick up settings for High set B/U E/F protection. High set Backup E/F setting needs to be reviewed and coordinated to prevent unwanted tripping for the fault beyond protected zone.
- DR analog and digital channel of Kameng ICT & 132 kV Khupi-Seppa Line needs to be standardized as per recommendations in FOLD working group.
- 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.

Event 2: At 18:15 Hrs of 24th April'25

Prior to the event, 132 kV Khupi-Seppa line was under outage. At 18:15 Hrs of 24.04.2025, 400/132 kV ICT at Kameng, 132 kV Balipara-Tenga line and 132 kV Tenga-Khupi line tripped resulting in grid disturbance in 132 kV Kameng S/S of NEEPCO and Tenga, Khupi and Dikshi areas of Arunachal Pradesh. Load loss of 13 MW occurred.



As per DR analysis, R-N fault (Ir-2.5 kA, In-2.5 kA) initiated at 18:15:35.763 Hrs in 132 kV Tenga-Khupi Line which was cleared within 70 msec from Khupi end on operation of DP, ZI. From Tenga end, DEF start & ZI trip command issued. However, Tenga CB did not open.

Due to non-opening of CB at Tenga, fault was continuously feeding through 132 kV Balipara-Tenga line which was cleared by tripping of Balipara CB within 479 msec on operation of BU E/F O/C (Z2 started).

At 18:15:49.699 Hrs, Kameng ICT tripped on E/F Stg-II within 85 msec which seems to be unwanted.

Following observations:

- Non-opening of CB at Tenga end for 132 kV Khupi Line despite issuance of ZI trip is a matter of concern. The same needs to be checked by DoP Arunachal Pradesh.

- Instantaneous tripping of Kameng ICT on E/F Stg-II during fault in downstream lines is unwanted. Maloperation of the ICT HV side protection is likely due to very low current pick up settings for High set B/U E/F protection. High set Backup E/F setting needs to be reviewed and coordinated to prevent unwanted tripping for the fault beyond protected zone.
- DR analog and digital channel of Kameng ICT needs to be standardized as per recommendations in FOLD working group.
- The back-up protection settings at Kameng, Khupi and Tenga needs to be reviewed and coordinated as per NER protection philosophy.
- 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.

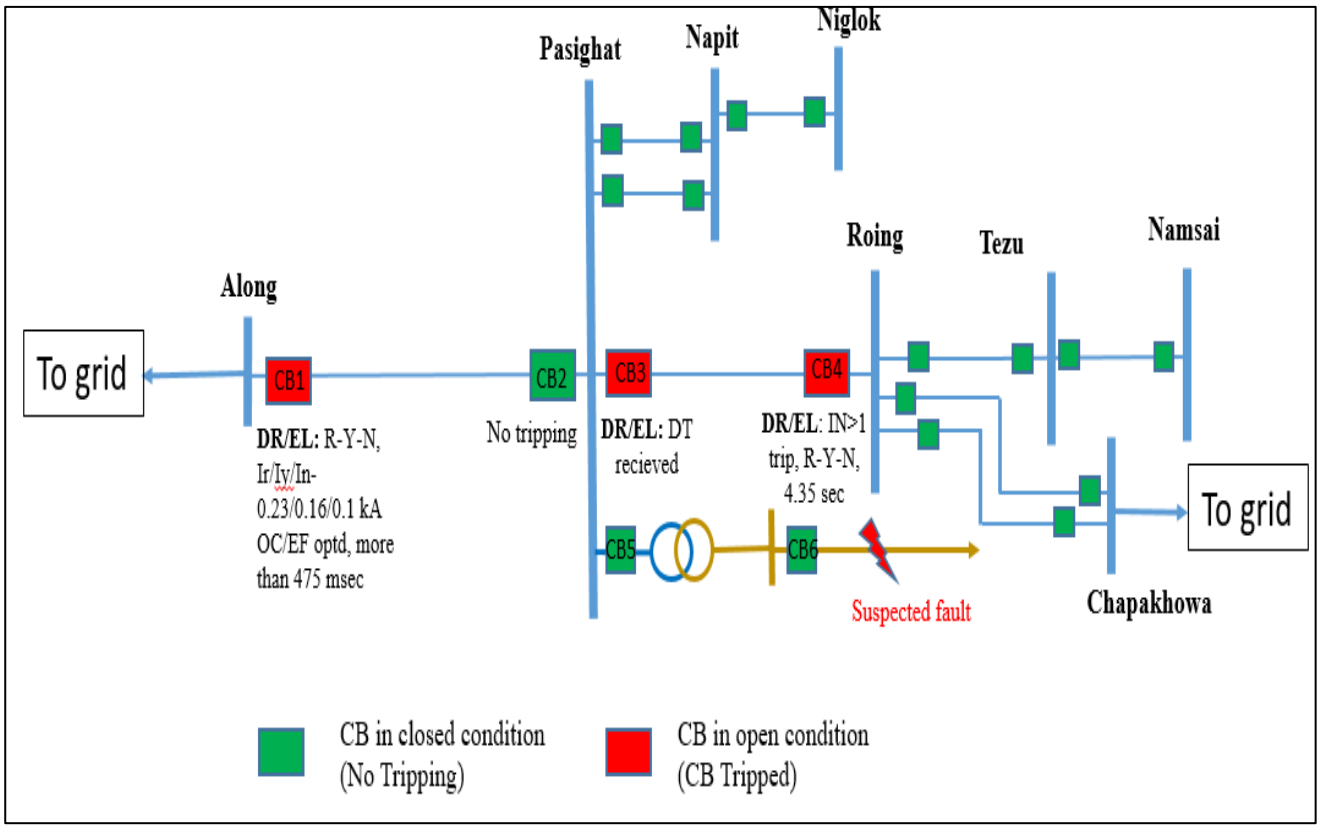
Frequent tripping of 400/132 kV Kameng ICT was intimated to NEEPCO vide email dated 28th April'25.

Similar incident occurred on 05.05.2024, 09.07.2024, 11.07.2024, 19.07.2024, 12.08.2024 & 18.08.2024.

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

B.10 <u>Grid Disturbance in Pasighat and radially connected Napit & Niglok areas of Arunachal Pradesh on 22-04-2025:</u>

At 00:37 Hrs of 22-04-2025, 132 kV Along-Pasighat & 132 kV Roing - Pasighat lines tripped resulting in grid disturbance in Pasighat and radially connected Napit & Niglok areas of Arunachal Pradesh. Load loss of 22 MW occurred.



As per DR analysis, R-Y-N fault with Ir-237 A, Iy-167 A, In-107 A observed which was cleared in more than 475 msec from Along end on operation of OC/EF protection. No tripping from Pasighat end as per submitted DR. Fault duration recorded at Pasighat EL - 3.726 sec.

For 132 kV Roing-Pasighat Line, R-Y-N fault initiated at 00:37:16.786 Hrs and cleared within 4.35 sec on operation of E/F from Roing end and DT recieved at Pasighat end.

Following observations:

- Protection system of downstream feeder and HV side of transformer failed to isolate the fault resulting in clearing of fault by tripping of healthy 132 kV Along-Pasighat and 132 kV Roing-Pasighat Lines.
- For DR submitted for 132 kV Along-Pasighat & 132 kV Roing-Pasighat lines, pre-fault data is not visible which is the cause of concern. As per DR Standardisation report of FOLD Working Group 3, pre-fault data of 500 msec and post fault data of 2500 msec should be visible in the DR window.
- DR Time drift of 2 min observed at Pasighat for 132 kV Along Line and 13 min for 132 kV Roing Line.

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

Similar kind of event occurred at 16:01 Hrs of 03-05-2025 in which tripping of 132 kV Along-Pasighat & 132 kV Roing - Pasighat lines led to loss of power in Pasighat, Napit & Niglok areas of Arunachal Pradesh. Such repeated grid disturbances are the cause of concern.

During 2024, similar incident occurred on 24.09.2024, 25.09.2024, 16.11.2024 and 08.12.2024.

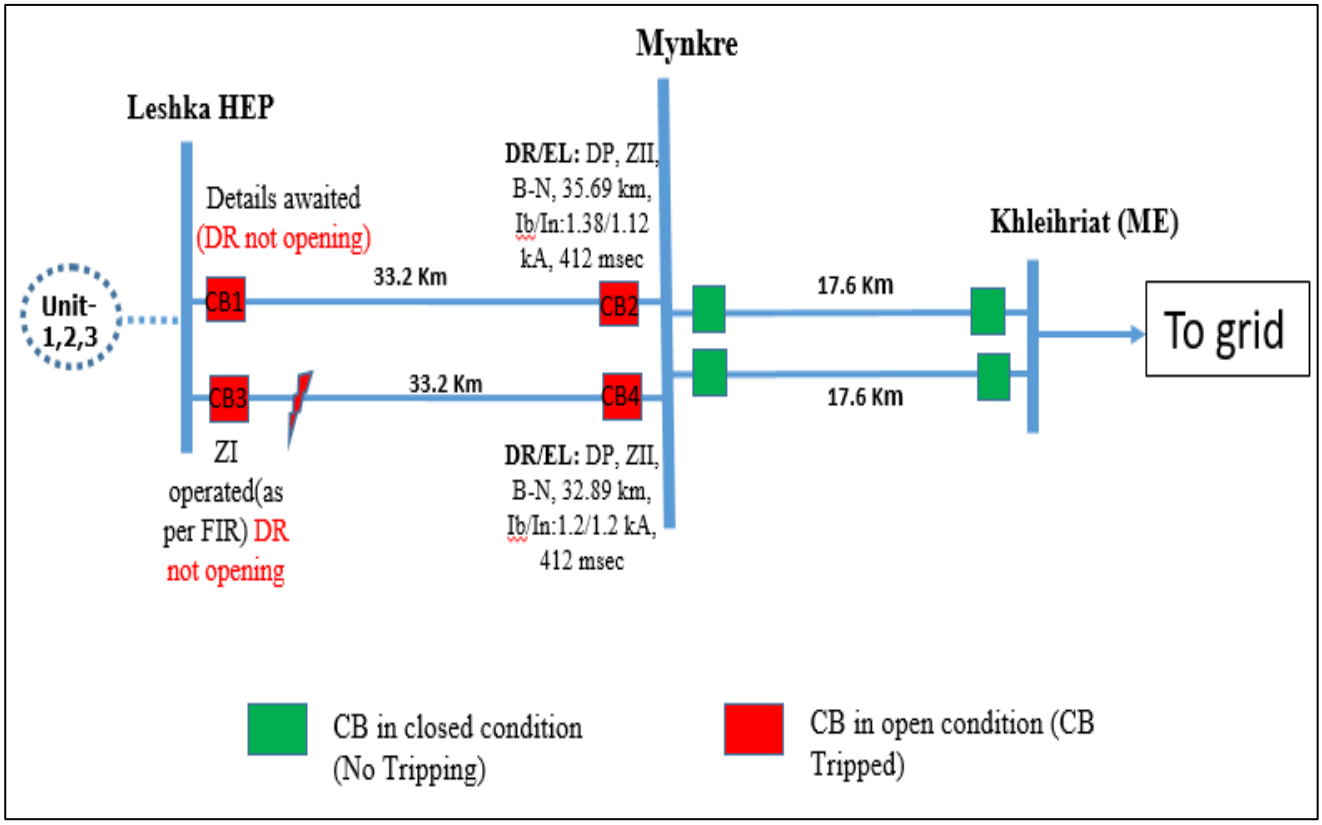
DoP Arunachal Pradesh to share the root cause of the event and update the actions taken on the above mentioned issues.

B.11 <u>Grid disturbance in Leshka HEP of Meghalaya Power system on 27th April & 28th April, 2025:</u>

Leshka HEP of Meghalaya power system was connected with rest of NER grid through 132 kV Leshka-Mynkre I & II Lines.

Event 1: At 02:43 Hrs of 27-04-2025

At 02:43 Hrs of 27-04-2025, 132 kV Leshka-Mynkre I & II Lines tripped due to which Leshka Unit-1,2&3 tripped due to loss of evacuation path. Generation loss of 119 MW occurred.



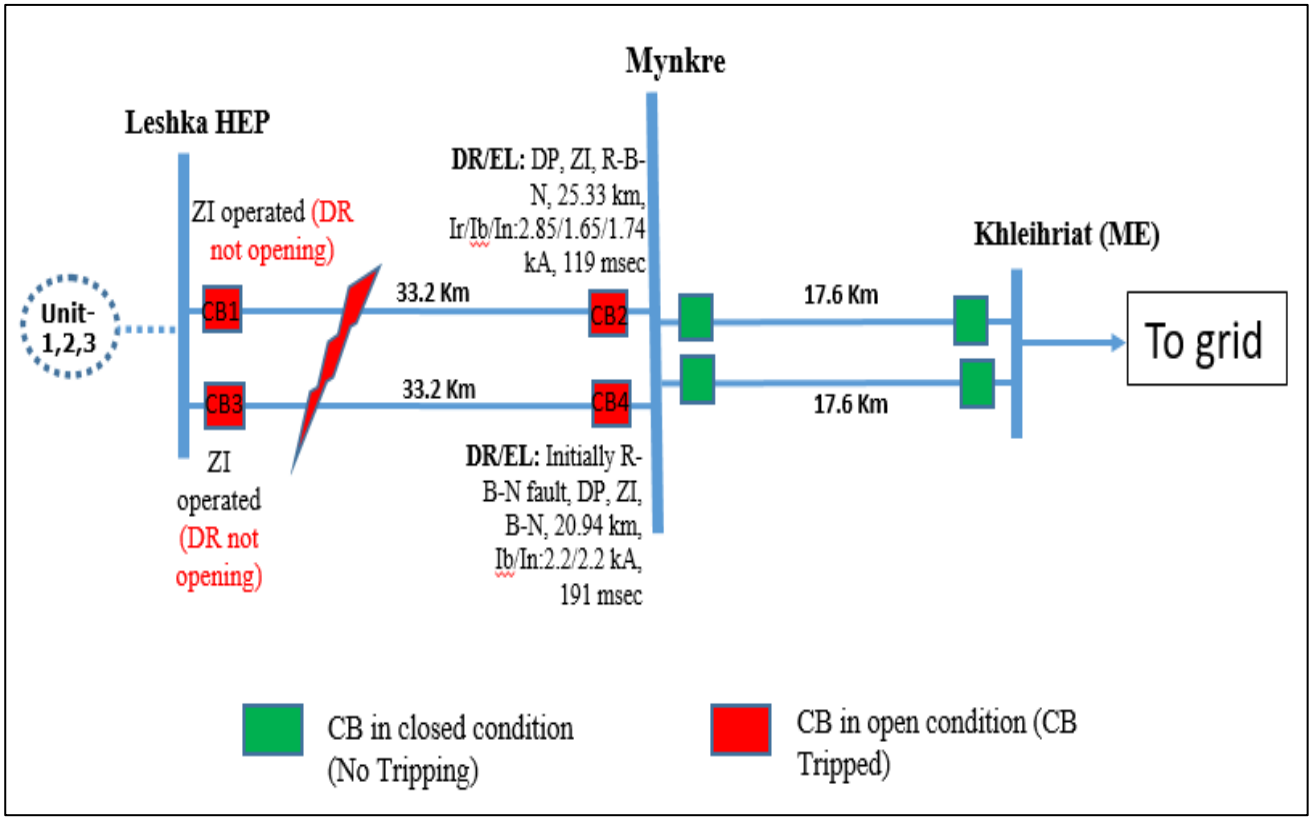
As per DR analysis, solid B-N fault (Ib-1.38 kA, In-1.12 kA) initiated in 132 kV Leshka-Mynkre I & II lines at 02:36:15.155 Hrs which was cleared within 412 msec from Mynkre end on operation of DP, ZII. As per FIR, ZI operated at Leshka end (DR file of Leshka end is not opening)

Following observations:

- Suspected fault in 132 kV Leshka-Mynkre II line as fault distance of 32.89 Km from Mynkre end (as per EL)
- Leshka end CB failed to isolate the fault resulting in clearing of fault by tripping of healthy 132 kV Leshka-Mynkre I line from remote end on ZII.
- DR file at Leshka end is not opening for both the lines. The same needs attention from MePGCL.
- DR Time drift of 7 min observed at Mynkre end for 132 kV Leshka I & II lines.
- Non-submission of detailed report by MePGCL which is a violation of Clause 37.2 (e) of IEGC regulation 2023.

Event 2: At 07:04 Hrs of 28-04-2025

At 07:04 Hrs of 28-04-2025, 132 kV Leshka-Mynkre I & II Lines tripped due to which Leshka HEP of Meghalaya got isolated from grid due to no source available in this area. No generation loss.



As per DR analysis of 132 kV Leshka-Mynkre I line, solid R-B-N fault (Ir-2.85 kA, Ib-1.65 kA, In-1.74 kA) initiated at 06:54:44.787 Hrs which was cleared within 119 msec from Mynkre end on operation of DP, ZI (initially ZII started).

For 132 kV Leshka-Mynkre II Line, R-B-N fault initiated at 06:54:44.787 Hrs (Z2/Z3 started). After 59 msec, R-phase current disappeared. B-N fault was cleared within 191 msec from Mynrke end on operation of DP, ZI.

As per FIR, ZI operated at Leshka end (DR file of Leshka end is not opening)

Following observations:

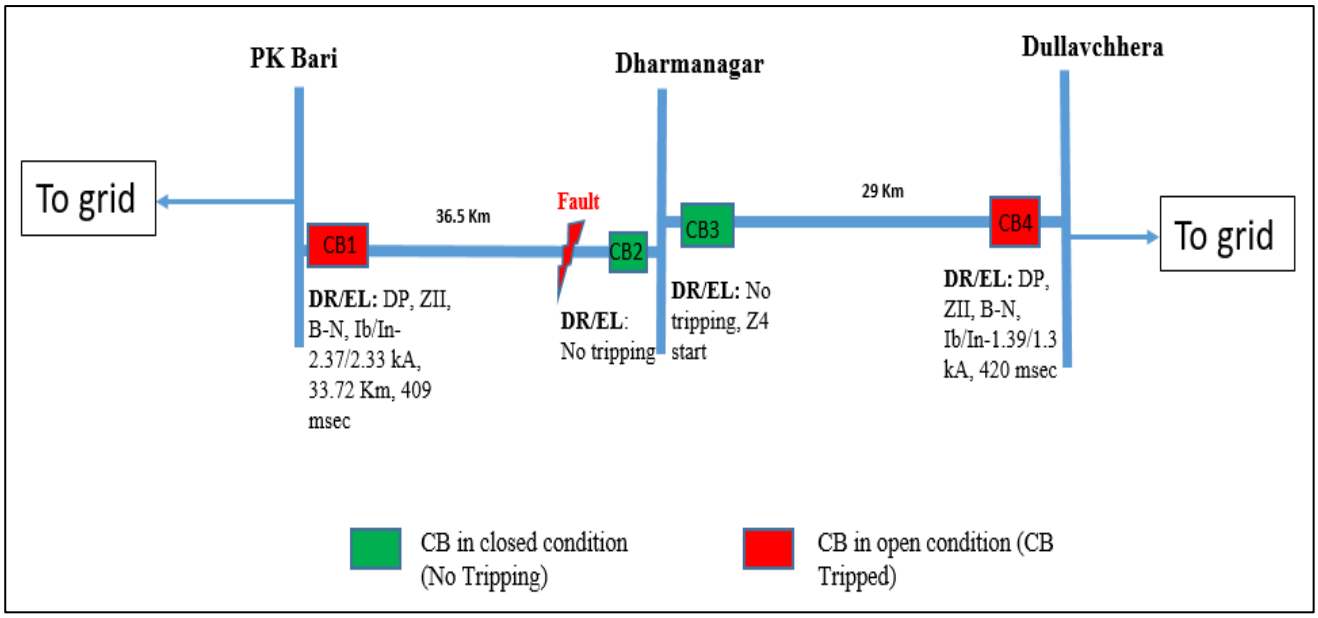
- DR file at Leshka end is not opening for both the lines. The same needs attention from MePGCL.
- DR time drift of 10 min observed at Mynkre end for 132 kV Leshka I & II lines.

MePGCL may update the root cause of both the events and update the actions taken on the above-mentioned issues.

B.12 <u>Grid Disturbance in Dharmanagar area of Tripura Power system on 28-04-2025:</u>

Dharmanagar area of Tripura power system was connected to rest of NER grid through 13 2kV Dharmanagar –Dullavcherra and 132 kV P K Bari – Dharmanagar lines.

At 09:07 Hrs of 28-04-2025, 132 kV Dharmanagar –Dullavcherra line and 132 kV P K Bari –Dharmanagar line tripped resulting in grid disturbance in Dharmanagar S/S. Load loss of 9 MW occurred.



As per DR analysis, solid B-N fault (Ib-2.37 kA, In-2.33 kA) in 132 kV PK Bari-Dharmanagar Line initiated at 09:03:35.099 Hrs which was cleared within 409 msec from PK Bari end on operation of DP, ZII.

For 132 kV Dharmanagar-Dullavchhera Line, fault cleared from Dullavchhera end within 420 msec on operation of ZII. Z4 started at 09:05:46.628 Hrs. Fault current disappears after 420 msec.

Following observations:

- Suspected fault in 132 kV PK Bari-Dharmanagar line as fault distance is 33.72 Km from PK Bari end. Also, Z4 started at Dharmanagar end for 132 kV Dullavchhera line indicating fault in reverse direction.
- Protection system at Dharmanagar end for 132 kV PK Bari Line failed to isolate the fault in line resulting in clearance of fault by tripping of healthy 132 kV Dharmanagar-Dullavchhera Line from Dullavchhera end on ZII.
- DR time drift of 4 min observed at PK Bari end for 132 kV Dharmanagar Line.
- Non-submission of flash report and detailed report by TSECL which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

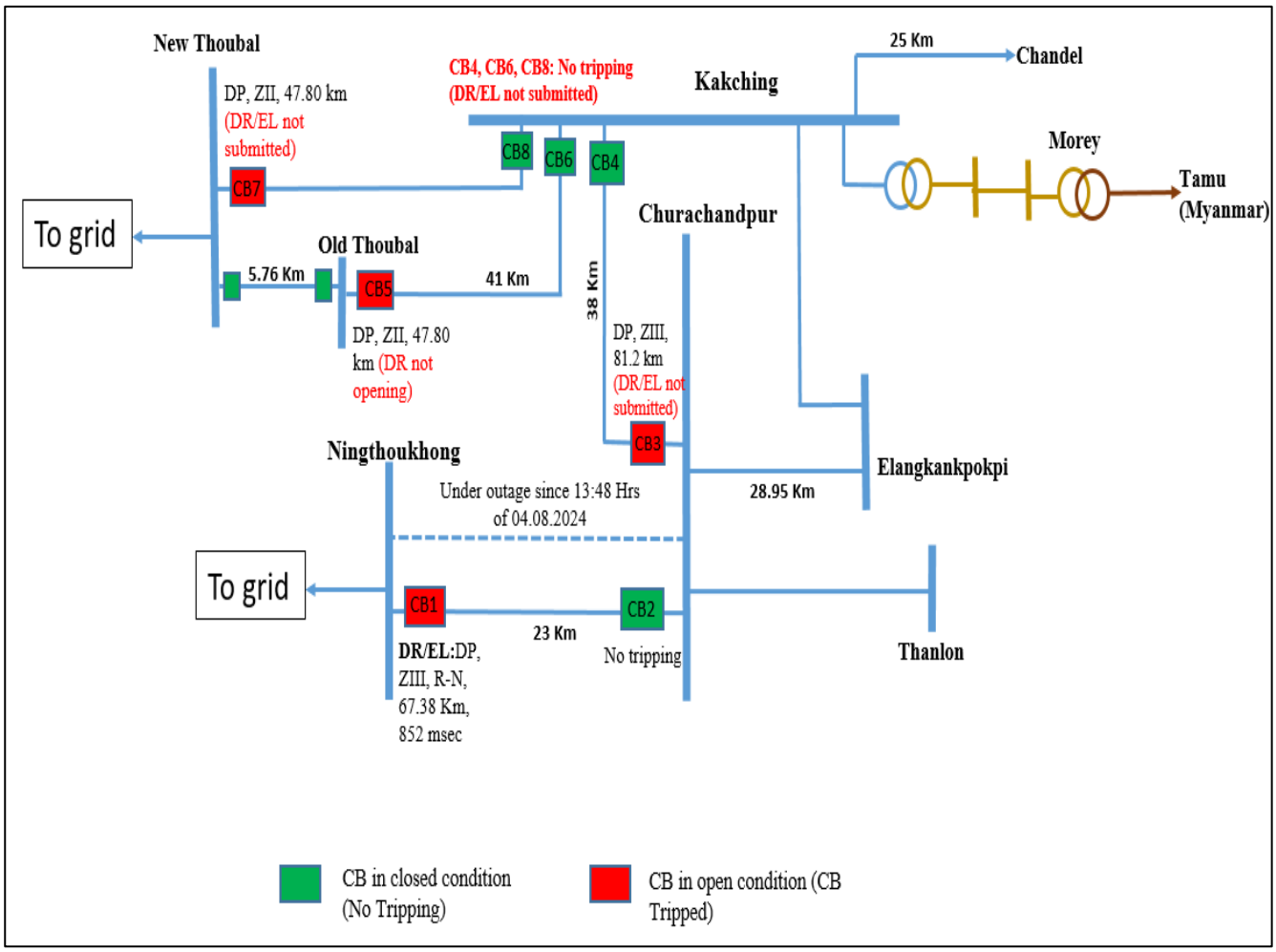
Similar incident occurred on 10.03.2024, 16.03.2024 and 22.04.2024.

TSECL to share the root cause and provide update on the above mentioned issues.

B.13 <u>Grid disturbance in Churachandpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar Power system on 28-04-2025:</u>

Churachandpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar Power system were connected to rest of NER grid through 132 kV Ningthoukhong-Churachandpur II, 132 kV Old Thoubal-Kakching & 132 kV New Thoubal-Kakching Lines. Prior to the event, 132 kV Ningthoukhong-Churachandpur I line is under outage since13:48 Hrs of 04.08.2024.

At 13:43 Hrs of 28-04-2025, 132 kV Ningthoukhong-Churachandpur II, 132 kV Old Thoubal-Kakching, 132 kV New Thoubal-Kakching & 132 kV Churachandpur-Kakching Lines tripped. Load loss of 30 MW occurred.



As per DR analysis of 132 kV Ningthoukhong-Churachandpur II Line, R-N fault (Ir-1.26 kA, In-1 kA) initiated at 13:42:32.292 Hrs which was cleared within 852 msec from Ningthoukhong end on operation of DP, ZIII.

At 13:42:20.911 Hrs, 132 kV Old Thoubal-Kakching Line tripped from Old Thoubal end (as per EL, DR file not opening)

Suspected fault is beyond Churachandpur and Kakching Substations as fault distance of 67.38 Km from Ningthoukhong end.

Following observations:

- Exact location of fault could not be concluded as DR/EL not submitted by MSPCL.
- It is unclear which protection system operated and cleared the fault from Old Thoubal end for 132 kV Kakching Line.
- SOE not recorded for tripping of 132 kV Churachandpur-Kakching Line & 132 kV Old Thoubal-Kakching Line. The same needs attention from MSPCL/SLDC Manipur team.
- Non-submission of flash report and detailed report by MSPCL which is a violation of Clause 37.2 (b) & 37.2 (e) of IEGC regulation 2023.

Similar incident ocurred on 05.07.2024.

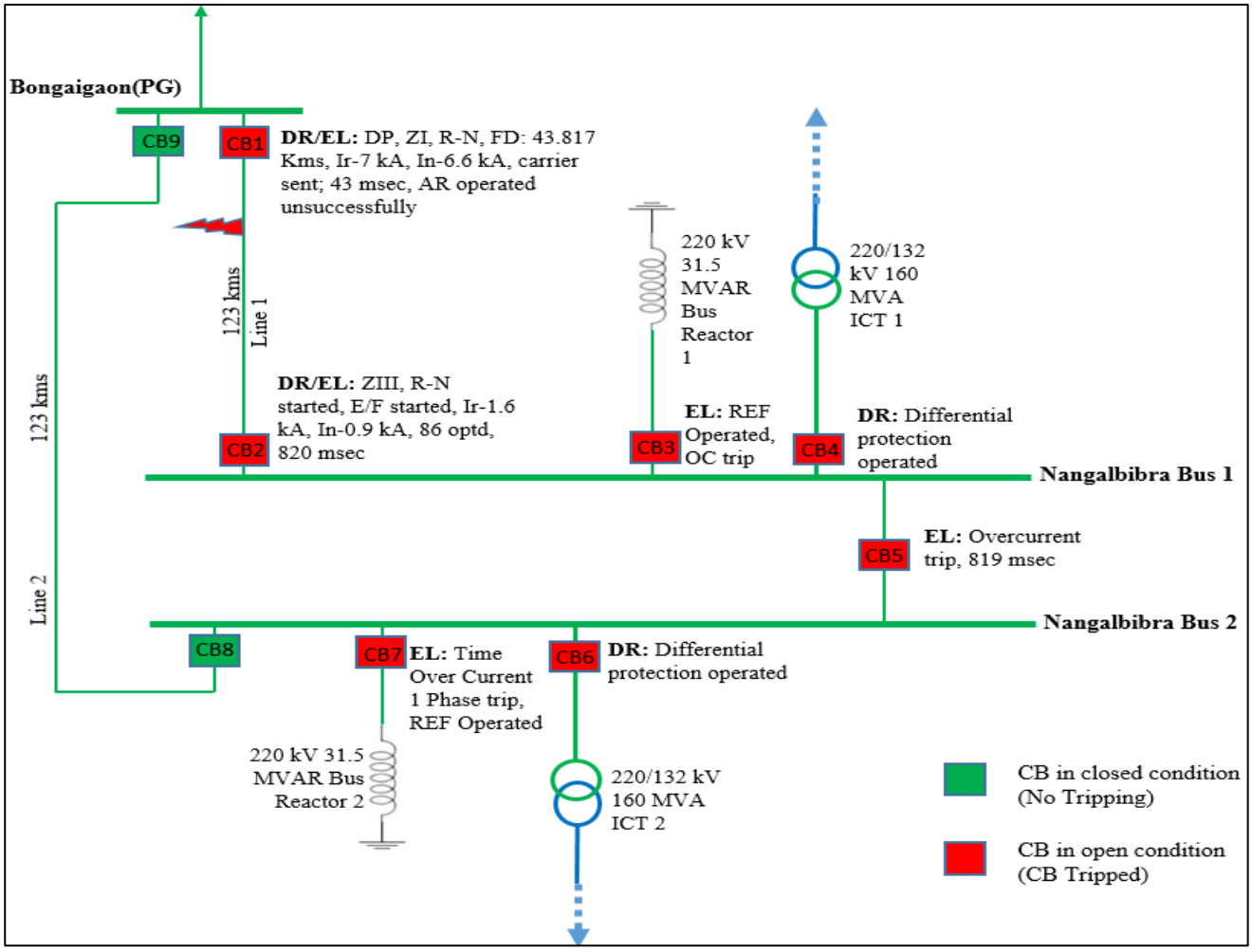
MSPCL may share the root cause and provide update on the above mentioned issues.

B.14 Blackout of 220 kV Bus-I at Nangalbibra(ST) on 26-04-2025:

Nangalbibra(ST) substation is connected with rest of NER grid through 220 kV Bongaigaon-Nangalbibra I & II Lines.

Prior to the event, 220 kV Bongaigaon-Nangalbibra I, 31.5 MVAR B/R-I & 160 MVA ICT-I were connected to 220 kV Bus-I. And, 220 kV Bongaigaon-Nangalbibra II, 31.5 MVAR B/R-II & 160 MVA ICT-II were connected to 220 kV Bus-II.

At 20:44 Hrs of 26-04-2025, 220 kV Nangalbibra Bus-I tripped resulting in tripping of all elements connected to Bus-I. Also, 31.5 MVAR B/R-II & 160 MVA ICT-II tripped.



As per DR analysis, R-N fault (Ir-7 kA, In-6.6 kA) initiated at 20:44:43.000 Hrs which was cleared within 43 msec from Bongaigaon end on operation of DP, ZI (Carrier send). AR operated after a dead time of 1 sec but tripped due to persistent fault. At Nangalbibra end, ZIII and E/F started and Carrier was received. However, CB did not trip. After 820 msec, 86 relay operated at Nangalbibra.

Before clearing of fault from Nangalbibra end for Bongaigaon-1 line, 220 kV Bus coupler at Nangalbibra tripped on Over Current and cleared fault in 819 msec (as per EL, DR file not opening).

Also, 220/132 kV ICT-I & II tripped on differential protection. B/R-I & II tripped on operation of REF protection & OC trip (as per EL, DR file not opening)

Following Observations:

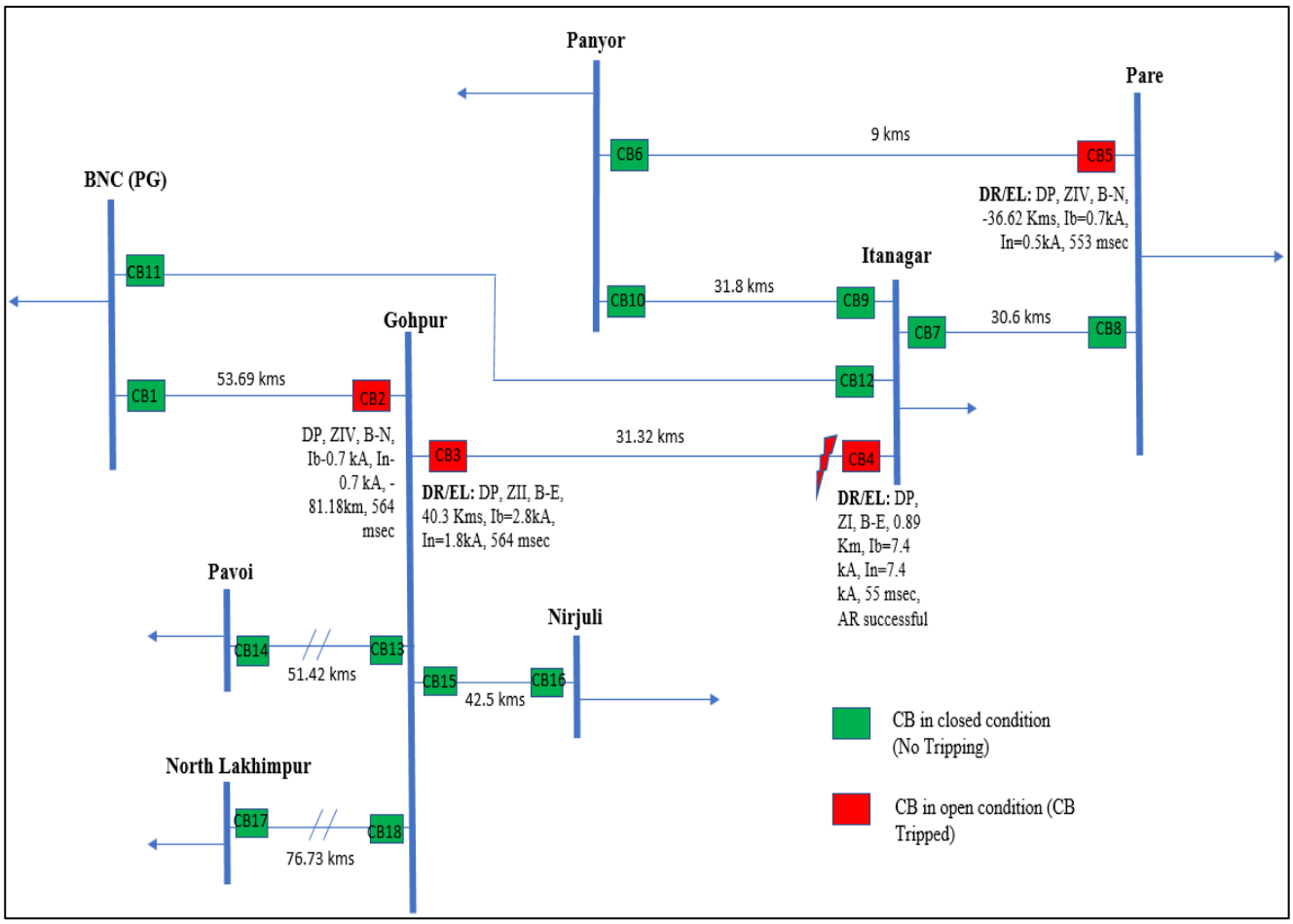
- Non-tripping of Nangalbibra CB despite receiving carrier from Bongaigaon is the cause of concern. NBTL need to check the healthiness of the carrier aided scheme in 220 kV Bongaigaon-Nangalbibra I Line.
- Both ZIII and E/F started at Nangalbibra end for 220 kV Bongaigaon-1 line. However, on which protection CB opened is not clear from the submitted DR.

- Both 200/132 kV ICTs at Nangalbibra tripped on differential protection which seems to be unwanted.
- B/R-I & II tripped on operation of REF protection & OC trip for fault in 220 kV Bongaigaon-Nangalbibra I Line which seems unwanted.
- DR channels of 220/132 kV ICT-I & II at Nangalbibra needs to be standardized as per recommendation in FOLD working group-3.

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

B.15 Multiple tripping on 28-04-2025:

At 10:15 Hrs of 28-04-2025, 132 kV Gohpur-Itanagar, 132 kV Panyor-Pare & 132 kV BNC-Gohpur Lines tripped.



As per DR analysis, B-N fault (Ib-7.4 kA, In-7.4 kA) in 132 kV Gohpur-Itanagar Line initiated at 10:15:15.920 Hrs which was cleared within 55 msec from Itanagar end on operation of DP, ZI (Carrier Send). B-N fault converted into R-Y-N fault (Ir-0.36 kA, Iy-0.56 kA, In-0.9 kA). Fault was cleared within 564 msec from Gohpur end on DP, ZII. Autorecloser operated successfully from Itanagar end.

132 kV BNC (PG)-Gohpur Line tripped on Z4 within 564 msec from Gohpur end. There was no tripping from BNC (PG) end.

At 10:15:24.880 Hrs, 132 kV Panyor-Pare Line tripped on Z4 within 553 msec from Pare end. There was no tripping from Panyor end.

Following observations:

- Carrier was send from Itanagar end to Gohpur end. However, 132 kV Gohpur-Itanagar Line tripped after ZII time delay. AEGCL needs to check the carrier aided tripping scheme at Gohpur.
- AR operated successfully from Itanagar end for 132 kV Gohpur Line. However, AR not attempted at Gohpur end.
- ZII time delay at Gohpur end for 132 kV Itanagar Line needs to be reviewed and set as per NERPC Protection philosophy.
- Tripping of 132 kV Panyor-Pare Line on Z4 from Pare end for fault in 132 kV Gohpur-Itanagar Line seems unwanted. Z4 reach needs to be reviewed.

Similar event occurred on 16.05.2024.

IndiGrid/AEGCL to share the root cause and update the actions taken on the above-mentioned issues.

B.16 <u>Frequent tripping of 132 kV Agartala-Rokhia D/C lines during April, 2025:</u>

132 kV Agartala - Rokhia D/C Lines have tripped eight (8) times in the month of April 2025 which is a matter of serious concern. As per DR analysis, all the faults are solid in nature.

The details of tripping are tabulated as below:

Sl. No.	Element Name	Owner	Tripping Date and Time	DR analysis (End A)	DR analysis (End B)
1	132 kV Agartala - Rokhia 2 Line	TSECL	10-04-2025 20:10	DP, ZI, B-N, Ib-3.3 kA, In-2.6 kA, 61 msec	DP, ZI, R-N, Ir-3.3 kA, In-3.9 kA, 61 msec
2	132 kV Agartala - Rokhia 2 Line	TSECL	11-04-2025 19:05	DP, ZI, B-N, Ib-3.3 kA, In-2.6 kA, 60 msec	DP, ZI, R-N, Ir-3.1 kA, In-3.9 kA, 61 msec
3	132 kV Agartala - Rokhia 2 Line	TSECL	13-04-2025 05:21	DP, ZI, B-N, Ib-3.8 kA, In-2.8 kA, 61 msec	DP, ZI, R-N, Ir-3.8 kA, In-3.8 kA, 60 msec
4	132 kV Agartala - Rokhia 2 Line	TSECL	15-04-2025 17:59	DP, ZI, B-N, Ib-3.8 kA, In-2.8 kA, 60 msec	DP, ZI, Y-N, Iy-3 kA, In-3.6 kA, 60 msec
5	132 kV Agartala - Rokhia 2 Line	TSECL	17-04-2025 08:44	DP, ZI, B-N, Ib-3.4 kA, In-2.7 kA, 59 msec	DP, ZI, R-N, Ib-3.5 kA, In-4.2 kA, 59 msec
6	132 kV Agartala - Rokhia 1 Line	TSECL	17-04-2025 12:47	DP, ZI, R-N, Ir-3 kA, In-2.5 kA, 72 msec	DP, ZI, Y-N, Iy-3.1 kA, In-3.5 kA, 60 msec
7	132 kV Agartala - Rokhia 1 Line	TSECL	28-04-2025 10:34	DP, ZI, Y-N, Iy-10 kA, In-9.9 kA, 72 msec	DP, ZI, R-N, Ir-1.8 kA, In-2.3 kA, 60 msec
8	132 kV Agartala - Rokhia 2 Line	TSECL	28-04-2025 10:35	DP, ZI, B-N, Ib-5.8 kA, In-5.2 kA, 70 msec	DP, ZI, R-N, Ir-1.9 kA, In-2.5 kA, 58 msec

Such repeated tripping is a cause of concern as it threatens the reliability of the Tripura Power System.

Therefore, TSECL is requested to carry out regular patrolling of these lines and carry out measurement of tower footing resistance of all towers to know whether the values are within permissible limit.

Also, phase sequence issue is observed in 132 kV Agartala - Rokhia D/C Lines which needs to be rectified by TSECL.

Members may discuss.

B.17 <u>Mapping of UFR in the SCADA Display for real time monitoring:</u>

As per Clause 29(13)(d) of IEGC-23, SLDC shall ensure that telemetered data of feeders (MW power flow in real time and circuit breaker status) on which UFR and df/dt relays are installed is available at its control centre.

At present, mapping of UFR in SCADA display is available for 4 states namely, **Assam, Meghalaya, Nagaland & Tripura.**

Arunachal Pradesh, Manipur & Mizoram are requested to map UFR data in SCADA display in compliance with IEGC-23.

B.18 Status update on AR of lines and Carrier communication details:

NERLDC has prepared a google spreadsheet comprising the list of important transmission lines of NER for maintaining database of AR of lines and Carrier communication details.

https://docs.google.com/spreadsheets/d/1WJHNBlzfqyewZT5G8escBY-dbgo1t8ZMZZ1j5N7Wal0/edit?pli=1&gid=1763021158#gid=1763021158

Status as on 13.05.2025:

Sl. No.	Name of Utilities	AR status and Communication details	Remarks
1	KMTL	Not updated	
3	NEEPCO	Not updated	
4	NHPC	Not updated	
5	NTPC	Not updated	
6	OTPC	Not updated	
7	POWERGRID	Partially updated	
8	IndiGrid	Updated	
9	NBTL	Updated	
10	MUML	Updated	
11	DoP Arunachal Pradesh	Updated	
12	TSECL	Not updated	
13	TPGCL	Not updated	
14	DoP Nagaland	Updated	
15	MePTCL	Updated	
16	MePGCL	Not updated	
17	MSPCL	Not updated	
18	P&ED Mizoram	Not updated	
19	AEGCL	Updated	
20	APGCL	Updated	

All utilities are requested to update the google spreadsheet.

B.19 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.

NERLDC has prepared a google sheet with substation wise and feeder wise details of each state for maintaining a database of DR parameter standardization.

https://docs.google.com/spreadsheets/d/1ddce-tJov-G_EUCx_ansmfo1W3VN0F5yLec8SyT3l3U/edit?gid=1889122402#gid=1889122402

Status as on 13.05.2025:

Sl. No.	Name of Utilities	DR parameter standardization	Remarks
1	KMTL	Not updated	
2	NETC	Not updated	
3	NEEPCO	Not updated	
4	NHPC	Not updated	
5	NTPC	Standardized	
6	OTPC	Not updated	
7	POWERGRID	Standardized	
8	IndiGrid	Not updated	
9	NBTL	Nangalbibra ICT-I&II not standardized	
10	MUML	Standardized	
11	DoP Arunachal Pradesh	Not updated	
12	TSECL	Not updated	
13	TPGCL	Not updated	
14	DoP Nagaland	Not updated	
15	MePTCL	Partially completed	

16	MePGCL	Partially completed	
17	MSPCL	Yet to be standardized	
18	P&ED Mizoram	Standardized (limited to available facility)	
19	AEGCL	Not updated	
20	APGCL	Not updated	

All utilities are requested to update status of DR standardization as per recommendation in FOLD working group-3.

B.20 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.

NERLDC has prepared a google spreadsheet containing substations of each state.

https://docs.google.com/spreadsheets/d/1TcBdI5acaD_yXrGzXbM6VYRirhU3j2utSy1IChN1HwU/edit?gid=0#gid=0

Status as on 13.05.2025:

Sl. No.	Name of Utilities	Relay setting details	Remarks
1	KMTL	Not updated	
2	NEEPCO	Partially updated	
3	NHPC	Not updated	
4	NTPC	Updated	
5	OTPC	Not updated	
6	POWERGRID	Partially updated	
7	IndiGrid	Not updated	
8	NBTL	Not updated	
9	DoP Arunachal Pradesh	Not updated	

10	TSECL	Partially updated	
11	TPGCL	Not updated	
12	DoP Nagaland	Updated	
13	MePTCL	Updated	
14	MePGCL	Updated	
15	MSPCL	Partially updated	
16	P&ED Mizoram	Updated	
17	AEGCL	Not updated	
18	APGCL	Not updated	

All utilities are requested to review and update relay settings in the google spreadsheet.

B.21 Insulator details pertaining to the important transmission lines of NER Power System:

Due to the upcoming monsoon season, it is of upmost importance to ensure healthiness of insulators pertaining to the important transmission lines of NER Power System.

In view of this, NERLDC has prepared a Google spreadsheet detailing the list of Important transmission lines in NER, tabulated by voltage level.

https://docs.google.com/spreadsheets/d/1e01XwENPs9axtT-XlNpEOTEjM6x9-vwpq6-AoJBWH_E/edit?usp=sharing

All the utilities are requested to furnish the insulator type along with date of installation.

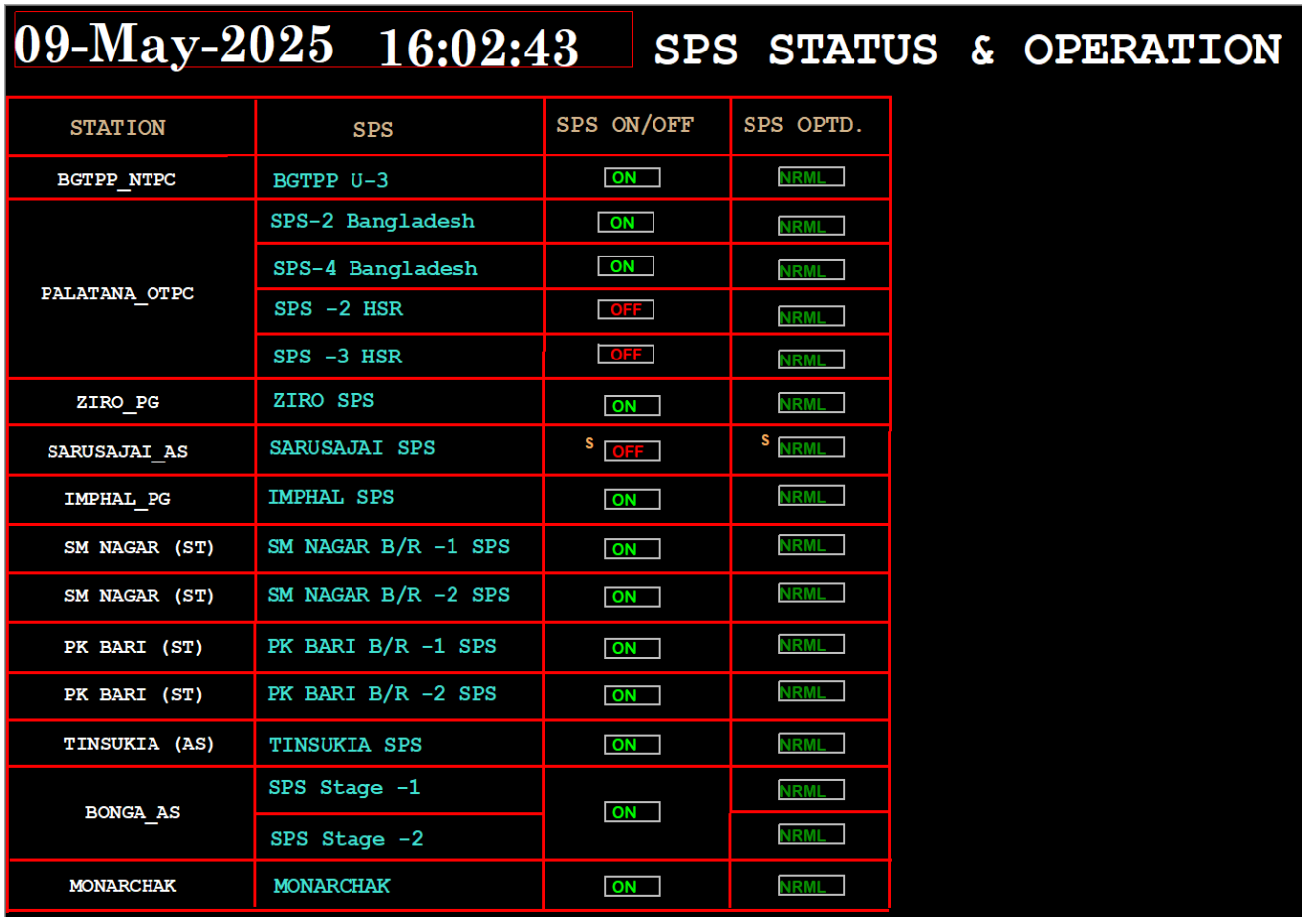
B.22 Mapping of SPS in the SCADA Display for real time monitoring of all SPS:

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



09-May-2025 16:02:43 SPS STATUS & OPERATION

STATION	SPS	SPS ON/OFF	SPS OPTD.
BGTPP_NTPC	BGTPP U-3	ON	NRML
PALATANA_OTPC	SPS-2 Bangladesh	ON	NRML
	SPS-4 Bangladesh	ON	NRML
	SPS -2 HSR	OFF	NRML
	SPS -3 HSR	OFF	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	ON	NRML
SM NAGAR (ST)	SM NAGAR B/R -2 SPS	ON	NRML
PK BARI (ST)	PK BARI B/R -1 SPS	ON	NRML
PK BARI (ST)	PK BARI B/R -2 SPS	ON	NRML
TINSUKIA (AS)	TINSUKIA SPS	ON	NRML
BONGA_AS	SPS Stage -1	ON	NRML
	SPS Stage -2		NRML
MONARCHAK	MONARCHAK	ON	NRML

Sl. No.	SPS under operation	Long term measures	SPS mapping status in SCADA (YES/No) as per 78th PCCM
1	**Related to Generation evacuation from Monarchak(NEEPCO) Power Plant -** 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 RLDC during April'25**
2	**SPS related to outage of 220 Misa-Samaguri DC:** **On tripping of 220 kV Misa-Samaguri DC:** 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 May'25
3	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 May'25
4	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	**Done as informed by Meghalaya during 78th PCCM**.

			Latest status at NERLDC: Yet to be done.
5	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	Reconductoring of 132 kV Khliehriat – Leshka D/C	**Done as informed by Meghalaya during 78th PCCM**. **Latest status at NERLDC :** Yet to be done.
6	Related to 132kV SM Nagar(ISTS) - SM Nagar line to prevent Overloading	i) Commissiong 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	Done as informed by TPTL during 78th PCCM. **Latest status at NERLDC:** As per NERLDC SCADA team, data point yet to be mapped first at SLDC then RLDC.

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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 78th PCCM, NERLDC informed that all the concerned states have provided the progress report till March'25. Further, NERPC stated that the quarterly report for Jan'25-Marhch'25 quarter will be submitted to CERC 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 78th 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 (78th 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	Wiring done. Testing to be done in next shutdown by the end of 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	LLG fault. IL1 1.06kA IL2 0.88 kA FD: 63.3 km (	Aizawl(PGCIL)	Carrier signal issue at Tipaimukh end. MSPCL to check the time delay settings

			opening , No Carrier aided tripping	A/R Successful)		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. Matter to be taken up in NERSIP review meeting
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. Work to be done in shutdown on 23.04.2025

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 Successful	Bokajan (AEGCL)	Issues with pneumatic breakers at Bokajan end. New CBs in transit, to reach the site by end of June'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: 67.724Kms, A/R Operated Successfully	Daporijo (DoP AP)	Issue with pneumatic CBs. Testing to be done in next shutdown
8	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)	End to end testing will be done in coordination with NERTS to resolve the AR issue at AGTCCPP.
9	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)	Basar SS is not handed over to DoP. Issue to be resolved jointly by DoP, AP And NER Comprehensiv

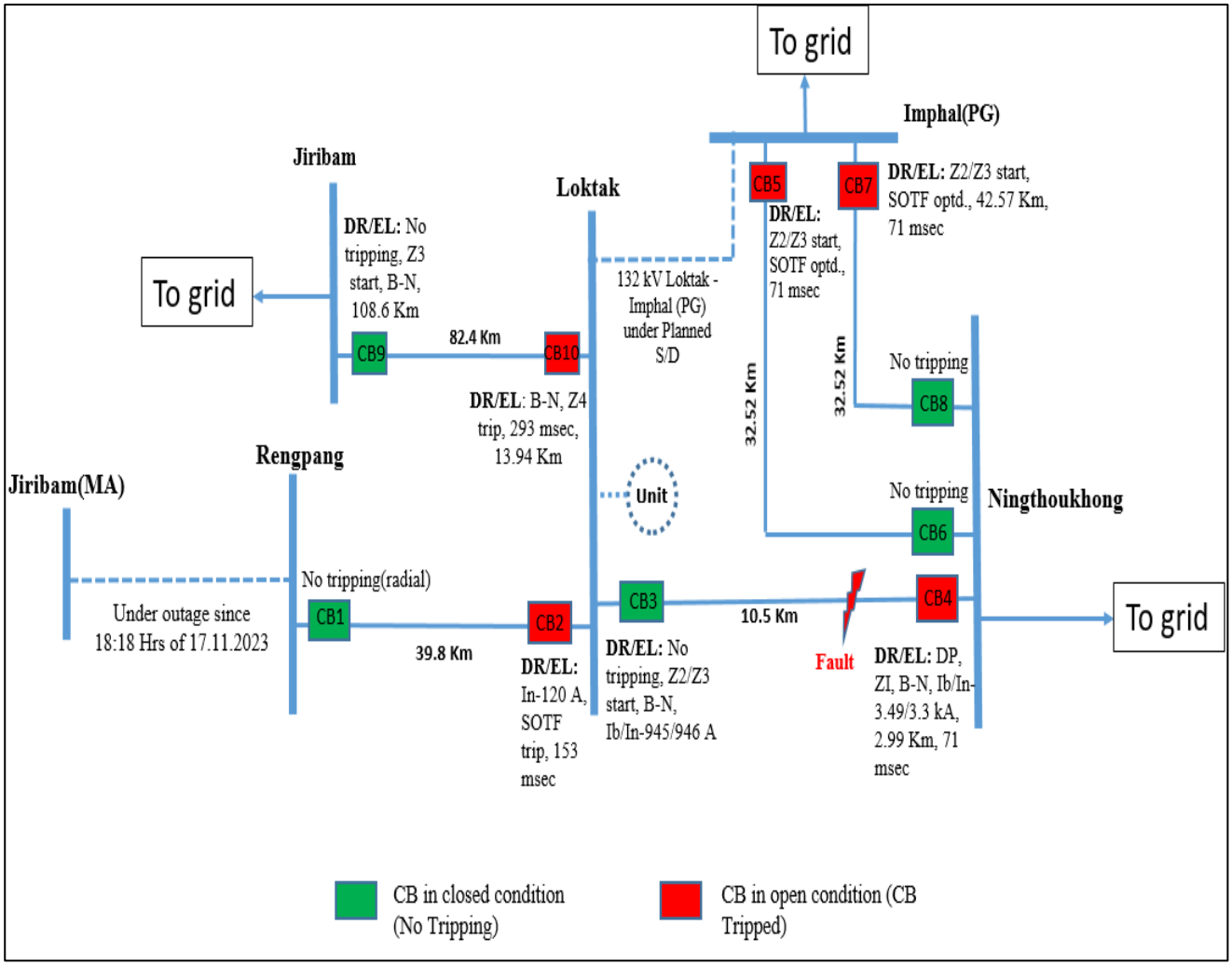
						e team of Powergrid

Utilities may update

C.3 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)-Ninghtoukhong 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.

Deliberation of the 78th PCC

PowerGrid informed, regarding tripping of Imhpal-Ningthounkong lines on SOTF, that there was some configuration issue and same has been rectified.

NHPC informed that there is no LBB protection at Loktak S/S and Z4 time delay was kept at 200-250 msec at Loktak for 132 kV Jiribam Line.

Forum directed NHPC to –

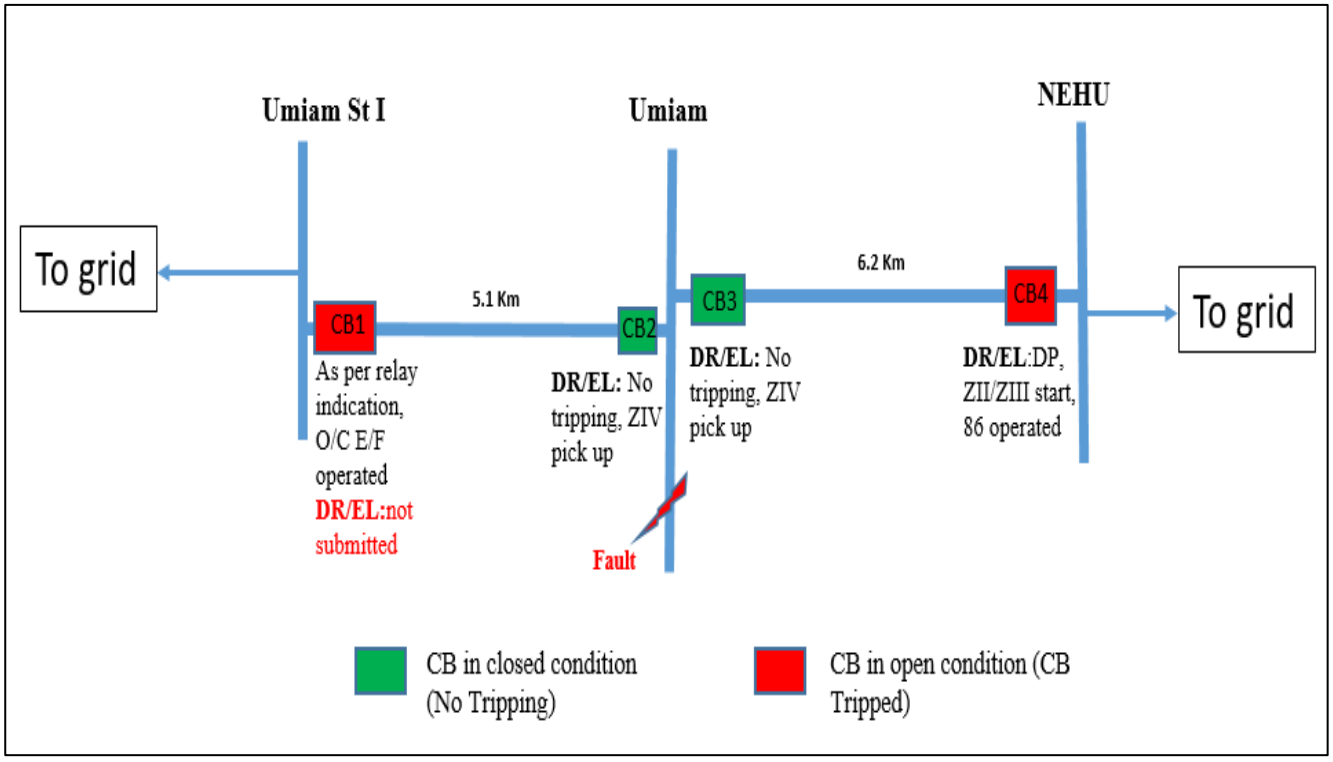
1. Implement PLCC and Line differential protection on the Loktak Ningthounkong (10.5 Km) line
2. Review and rectify the Z4 timing and reach at Loktak end for the Jiribam line
3. Rectify the SOTF issue at Loktak end for Rengpang line.

Submit detailed report of the grid event at Loktak

NHPC may update

C.4 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

Deliberation of the 78th PCC

MePGCL updated that fault occurred at Umiam substations due to blasting of R-phase CT blast at 132 kV Umiam S/S for 132 kV Umiam – NEHU line. The same line tripped on LDP protection at NEHU end & CB opening delayed at Umiam end. However, 132 kV Umiam St-I – Umiam Line tripped early from Umiam Stg-I.

MePTCL informed that unwanted tripped occurred at Umiam St I due to OC Highset enabled resulted into early clearance from Umaim St I.

Further, he informed that there is no distance protection at the Umiam stg I end for the Umiam line and also there are no LDP for the lines due to non-availability of the OPGW links.

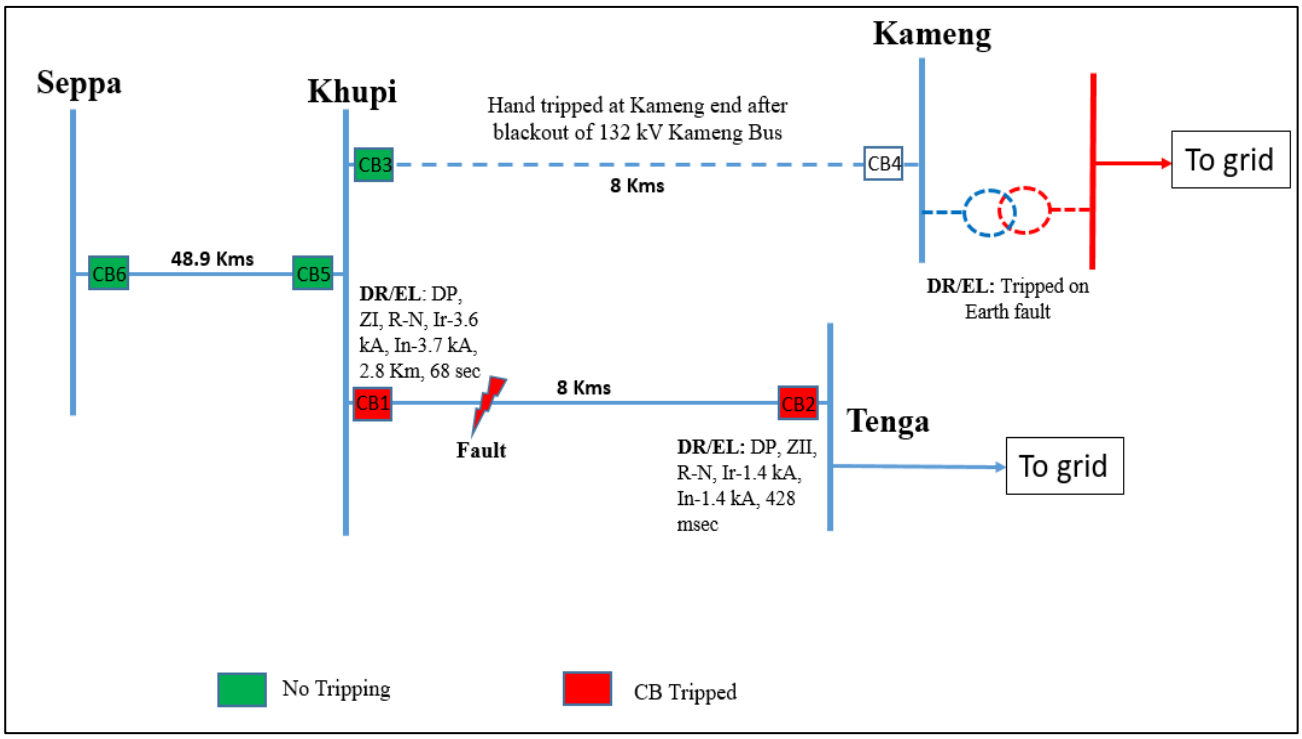
Forum suggested MePGCL that High set to be disabled at Umiam St I.

Forum requested MePGCL to install the Distance protection at Umiam stg I at the earliest and install OPGW on the lines and enable the LDP.

MePGCL may update

C.5 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.

As per 78th PCC minutes, NEEPCO updated, regarding tripping of ICT at Kameng, that a tree branch fell on the ICT during the inclement weather. NERPC raised concern that tripping is related to Fault in the Khuppi-Tenga line and there may be issue with the B/U protection settings of the ICT. Forum opined that B/U protection coordination is required and requested NERPC secretariat to resolve the coordination issue through a special meeting with NERLDC, NEEPCO, PowerGrid and Arunachal Pradesh

C.6 Status on resolution of protection issues as discussed in 78th and 77th PCCM

SN	***Protection issues to be resolved as decided in 77th and 76th PCCM***	***Concerned Utility***	***Previous status***	***Latest status (79th PCCM)***
1.	LDP on Rokhia-N.Rokhia link	TSECL	RoW issue resolved. Work to be completed by next PCC	
2.	BB protection stability test at Doyang	NEEPCO	Price offer awaited from ABB. ABB persons will come in end of May'25	
3.	Modification of SPS Scheme related to the outage of 132 kV Leshka –Khliehriat D/C after LILO at 132 kV Mynkre S/S	MePTCL	Matter has been taken up with NERPSIP. Also, Protection coupler is not present there, in talk with ABB	
4.	**Grid Disturbance in Tuirial S/S of NEEPCO & Kolasib and Bairabi areas of Mizoram Power**	MIzoram	Mizoram to conduct relay testing for checking the healthiness for 132 kV Kolasib – Tuirial and	

	System on 20-03-2025: Protection system of 132 kV Kolasib-Turial line failed to isolate the fault. P&ED Mizoram needs to ensure healthiness of protection system of 132 kV Kolasib-Tuirial line.		132 kV Kolasib – Bairabi line.	
5.	**Grid Disturbance in Mawlyndep area of Meghalaya Power system on 23-03-2025**: "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.	MePTCL	NERLDC highlighted in 78th PCCM that there was no carrier aided tripping at Mustem despite carrier received from Mawlyndep end. Forum directed MePTCL to look into and resolve the matter at the earliest and install GPS.	

Utilities may update

C.7 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 78th PCCM –

Name of utility	**Last updated status (77th/76rd/75nd PCCM)**	**Status as per 78th 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	Revised DPR submitted in last month, Pending with PSDF
MSPCL	DPR under preparation, to be submitted within one month.	DPR to be revised. State funding being explored.
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. 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 sent to NLDC in Dec'24. 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. 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.	DPR prepared and planning to do under SASCI (Special Assistance to States Capital investment)
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 7 months back. MS NERPC requested to send the revised DPR.

Utilities may further update

****

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड

GRID CONTROLLER OF INDIA LIMITED

Formerly Power System Operation Corporation Limited

North Eastern Regional Load Despatch Centre, Shillong

अप्रैल, 2025 माह के लिए ग्रिड घटना की विस्तृत विश्लेषण रिपोर्ट

Detailed Analysis Report of Grid Event for the month of April, 2025

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13	Grid Disturbance in Seppa area of Arunachal Pradesh Power system	GD-I	15:47 Hrs of 24-04-2025	64-66
14	Grid Disturbance in 132 kV Kameng S/S of NEEPCO & Tenga, Khupi and Dikshi areas of Arunachal Pradesh Power system	GD-I	18:15 Hrs of 24-04-2025	67-73
15	Grid Disturbance in Tezu and Namsai areas of Arunachal Pradesh Power system	GD-I	16:11 Hrs of 25-04-2025	74-78
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ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Umiam area of Meghalaya of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):23-04-2025

1. **Event Summary (घटना का सारांश):**

Umiam area of Meghalaya Power System were connected with rest of NER Grid through 132 kV NEHU - Umiam Line and 132 kV Umiam - Umiam St I Line.

At 01:55 Hrs of 01-04-2025, 132 kV NEHU - Umiam Line and 132 kV Umiam - Umiam St I Line tripped. Due to tripping of these elements, Umiam area of Meghalaya Power System got isolated from NER Grid and collapsed due to no source available in this area.

Power supply was extended to Umiam area of Meghalaya Power System by charging 132 kV NEHU - Umiam Line at 03:11 Hrs of 01-04-2025.

2. **Time and Date of the Event (घटना का स मय और दिनांक):** 01:55 Hrs of 01-04-2025

3. **Event Category (ग्रिड घटना का प्रकार):** GD-I

4. **Location/Control Area** (स्थान/नियंत्रण क्षेत्र): Umiam area of Meghalaya Power System

5. **Antecedent Conditions (पूर्ववर्ती स्थिति):**

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.96	1840	2039
Post Event (घटना के बाद)	49.96	1806	2025

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 13 MW

3. **Duration of interruption (रुकावट की अवधि):** 1 hr 16 mins.

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

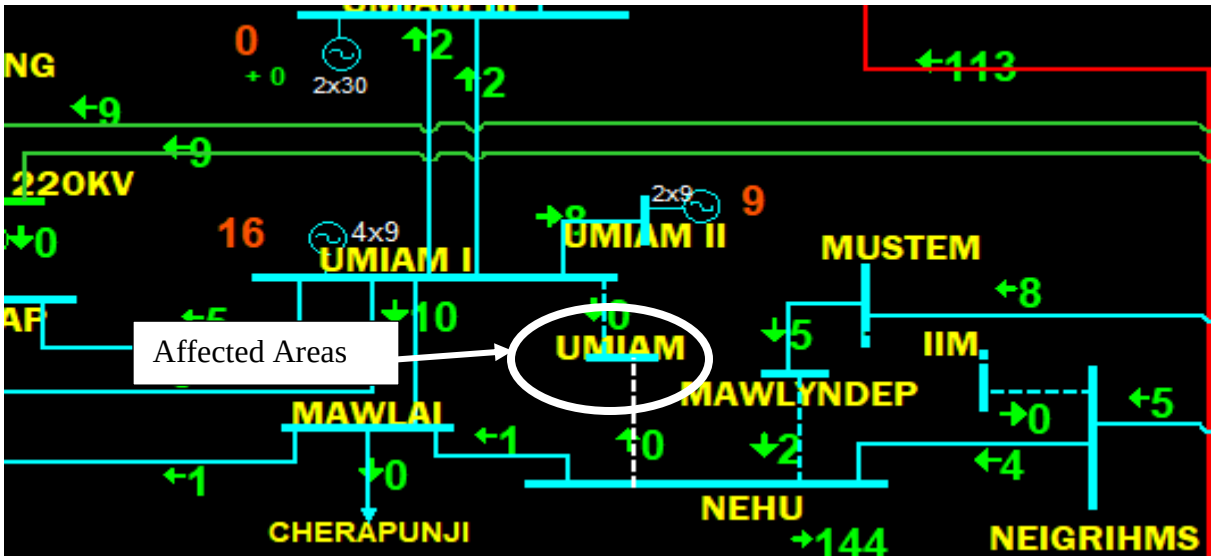


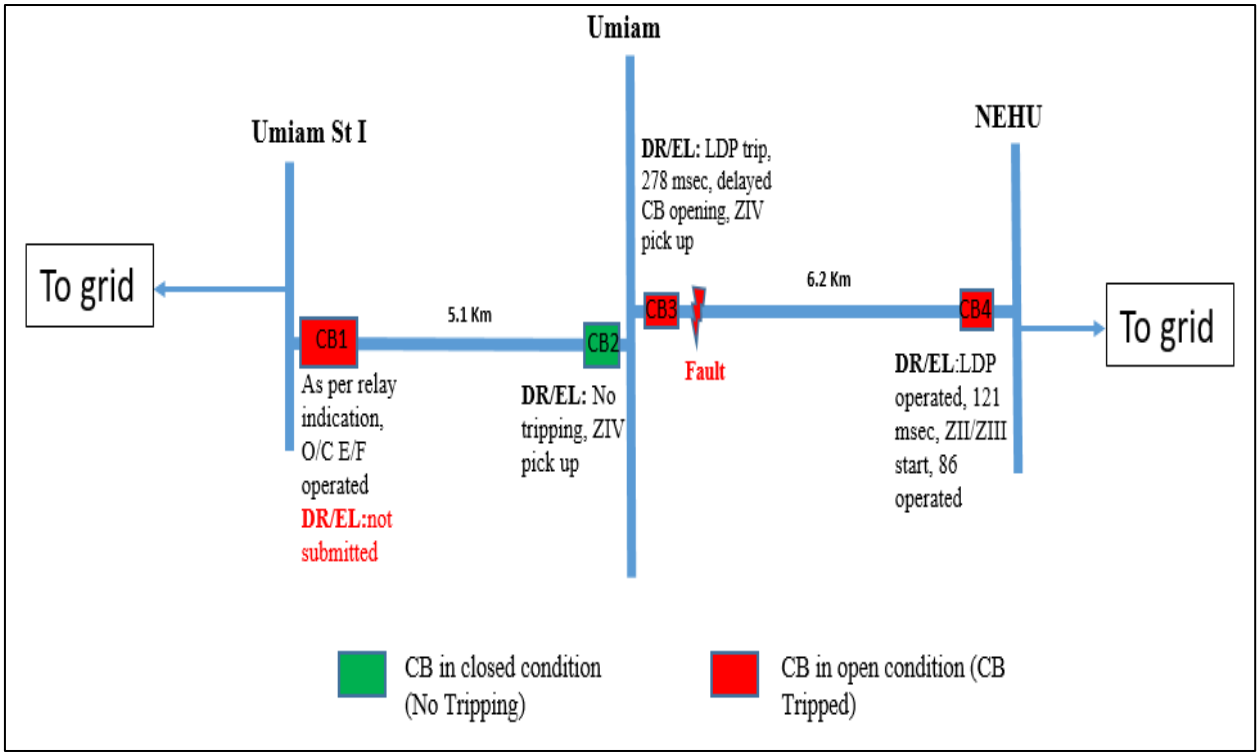
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 NEHU - Umiam Line	01:55	03:11	LDP operated, DP, ZII/ZIII start, 86 operated	LDP operated, delayed CB opening, ZIV pickup
2	132 kV Umiam - Umiam St I Line	01:55	-	No Tripping, ZIV pickup	O/C, E/F Operated

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



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 on operation of Line differential protection. ZII/ZIII start and 86 operated at 01:55:31.202 Hrs. At 01:53:24.150 Hrs, LDP issued trip command at Umiam end. However, CB did not open instantaneously. After 223 msec, CB at Umiam opened. Z4 pickup at Umiam end.

132 kV Umiam Stg-I-Umiam Line tripped at Umiam Stg-I end due to operation of highset O/C protection which is inferred unwanted. Z4 started at Umiam end (no tripping) and fault current disappears after 255 msec.

As per FIR, R-phase CT burst of 132 kV Umiam-NEHU line at 132 kV Umiam S/S.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Delayed CB opening at Umiam end for 132 kV NEHU-Umiam line even after issuance of LDP trip command.
- Unwanted tripping of 132 kV Umiam St I-Umiam Line as OC Highset was enabled resulted into early clearance from Umaim St I.

- Non-availability of distance protection in 132 kV Umiam Stg-I – Umiam Line.
- SOE not recorded for tripping of 132 kV Umiam Stg-I-Umiam Line. The same needs attention from Meghalaya.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय):

- Reason of delayed CB opening at Umiam for 132 kV NEHU line is suspected to be due to mechanical reasons or may be due to damaged CB cable resulted from blasting of CT.
- In 78th PCC meeting, MePGCL informed the forum that High set to be disabled at Umiam St I. Also, OEM suggested to adopt the relay setting of Ganol Hydro project at Umiam St I.
- Forum raised concern over non-availability of DP (21) relay at Umiam St I for the line and requested to replace the relay with LDP & DP features in the same relay.

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**MePTCL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**MePTCL (submitted on 20.04.2025)**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 1 Hour observed at Umiam end for 132 kV Umiam St I Line**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

- MePTCL is requested to ensure that patrolling related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis and measures may be identified and implemented at the earliest so as to minimize tripping of these lines.
- Healthiness of protection system needs to be ensured at all times.

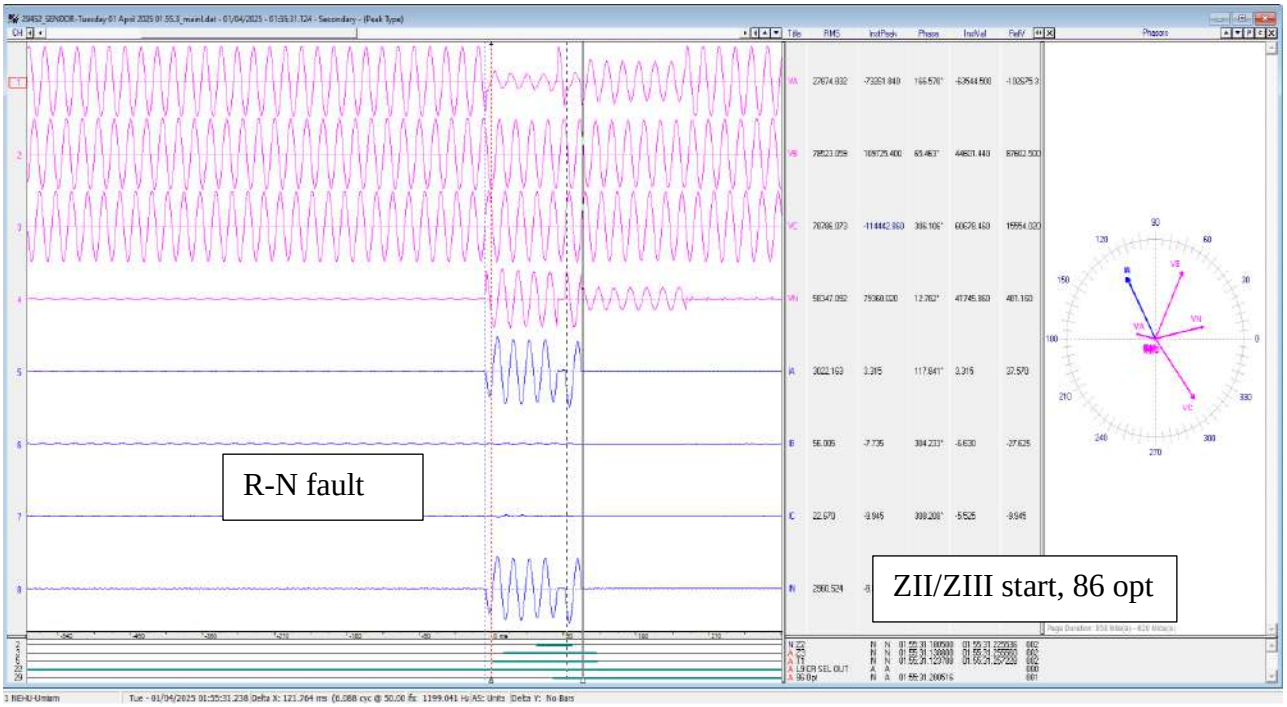
Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
---	---	---	---	---	---	---
MEECL	1C	NWUMT_ME	NEW UMTRU CB 132 KV UNIT (H02) OPEN	01 Apr 2025 01:48:22:000	01 Apr 2025 01:47:53:000	4.62E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 11 KV UNIT (G03) CLOSED	01 Apr 2025 01:59:54:000	01 Apr 2025 01:51:02:000	1.68E+08
MEECL	1C	NEHU__ME	NEHU CB 132Kv LINE-1 TO UMIAM OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:15:000	4.59E+08
MEECL	1C	UMIA1_ME	UMIAM I CB 11 KV UNIT (H02) OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:16:000	3.03E+08
MEECL	1C	UMIA2_ME	UMIAM II CB 11 KV UNIT (H01) OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:16:000	2.12E+08
MEECL	1C	UMIA2_ME	UMIAM II CB 11 KV UNIT (H02) OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:16:000	2.05E+08
MEECL	1C	UMIAM_ME	UMIAM CB 132Kv LINE-1 TO NEHU_ OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:16:000	9.89E+08
MEECL	1C	UMIAM_ME	UMIAM CB 132/33 T2 (PRIM) OPEN	01 Apr 2025 01:55:55:000	01 Apr 2025 01:55:16:000	9.23E+08
AEGCL	1C	MISA__PG	MISA CB 400/220/33 T1 (SEC) OPEN	01 Apr 2025 15:42:37:000	01 Apr 2025 15:42:36:000	7.18E+08
MEECL	1C	UMIAM_ME	UMIAM CB 132Kv LINE-1 TO NEHU_ CLOSED	01 Apr 2025 15:43:24:000	01 Apr 2025 15:42:54:000	44000000
NAGALD	1C	MOKOK_NA	MOKOKCHUNG CB 66Kv LINE-1 TO ZUHEN CLOSED	01 Apr 2025 15:51:13:000	01 Apr 2025 15:50:39:000	7.77E+08
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO BALIP OPEN	01 Apr 2025 15:51:13:000	01 Apr 2025 15:50:48:000	1.69E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

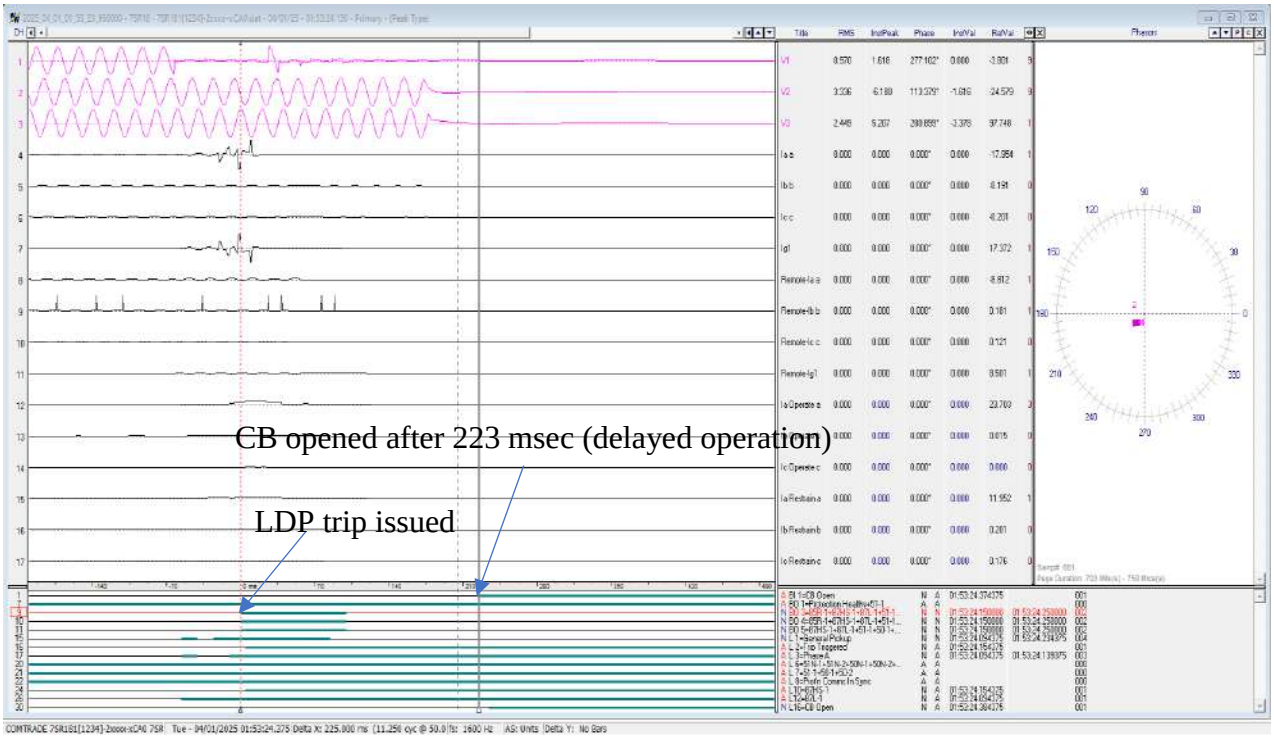
2.1. DR Snapshot of NEHU for 132 kV NEHU-Umiam Line

Distance Protection

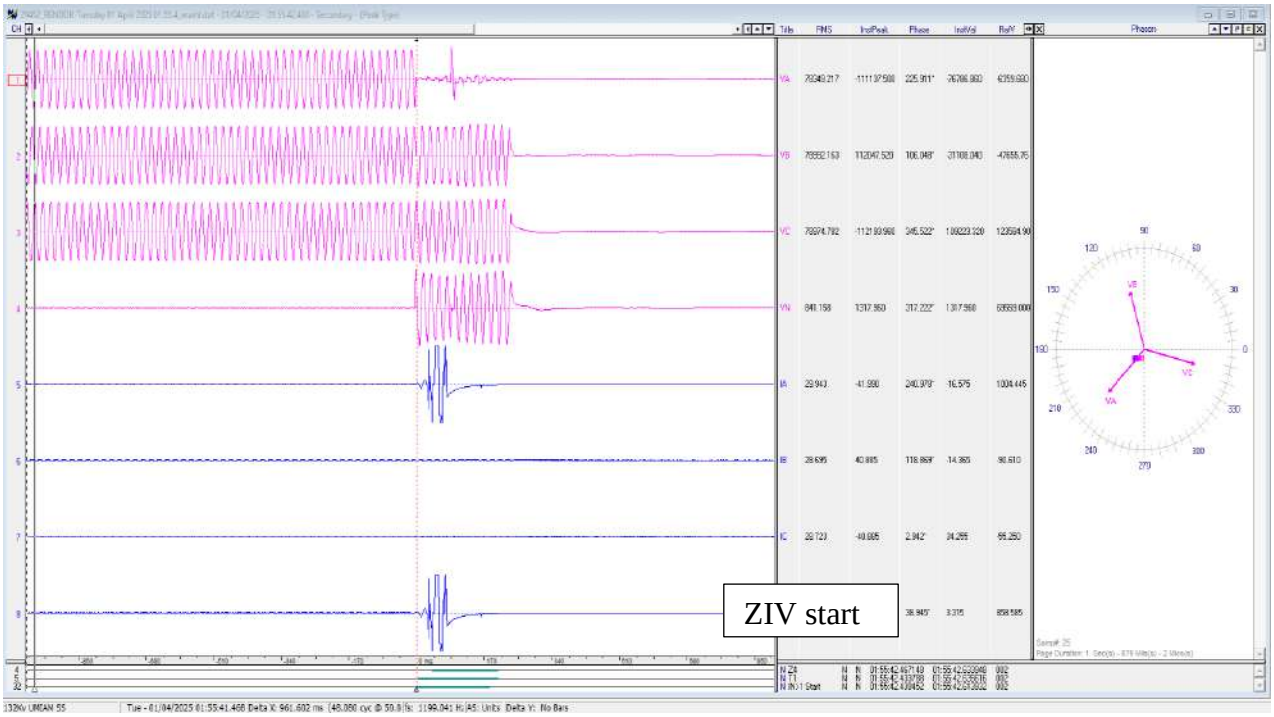


2.2. DR Snapshot of Umiam for 132 kV NEHU-Umiam Line

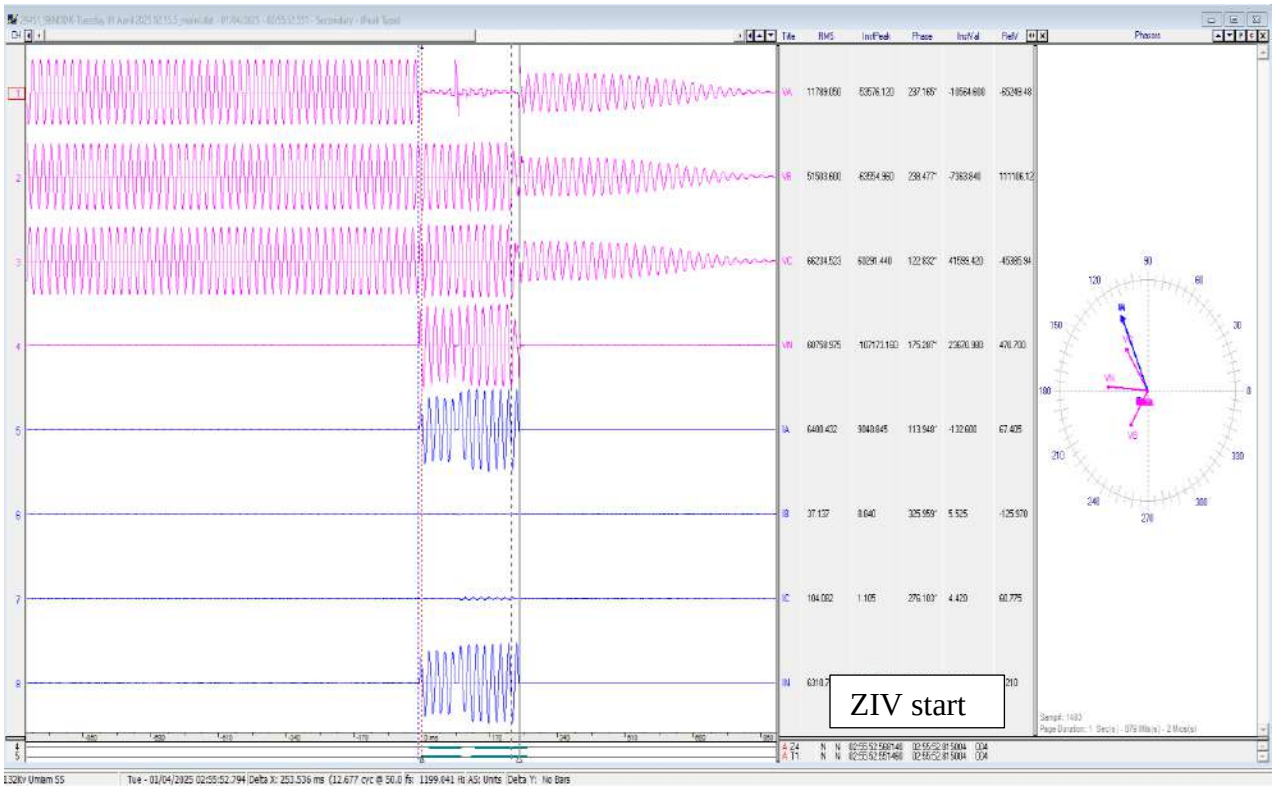
Line differential Protection



Distance protection



2.3. DR Snapshot of Umiam for 132 kV Umiam Stg I-Umiam Line



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CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Rengpang area of Manipur of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):22-04-2025

1. Event Summary (घटना का सारांश):

Rengpang area of Manipur Power System was connected with rest of NER Grid through 132 kV Loktak-Rengpang line. Prior to the event, 132 kV-Jiribam-Rengpang line was under long outage since 18:18 Hrs of 17.11.2023.

At 21:12 Hrs of 05-04-2025, 132kV Loktak-Rengpang line tripped. Due to tripping of this element, Rengpang area of Manipur Power System was isolated from NER Grid and collapsed due to no source available in this area.

Power supply was extended to Rengpang area of Manipur Power System by charging 132 kV Loktak-Rengpang line at 16:22 Hrs of 07-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 21:12 Hrs of 05-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Rengpang area of Manipur

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.01	2634	2786
Post Event (घटना के बाद)	50.01	2627	2814

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132kV-Jiribam-Rengpang line was under long outage since 18:18 Hrs of 17.11.2023
Weather Condition (मौसम स्थिति)	Rainy/stormy

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 1 MW

3. **Duration of interruption (रुकावट की अवधि): 1 day 19 Hr 10 min**

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

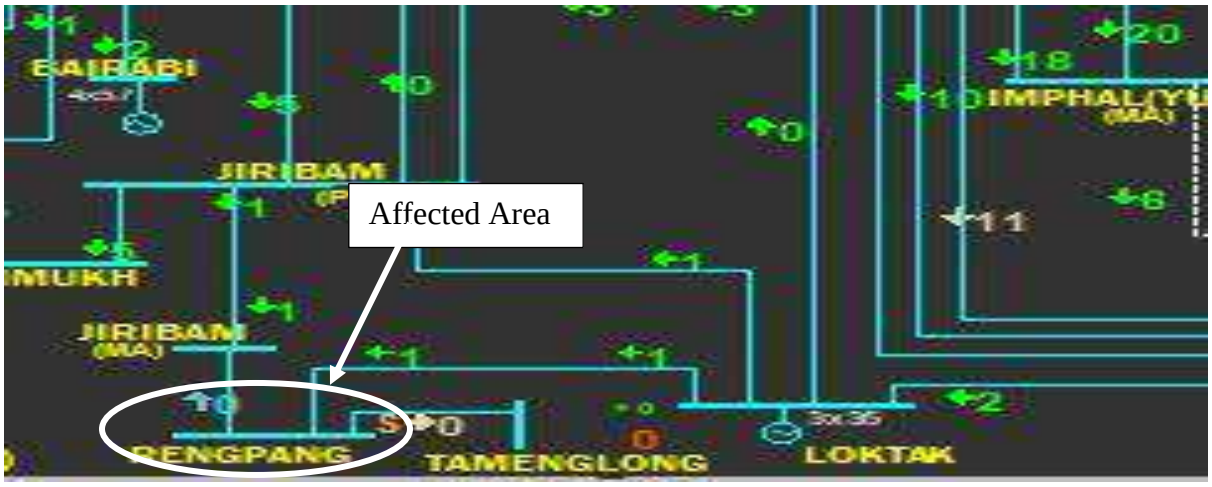


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Loktak-Rengpang Line	21:12	16:22 Hrs of 07.04.2025	DP, Z1, 15.44 Km, SOTF	No tripping (radial)

7. **Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):**

As per DR analysis, resistive B-N fault (Ib-2.1 kA, In-2.1 kA) initiated at 21:12:33.386 Hrs which was cleared within 69 msec on operation of DP, ZI from Loktak end. Also, at 21:12:33.410 Hrs, SOTF/TOR trip. There was no tripping from Rengpang end (radial).

Fault is likely due to vegetation. (Angle between: -18 deg)

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- DR Pre-fault current shows 0 A in R, Y & B phases at Loktak end. The same needs to be checked by NHPC.
- SOTF/TOR trip observed at Loktak end which is inferred unwanted.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**MSPCL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**MSPCL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

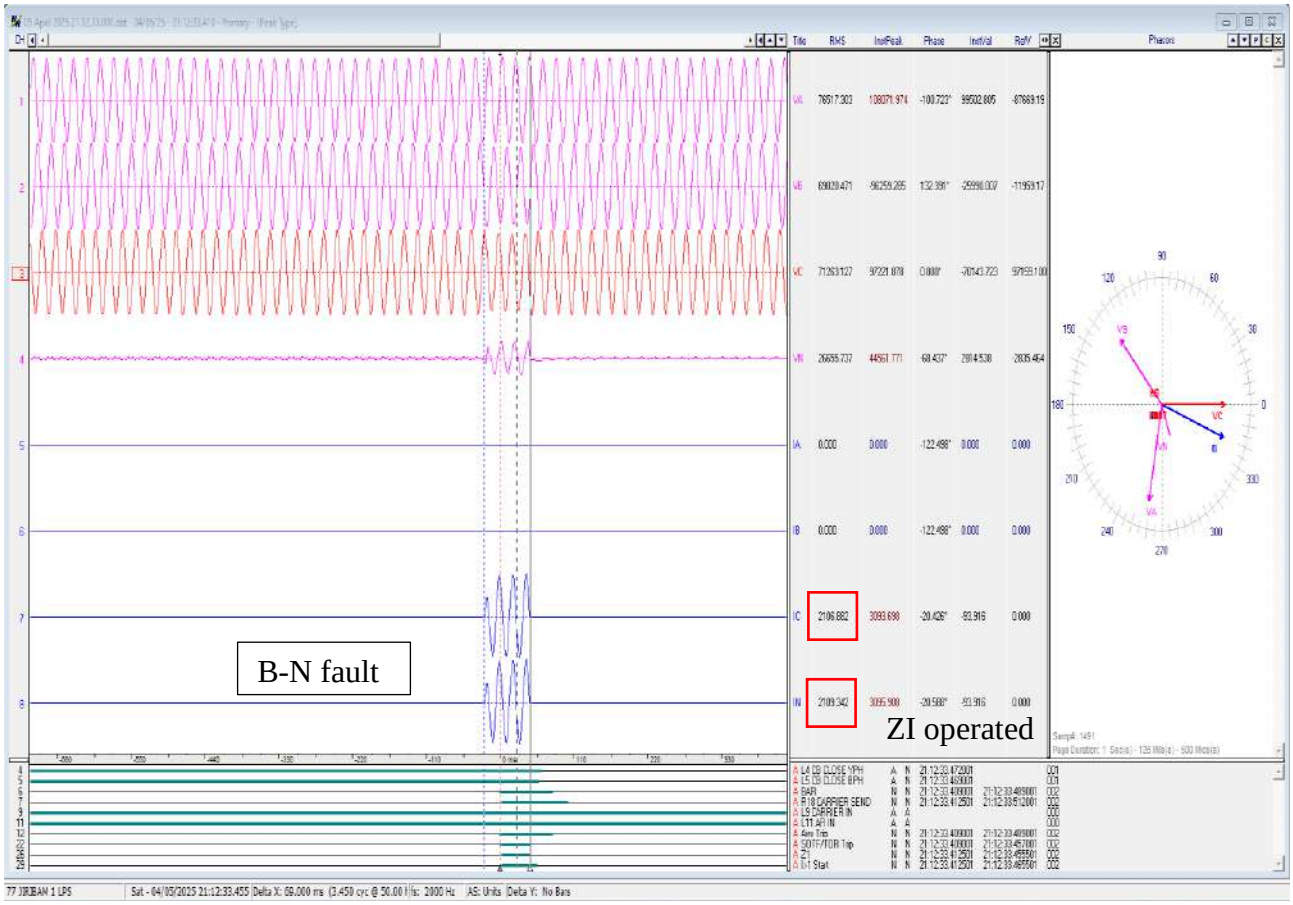
Proper patrolling and maintenance related activities needs to be undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGOR	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
MSPCL	1C	LOKTA_NH	LOKTAK CB 132Kv LINE TO NINGT CLOSED	05 Apr 2025 01:13:00:000	05 Apr 2025 01:12:59:000	8.1E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 11 KV UNIT (H02) CLOSED	05 Apr 2025 17:45:33:000	05 Apr 2025 08:16:14:000	1.13E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 11 KV UNIT (H02) OPEN	05 Apr 2025 21:01:28:000	05 Apr 2025 11:32:09:000	5.71E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132Kv LINE TO RENGP OPEN	05 Apr 2025 21:12:34:000	05 Apr 2025 11:43:16:000	2.06E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 11 KV UNIT (H01) CLOSED	05 Apr 2025 17:20:04:000	05 Apr 2025 17:19:27:000	4.61E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) OPEN	05 Apr 2025 21:12:34:000	05 Apr 2025 21:11:58:000	3.08E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) CLOSED	05 Apr 2025 21:19:05:000	05 Apr 2025 21:18:27:000	1.24E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 11 KV UNIT (H01) OPEN	05 Apr 2025 21:32:17:000	05 Apr 2025 21:31:41:000	2.07E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) OPEN	05 Apr 2025 21:39:34:000	05 Apr 2025 21:38:57:000	2.5E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) CLOSED	05 Apr 2025 21:46:38:000	05 Apr 2025 21:46:00:000	6.52E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1 DR snapshot of Loktak end for 132 kV Loktak-Rengpang Line



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Detailed Report of Grid Disturbance in Tuirial HEP of NEEPCO & Kolasib and Bairabi areas of Mizoram of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):21-04-2025

1. Event Summary (घटना का सारांश):

Kolasib and Bairabi areas of Mizoram & Tuirial HEP of NEEPCO were connected with rest of NER Grid through 132 kV Kolasib-Badarpur and 132 kV Kolasib – Aizawl lines.

At 03:34 Hrs of 07-04-2025, 132 kV Aizawl-Kolasib and 132kV Badarpur-Kolasib lines tripped. Due to tripping of these elements, Kolasib, Turial and Bairabi areas of Mizoram Power system got isolated from NER grid and collapsed due to no source available in these areas.

Power supply was extended to Kolasib area by charging 132 kV Badarpur-Kolasib line at 04:26 Hrs of 07-04-2025. Power was extended to Tuirial HEP at 05:33 Hrs by charging 132 kV Tuirial-Kolasib Line and to Bairabi area by charging 132 kV Kolasib-Bairabi Line at 05:52 Hrs of 07-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 03:34 Hrs of 07-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Tuirial S/S of NEEPCO & Kolasib and Bairabi areas of Mizoram

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.99	1504	1555
Post Event (घटना के बाद)	49.99	1504	1554

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL

Weather Condition (मौसम स्थिति)	Rainy

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 1 MW
3. **Duration of interruption (रुकावट की अवधि):** 52 min
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

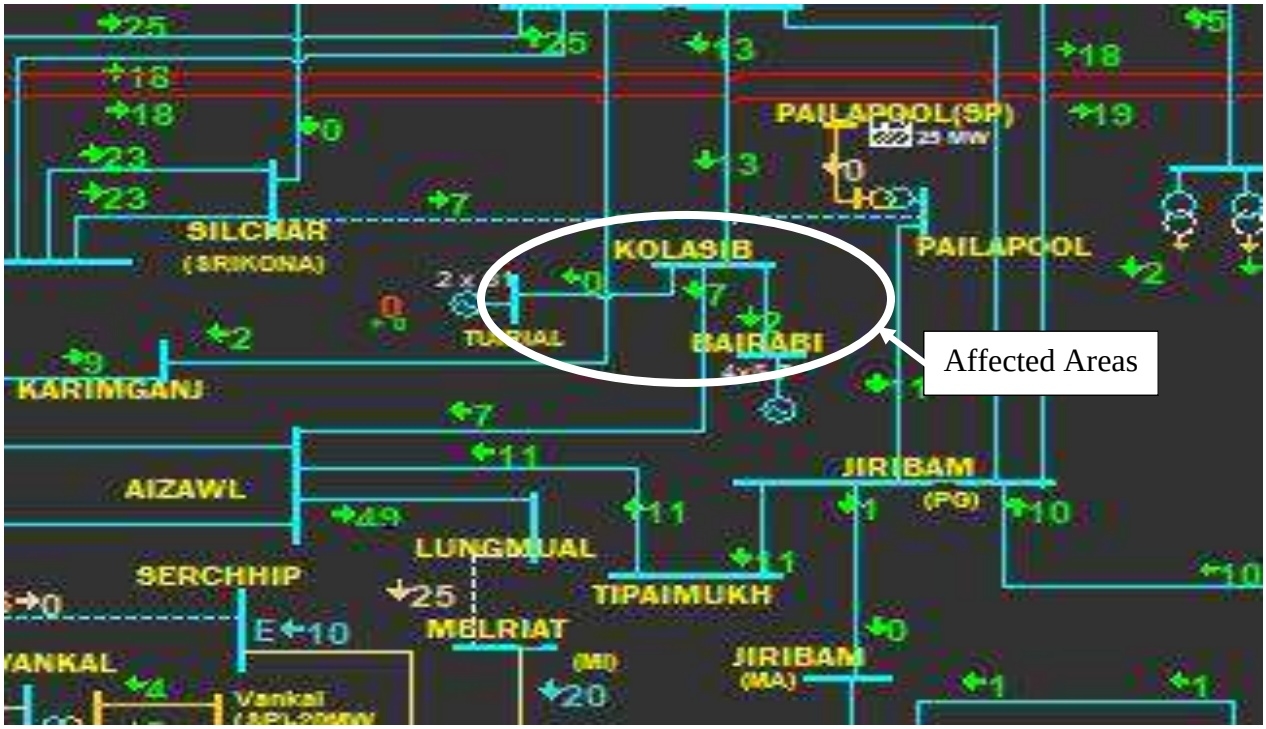


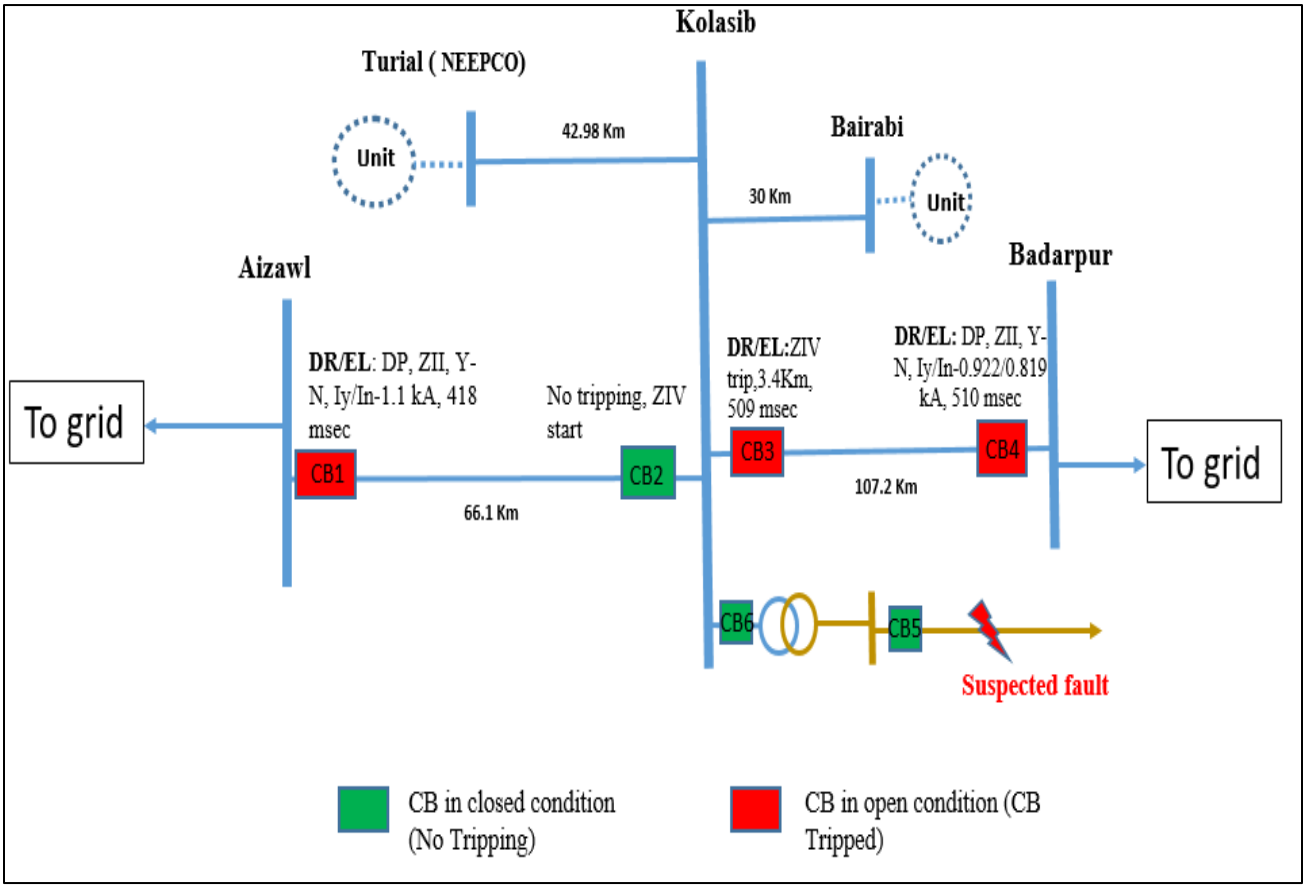
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Aizawl-Kolasib Line	03:34	04:26	DP, ZII, Y-N (ZIII start)	No tripping (ZIV start in EL; DR of different time submitted)
2	132 kV Badarpur-Kolasib Line	03:34	04:31	DP, ZII, Y-N (ZIII start)	ZIV trip, Y-N, 3.39 Km

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, Y-N fault with Iy-922 A, In-819 A initiated at 03:34:05.236 Hrs which was cleared within 510 msec from Badarpur end on operation of DP, ZII (ZIII start) and within 509 msec on ZIV trip from Kolasib end. For 132 kV Aizawl-Kolasib line, fault cleared within 418 msec from Aizawl end on DP, ZII (ZIII start). DR of different time submitted at Kolasib end. There was no tripping from Kolasib end (ZIV start as per EL)

Fault is suspected fault in downstream of Kolasib S/S as ZIV operated from Kolasib end (Fault distance-3.4 Km as per EL).

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Fault is suspected in downstream of Kolasib S/S.
- Protection system of downstream feeder and HV side transformer failed to isolate the fault due to which fault was cleared by tripping of healthy 132 kV Aizawl-Kolasib & 132 kV Badarpur-Kolasib lines. P&ED Mizoram needs to ensure healthiness of protection system of downstream.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**P&ED Mizoram & NEEPCO**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**P&ED Mizoram & NEEPCO**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**DR time drift at Kolasib end: 5 min for 132 kV Badarpur Line & 2 min for 132 kV Aizawl line**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

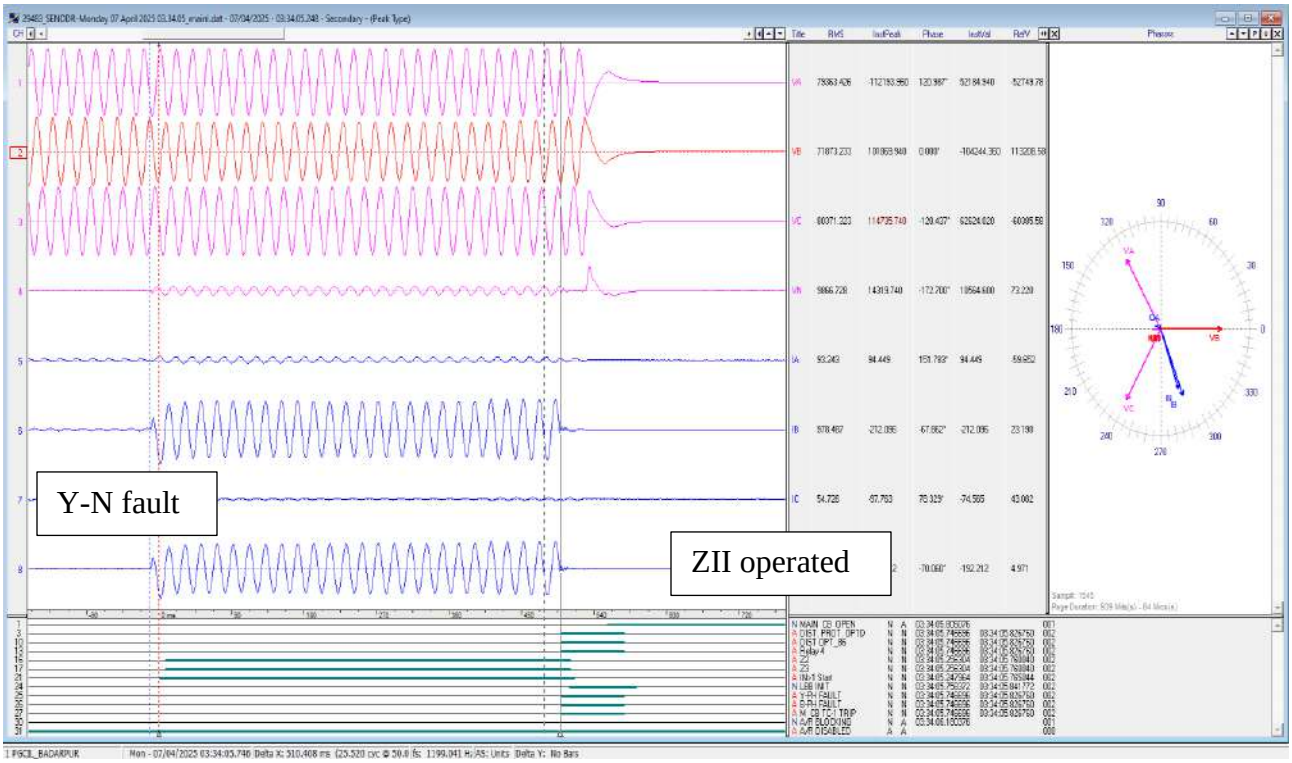
- P&ED Mizoram is requested to ensure that patrolling and maintenance related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.
- Healthiness of protection system of downstream feeders needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

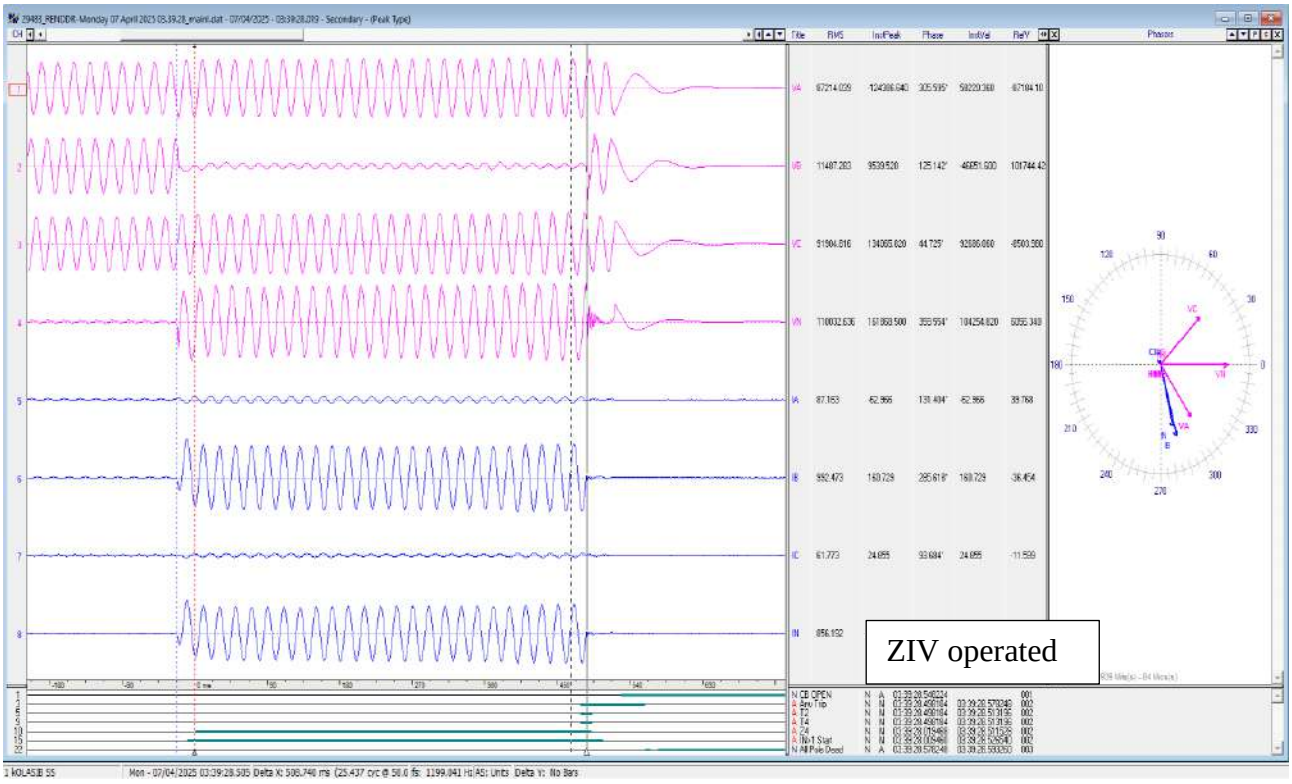
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC CLOSED	07 Apr 2025 03:26:49:000	07 Apr 2025 03:26:37:000	7.27E+08
TSECL	1C	UDAIP_TE	UDAIPUR CB 66Kv LINE-1 TO GKNGR OPEN	07 Apr 2025 03:30:04:000	07 Apr 2025 03:29:53:000	9.23E+08
MIZORM	1C	AIZAW_PG	AIZAWL CB 132Kv LINE-1 TO KOLAS OPEN	07 Apr 2025 03:34:08:000	07 Apr 2025 03:34:05:000	6.72E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132/33 T1 (PRIM) OPEN	07 Apr 2025 03:34:14:000	07 Apr 2025 03:34:05:000	9.64E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO BADAR INVALID	07 Apr 2025 03:34:14:000	07 Apr 2025 03:34:06:000	2.98E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO TURIL OPEN	07 Apr 2025 03:34:14:000	07 Apr 2025 03:34:06:000	2.63E+08
MIZORM	1C	TURIL_NO	TURIAL CB 132Kv LINE-1 TO KOLAS OPEN	07 Apr 2025 03:44:42:000	07 Apr 2025 03:41:58:000	9.33E+08
MIZORM	1C	AIZAW_PG	AIZAWL CB 132Kv LINE-1 TO KUMAR OPEN	07 Apr 2025 03:48:41:000	07 Apr 2025 03:48:40:000	2.39E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 CLOSED	07 Apr 2025 04:25:56:000	07 Apr 2025 04:25:46:000	1.82E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO BADAR CLOSED	07 Apr 2025 04:26:00:000	07 Apr 2025 04:25:50:000	5.96E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 BETWEEN	07 Apr 2025 04:27:48:000	07 Apr 2025 04:27:47:000	8.17E+08
NAGALD	1C	DIMAP_NA	DIMAPUR NAGARJAN CB 66Kv LINE TO POWRH OP	07 Apr 2025 04:30:47:000	07 Apr 2025 04:30:31:000	9.27E+08
MIZORM	1C	AIZAW_PG	AIZAWL CB 132Kv LINE-1 TO KOLAS CLOSED	07 Apr 2025 04:31:24:000	07 Apr 2025 04:31:21:000	7.37E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO BAIRA OPEN	07 Apr 2025 04:32:38:000	07 Apr 2025 04:32:32:000	6.73E+08
MIZORM	1C	AIZAW_PG	AIZAWL CB 132Kv LINE-1 TO KUMAR CLOSED	07 Apr 2025 04:41:34:000	07 Apr 2025 04:41:33:000	41000000
MIZORM	1C	KOLAS_MI	KOLASIB CB 132/33 T1 (PRIM) OPEN	07 Apr 2025 05:32:02:000	07 Apr 2025 05:31:50:000	9.06E+08
MIZORM	1C	TURIL_NO	TURIAL CB 132Kv LINE-1 TO KOLAS CLOSED	07 Apr 2025 05:34:36:000	07 Apr 2025 05:31:51:000	1.01E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO TURIL CLOSED	07 Apr 2025 05:33:30:000	07 Apr 2025 05:33:19:000	5.71E+08
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD RONGJ CLOSED	07 Apr 2025 05:36:26:000	07 Apr 2025 05:36:21:000	3.92E+08
MEECL	1C	UMIA2_ME	UMIAM II CB 11 KV UNIT (H01) CLOSED	07 Apr 2025 05:48:15:000	07 Apr 2025 05:48:06:000	9.76E+08
MIZORM	1C	KOLAS_MI	KOLASIB CB 132Kv LINE-1 TO BAIRA CLOSED	07 Apr 2025 05:52:23:000	07 Apr 2025 05:52:19:000	2.73E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 CLOSED	07 Apr 2025 05:52:52:000	07 Apr 2025 05:52:42:000	7000000

Annexure 2: Disturbance recorder snips showing faults and digital signals

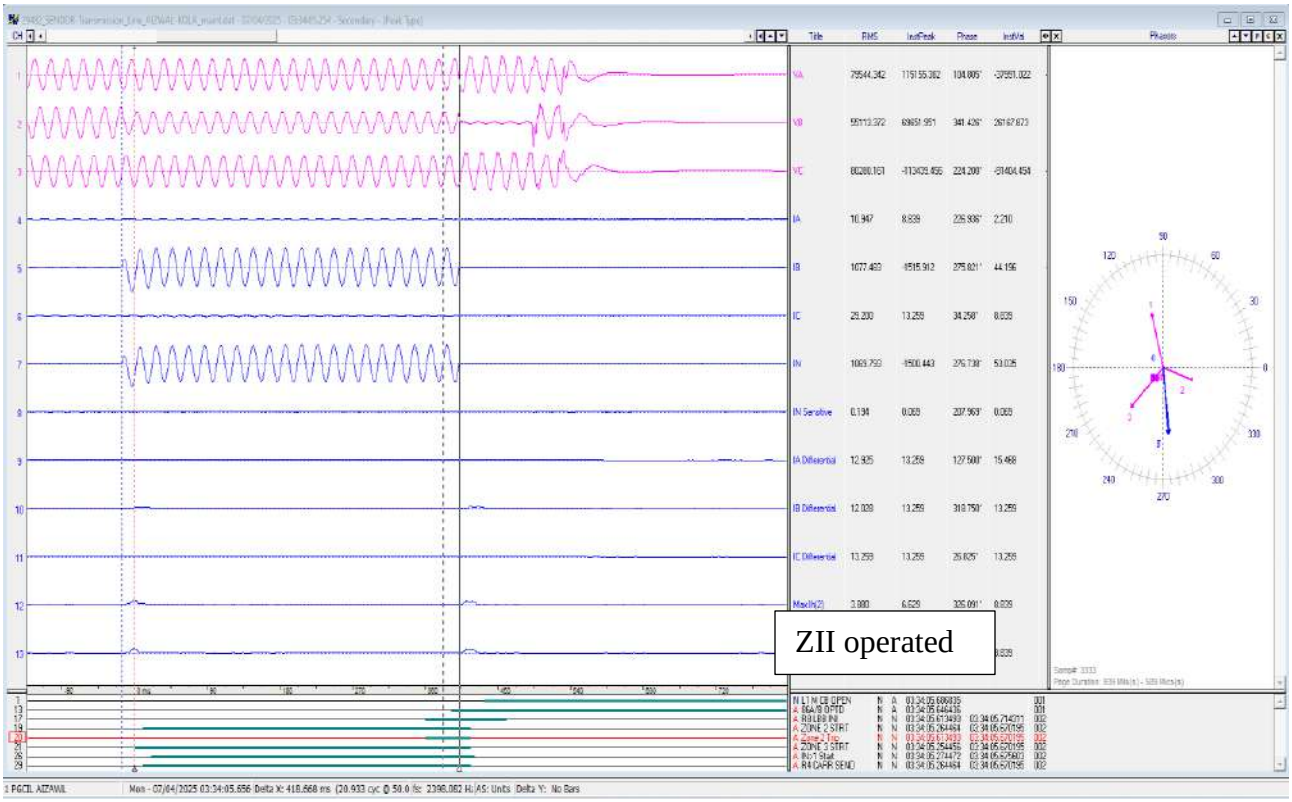
2.1. DR Snapshot of Badarpur for 132 kV Badarpur-Kolasib Line



2.2. DR Snapshot of Kolasib for 132 kV Badarpur-Kolasib Line



2.3. DR Snapshot of Aizawl for 132 kV Aizawl-Kolasib Line



2.4. EL Snapshot of Kolasib for 132 kV Aizawl-Kolasib Line

Monday 07 April 2025 03:32:54.934	TOR Active ON
Monday 07 April 2025 03:32:54.933	TOC Active ON
Monday 07 April 2025 03:32:54.743	Dead Line ON
Monday 07 April 2025 03:32:54.737	Pole Dead A ON
Monday 07 April 2025 03:32:54.737	Pole Dead C ON
Monday 07 April 2025 03:32:54.737	All Poles Dead ON
Monday 07 April 2025 03:32:54.733	Live Line OFF
Monday 07 April 2025 03:32:54.732	Pole Dead B ON
Monday 07 April 2025 03:32:54.677	Pole Dead B OFF
Monday 07 April 2025 03:32:54.607	Pole Dead B ON
Monday 07 April 2025 03:32:54.589	Started Phase B OFF
Monday 07 April 2025 03:32:54.589	Virtual Output29 OFF
Monday 07 April 2025 03:32:54.589	Virtual Output25 OFF
Monday 07 April 2025 03:32:54.589	Any Dist Start OFF
Monday 07 April 2025 03:32:54.589	Any Start OFF
Monday 07 April 2025 03:32:54.589	Started Phase N OFF
Monday 07 April 2025 03:32:54.588	Zone4 BN Element OFF
Monday 07 April 2025 03:32:54.183	Started Phase B ON
Monday 07 April 2025 03:32:54.183	Virtual Output29 ON
Monday 07 April 2025 03:32:54.183	Virtual Output25 ON
Monday 07 April 2025 03:32:54.183	Any Dist Start ON
Monday 07 April 2025 03:32:54.183	Started Phase N ON
Monday 07 April 2025 03:32:54.183	Any Start ON
Monday 07 April 2025 03:32:54.182	Zone4 BN Element ON

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Ziro, Daporizo, Basar, Along, Pasighat, Napit, Niglok, Roing, Tezu and Namsai areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक): 24-04-2025

1. Event Summary (घटना का सारांश):

Ziro, Daporizo, Basar, Along, Pasighat, Napit, Niglok, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were radially connected with rest of NER Grid through 132 kV Panyor - Ziro Line. Prior to the event, 132 kV Roing-Chapakhowa D/C lines was opened to facilitate planned shutdown of 132 kV Rupai-Margherita Line.

At 12:38 Hrs of 10-04-2025, 132 kV Panyor – Ziro Line tripped. Due to tripping of this line, Ziro, Daporizo, Basar, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were isolated from NER Grid and collapsed due to no source available in these areas.

Power supply was extended to Ziro and radially connected S/S of Arunachal Pradesh Power System by charging 132 kV Panyor - Ziro Line at 13:02 Hrs of 10.04.2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 12:38 Hrs of 10-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Ziro, Daporizo, Basar, Along, Pasighat, Napit, Niglok, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.09	1281	2067
Post Event (घटना के बाद)	50.09	1280	1946

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under	132 kV Roing-Chapakhowa D/C lines

outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	was opened to facilitate planned shutdown of 132 kV Rupai-Margherita Line.
Weather Condition (मौसम स्थिति)	Windy and Rainy

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 51 MW
3. **Duration of interruption (रुकावट की अवधि):** 24 min
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

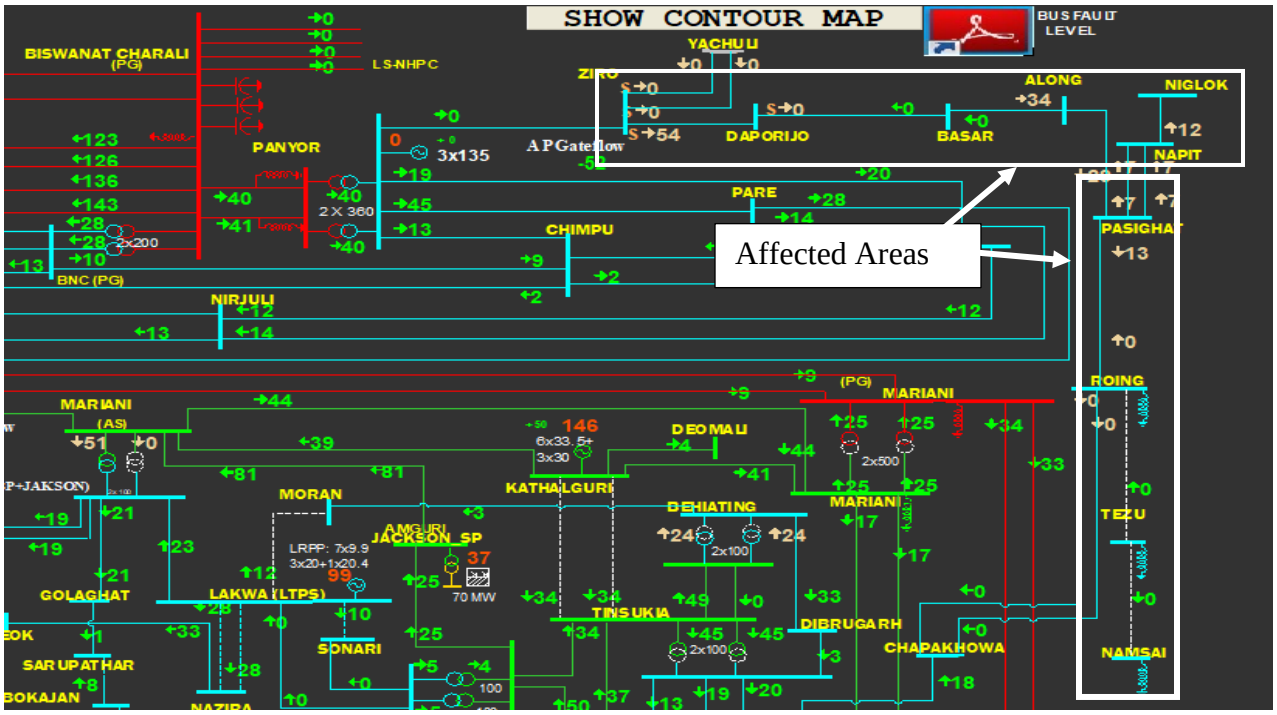


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Panyor-Ziro Line	12:38	13:02	O/C operated	No tripping (radial)

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):

As per EL, at 12:38:16.952 Hrs, Overcurrent Stg-I operated from Panyor end.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NIL

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**DoP AP & POWERGRID**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**NEEPCO**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**DoP AP & POWERGRID**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

- POWERGRID is requested to ensure that patrolling related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis and measures may be identified and implemented at the earliest so as to minimize tripping of these lines.
- Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
AEGCL	1C	BONGA_AS	BONGAIGAON CB 132/33 T1 (SEC) OPEN	10 Apr 2025 12:35:20:000	10 Apr 2025 12:35:14:000	6.08E+08
AEGCL	1C	BONGA_AS	BONGAIGAON CB 132/33 T1 (PRIM) OPEN	10 Apr 2025 12:35:20:000	10 Apr 2025 12:35:15:000	85000000
ARUNCH	1C	ALONG_AR	ALONG CB 132Kv LINE TO PASIG OPEN	10 Apr 2025 12:42:01:000	10 Apr 2025 12:35:51:000	8.13E+08
TSECL	1C	BADHA_TE	BADHARGHAT CB 66Kv LINE-1 TO GKNGR OPEN	10 Apr 2025 12:36:38:000	10 Apr 2025 12:36:04:000	3.88E+08
ARUNCH	1C	ROING_PG	ROING CB REACTOR D_R1_BR CB BETWEEN	10 Apr 2025 12:38:37:000	10 Apr 2025 12:38:13:000	30000000
ARUNCH	1C	RANGA_NO	PANYOR CB 132Kv LINE-1 TO ZIRO_ OPEN	10 Apr 2025 12:38:19:000	10 Apr 2025 12:38:17:000	5000000
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB BETWEEN	10 Apr 2025 12:38:50:000	10 Apr 2025 12:38:29:000	1.9E+08
MEECL	1C	UMIA4_ME	UMIAM IV CB 132Kv LINE-2 TO UMTRU CLOSED	10 Apr 2025 13:44:24:000	10 Apr 2025 13:02:08:000	4.4E+08
ARUNCH	1C	RANGA_NO	PANYOR CB 132Kv LINE-1 TO ZIRO_ CLOSED	10 Apr 2025 13:02:17:000	10 Apr 2025 13:02:14:000	9.76E+08
TSECL	1C	PALAT_OT	PALATANA CB 420-52 CLOSED	10 Apr 2025 13:02:33:000	10 Apr 2025 13:02:21:000	8.51E+08
MEECL	1C	UMTRU_ME	UMTRU CB 132Kv LINE-2 TO UMIA4 CLOSED	10 Apr 2025 13:02:31:000	10 Apr 2025 13:02:26:000	8.79E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC OPEN	10 Apr 2025 13:10:02:000	10 Apr 2025 13:09:59:000	87000000
ARUNCH	1C	ZIRO__PG	ZIRO CB 132Kv LINE-1 TO DAPOR CLOSED	10 Apr 2025 13:10:25:000	10 Apr 2025 13:10:23:000	3.7E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC CLOSED	10 Apr 2025 13:15:30:000	10 Apr 2025 13:15:22:000	4.6E+08
ARUNCH	1C	ZIRO__PG	ZIRO CB 132Kv LINE-1 TO DAPOR OPEN	10 Apr 2025 13:17:11:000	10 Apr 2025 13:17:08:000	8.51E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. EL Snapshot of Panyor for 132 kV Panyor-Ziro Line

Extract of 16 events between 10/04/2025 12:00:00 and 10/04/2025 20:30:00

Date	Origin	Object Name	Event Message
10/04/2025 13:02:30.709	RHEP / 132KV / B104R442 ZIRO / SYSTEM	SYNCH CHECH ON	Reset
10/04/2025 13:02:14.766	RHEP / 132KV / B104R442 ZIRO / SYSTEM	CB MANAUL CLOSING	Reset
10/04/2025 13:02:14.536	RHEP / 132KV / B104R442 ZIRO / SYSTEM	CB CLOSE	Close
10/04/2025 13:02:14.530	RHEP / 132KV / B104R743 ZIRO / SYSTEM	CIRCUIT BREAKER	Close
10/04/2025 13:02:14.478	RHEP / 132KV / B104R442 ZIRO / SYSTEM	CB MANAUL CLOSING	Operated
10/04/2025 13:02:07.080	RHEP / 132KV / B104R442 ZIRO / SYSTEM	SYNCH CHECH ON	Set
10/04/2025 12:42:18.420	RHEP / 132KV / B104R743 ZIRO / SYSTEM	LBB INITIATION	Reset
10/04/2025 12:42:18.402	RHEP / 132KV / B104R442 ZIRO / SYSTEM	AR IMPOSSIBLE	Reset
10/04/2025 12:42:18.402	RHEP / 132KV / B104R442 ZIRO / SYSTEM	3-PH TRIP	Reset
10/04/2025 12:38:17.012	RHEP / 132KV / B104R141 ZIRO / PROTECTION	OVER CURRENT STAGE-1	Reset
10/04/2025 12:38:17.007	RHEP / 132KV / B104R442 ZIRO / SYSTEM	CB CLOSE	Open
10/04/2025 12:38:17.003	RHEP / 132KV / B104R743 ZIRO / SYSTEM	CIRCUIT BREAKER	Open
10/04/2025 12:38:16.974	RHEP / 132KV / B104R442 ZIRO / SYSTEM	AR IMPOSSIBLE	Set
10/04/2025 12:38:16.974	RHEP / 132KV / B104R442 ZIRO / SYSTEM	3-PH TRIP	Trip
10/04/2025 12:38:16.968	RHEP / 132KV / B104R743 ZIRO / SYSTEM	LBB INITIATION	Operated
10/04/2025 12:38:16.952	RHEP / 132KV / B104R141 ZIRO / PROTECTION	OVER CURRENT STAGE-1	Operated

ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Dharmanagar area of Tripura of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):24-04-2025

1. Event Summary (घटना का सारांश):

Dharmanagar area of Tripura Power System was connected with rest of NER Grid through 132 kV Dharmanagar-Dullavchhera line. Prior to the event, 132 kV PK Bari-Dharmanagar Line was under planned shutdown.

At 13:22 Hrs of 10-04-2025, 132 kV Dharmanagar-Dullavchhera line tripped. Due to tripping of this element, Dharmanagar area of Tripura Power System was isolated from NER Grid and collapsed due to no source available in this area.

Power supply was extended to Dharmanagar area of Tripura Power System by charging 132 kV Dharmanagar-Dullavchhera line at 13:47 Hrs of 10-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 13:22 Hrs of 10-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Dharmanagar area of Tripura

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.09	1243	1947
Post Event (घटना के बाद)	50.09	1236	1947

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132kV P K Bari – Dharmanagar line was under planned outage
Weather Condition (मौसम स्थिति)	Heavy rain, storm with thundering

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 19 MW

3. **Duration of interruption (रुकावट की अवधि): 25 min**

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Dharmanagar-Dullavchhera Line	13:22	13:47	DP, ZI, B-N, 13.22 km	DP, ZI, B-N, 14.8 Km

7. **Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):**

As per DR analysis, Y-N fault (Iy-2 kA, In-1.7 kA) initiated at 13:22:03.369 Hrs which was cleared within 50 msec from Dullavchhera end and within 74 msec from Dharmanagar end on operation of DP, ZI.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- DR time duration at Dullavchhera end is insufficient. Pre-fault of 500 msec and post fault of 2.5 sec needs to be ensured.
- AR not attempted at both ends. Availability of AR needs to be ensured to reduce tripping of line on transient fault.
- SOE not recorded at Dharmanagar end. The same needs attention from TSECL/SLDC Tripura team.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**TSECL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**TSECL & AEGCL**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**TSECL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**DR time drift of 2 min at Dharmanagar end**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

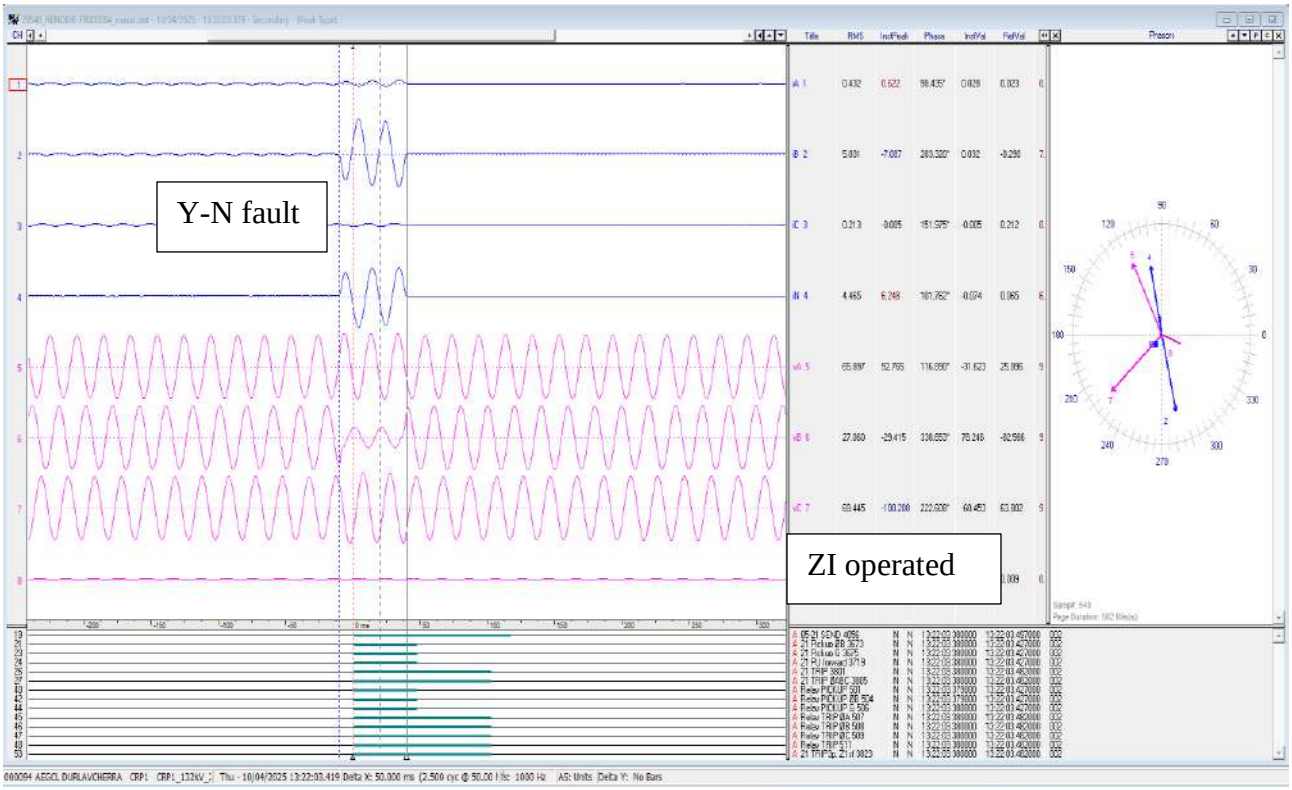
- Proper patrolling and maintenance related activities needs to be undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.
- Availability of autorecloser needs to be ensured.

Annexure 1: Sequence of Events as per SCADA-

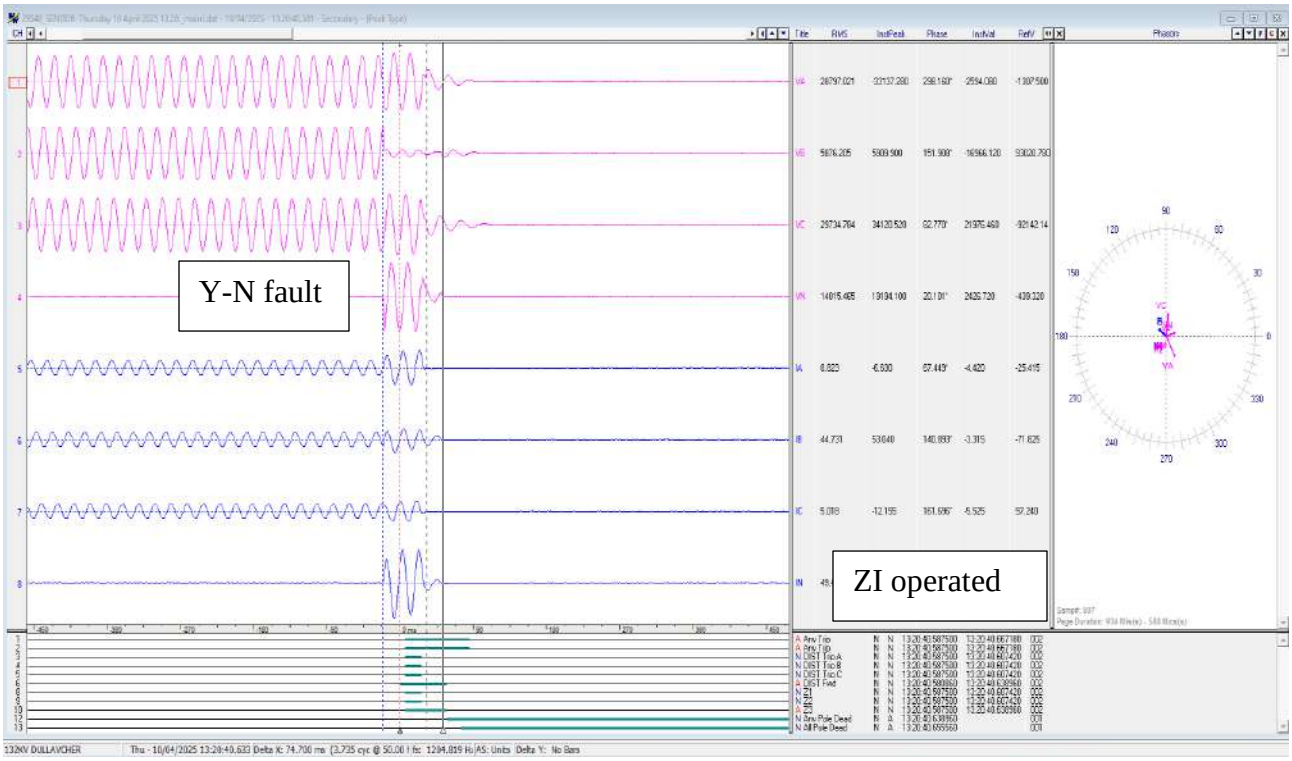
AREA	CATEGOR	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM CLOSED	10 Apr 2025 12:08:54:000	10 Apr 2009 11:56:49:000	50000000
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132/33 T1 (PRIM) CLOSED	10 Apr 2025 12:09:04:000	10 Apr 2009 11:58:06:000	18000000
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132/33 T2 (PRIM) CLOSED	10 Apr 2025 12:09:14:000	10 Apr 2009 11:58:13:000	4.8E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM OPEN	10 Apr 2025 13:22:15:000	10 Apr 2009 13:22:03:000	4.32E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM BETWEEN	10 Apr 2025 13:47:22:000	10 Apr 2009 13:47:03:000	4.01E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM CLOSED	10 Apr 2025 13:47:26:000	10 Apr 2009 13:47:03:000	4.21E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM OPEN	10 Apr 2025 15:18:56:000	10 Apr 2009 15:18:49:000	7.13E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132/33 T1 (PRIM) OPEN	10 Apr 2025 16:51:53:000	10 Apr 2009 15:28:02:000	7.49E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132/33 T2 (PRIM) OPEN	10 Apr 2025 16:51:53:000	10 Apr 2009 15:28:10:000	2.33E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE TO HAILA OPEN	10 Apr 2025 16:51:53:000	10 Apr 2009 15:28:25:000	4.59E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1 DR snapshot of Dullavchhera end for 132 kV Dharmanagar-Dullavchhera Line



2.2 DR snapshot of Dharmanagar end for 132 kV Dharmanagar-Dullavchhera Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
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Detailed Report of Grid Disturbance in 400/132 kV Kameng S/S of NEEPCO & Khupi and Seppa areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):01-05-2025

1. Event Summary (घटना का सारांश):

400/132 kV Kameng substation, Khupi and Seppa areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 400 kV Balipara-Kameng D/C Lines & 132 kV Khupi-Tenga Line. Prior to the event, 400 kV Balipara-Kameng D/C Lines & Kameng Unit-1 tripped at 23:55 Hrs of 16-04-2025.

At 00:01 Hrs of 17-04-2025, 132 kV Tenga-Khupi Line tripped. Due to tripping of this element, Khupi & Seppa areas of Arunachal Pradesh got isolated from NER grid and collapsed due to no source available in these areas.

Power was extended to 400/132 kV Kameng S/S by charging 400 kV Balipara-Kameng I Line at 00:26 Hrs of 17-04-2025. Power was extended to Khupi & Seppa areas by charging 132 kV Kameng-Khupi Line at 01:33 Hrs and 132 kV Khupi-Seppa Line at 01:54 Hrs of 17-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 00:01 Hrs of 17-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): 400/132 kV Kameng S/S of NEEPCO, Khuppi and Seppa areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.10	1954	1956
Post Event (घटना के बाद)	50.10	1953	1965

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	400 kV Balipara-Kameng D/C Lines & Kameng Unit-1 tripped at 23:55 Hrs of 16-04-2025
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 1 MW
3. **Duration of interruption (रुकावट की अवधि):** 1 hrs 53 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

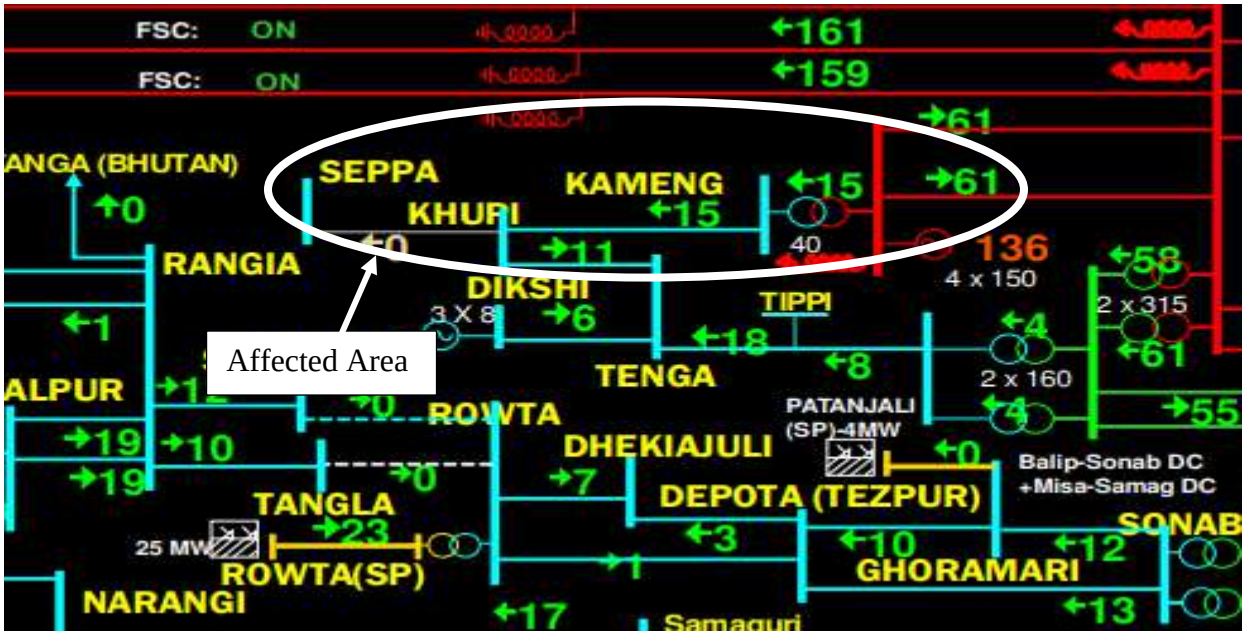
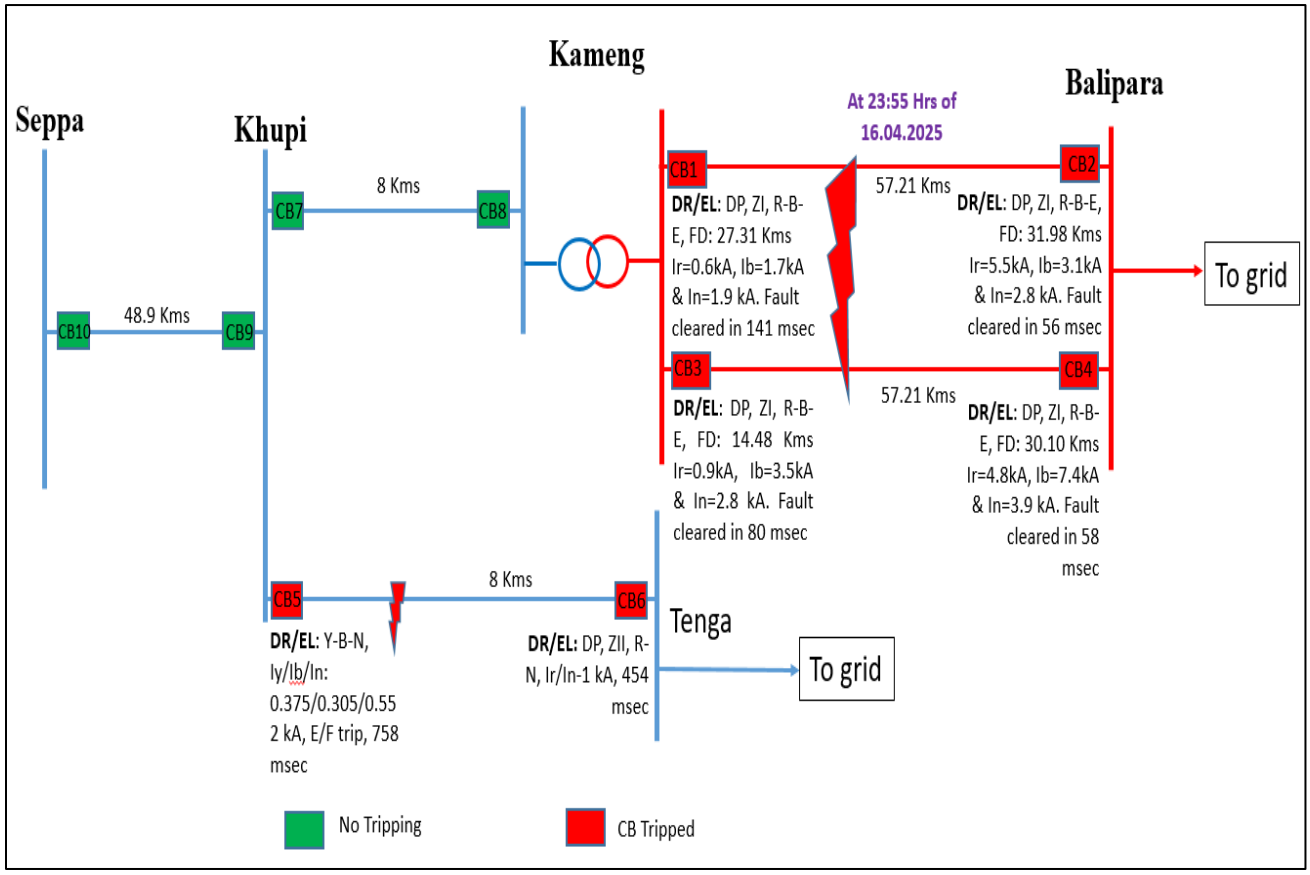


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**
6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Tenga-Khupi Line	00:01	18:43 hrs of 20-04-2025	DP, ZII, R-N	E/F trip, Y-B-N

7. **Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):**



As per DR analysis of 132 kV Tenga-Khupi Line, solid R-N fault (Ir-1 kA, In-1 kA) initiated at 00:00:59.117 Hrs which was cleared within 454 msec on operation of DP, ZII from Tenga end.

As per Khupi DR, Fault current Iy-0.375 kA, Ib-0.305 kA, In-0.552 kA persists till 758 msec. E/F trip at 00:01:26.404 Hrs.

8. **Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NIL**

9. **Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL**

10. **Non-compliance observed (विनियमन का गैर-अनुपालन):**

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**NEEPCO & DoP AP**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**NEEPCO & DoP AP**

4.	**DR Time Synchronization Issues**	IEGC section 17.3	**No violation**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

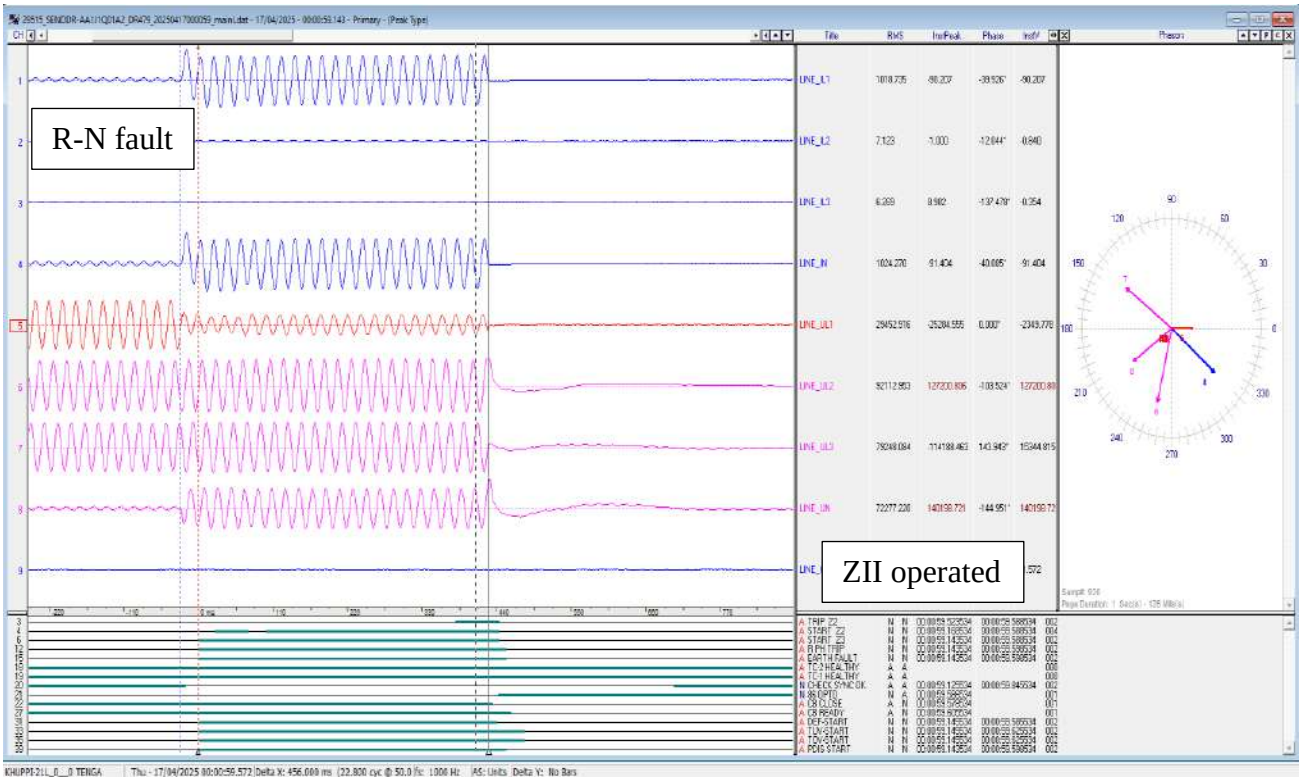
- Proper maintenance related activities as per CEA regulations needs to be carried out.

Annexure 1: Sequence of Events as per SCADA-

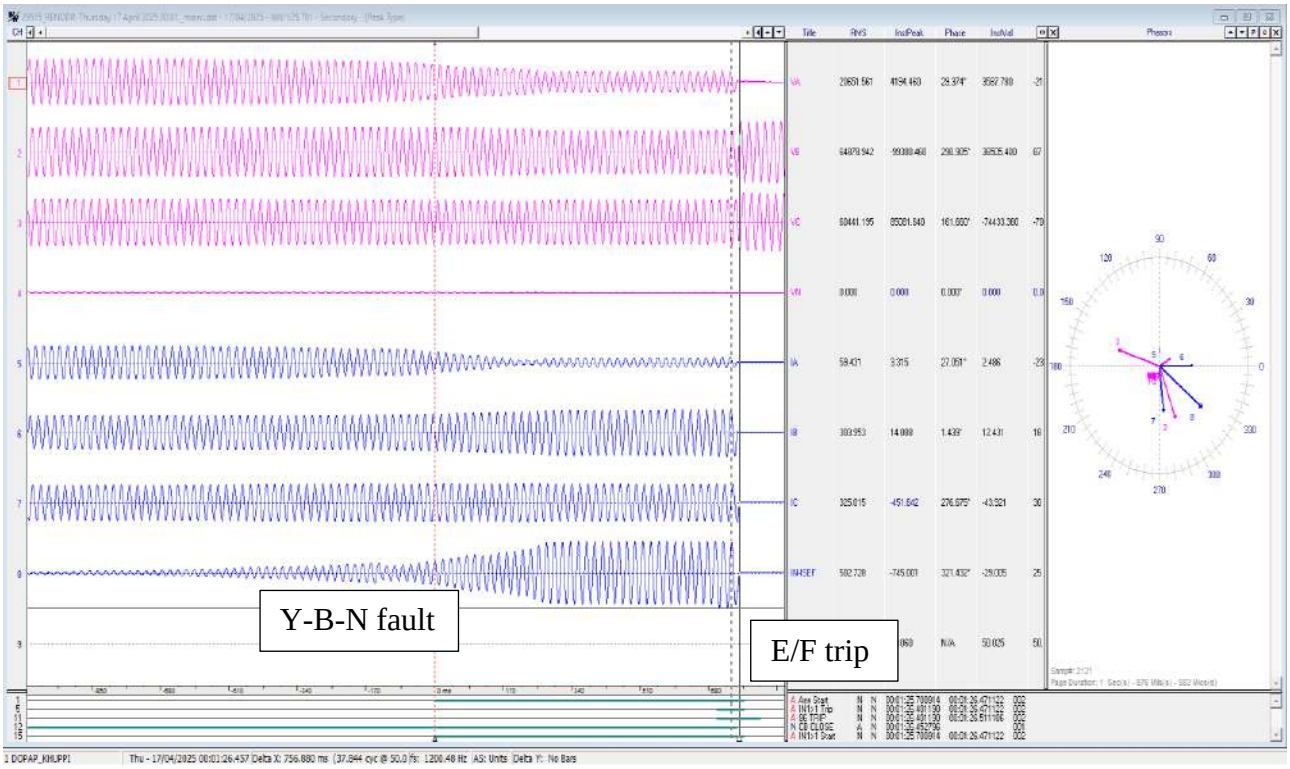
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
ARUNCH	1C	NAPIT_AR	NAPIT CB REACTOR D_07_BR CB CLOSED	17 Apr 2025 11:31:47:000	14 Apr 2025 10:24:16:000	19000000
ARUNCH	1C	NIGLK_AR	NIGLOK CB 132 KV COUPLER (01) OPEN	17 Apr 2025 11:31:47:000	16 Apr 2025 10:59:11:000	8.99E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO TENGA OPEN	17 Apr 2025 00:02:00:000	17 Apr 2025 00:01:28:000	5.1E+08
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO KHUPI OPEN	17 Apr 2025 00:02:00:000	17 Apr 2025 00:01:28:000	5.1E+08
MEECL	1C	NWUMT_ME	NEW UMTRU CB 132 KV UNIT (H02) OPEN	17 Apr 2025 00:08:21:000	17 Apr 2025 00:08:02:000	6.57E+08
MEECL	1C	KILLI_ME	KILLING CB 132Kv LINE-1 TO EPIP1 CLOSED	17 Apr 2025 01:32:46:000	17 Apr 2025 01:32:15:000	5000000
MEECL	1C	KILLI_ME	KILLING CB 132Kv LINE-1 TO EPIP1 OPEN	17 Apr 2025 01:33:00:000	17 Apr 2025 01:32:24:000	1.75E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE-1 TO KMENG CLOSED	17 Apr 2025 01:33:26:000	17 Apr 2025 01:32:50:000	8.97E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO SEPPA CLOSED	17 Apr 2025 01:54:18:000	17 Apr 2025 01:53:57:000	6.49E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 CLOSED	17 Apr 2025 02:52:03:000	17 Apr 2025 02:51:54:000	19000000

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Tenga for 132 kV Tenga-Khupi Line



2.2. DR Snapshot of Khupi for 132 kV Tenga-Khupi Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
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Detailed Report of Grid Disturbance in Monarchak Generation of NEEPCO & Rabindranagar area of Tripura of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):22-04-2025

1. Event Summary (घटना का सारांश):

Monarchak Generating station of NEEPCO and Rabindranagar area of Tripura Power System were connected with rest of NER Grid through and 132 kV Monarchak-Rokhia line. Prior to the event, 132 kV Monarchak-Udaipur line tripped at 12:47 Hrs of 17.04.2025.

At 12:49 Hrs of 17-04-2025, 132 kV Monarchak-Rokhia line tripped. Due to tripping of this element, Monarchak Generating station and Rabindranagar area of Tripura Power System were isolated from NER Grid due to load generation mismatch in these areas.

Power supply was extended to Monarchak Generating station and Rabindranagar of Tripura Power System by charging 132 kV Monarchak-Udaipur line at 13:10 Hrs of 17-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 12:49 Hrs of 17-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Monarchak Generation of NEEPCO and Rabindranagar area of Tripura

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.96	1502	2074
Post Event (घटना के बाद)	49.96	1506	2091

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Monarchak-Udaipur line tripped at 12:47 Hrs of 17.04.2025

Weather Condition (मौसम स्थिति)	Heavy Rainfall/Wind

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 3 MW and Generation loss of 76 MW
3. **Duration of interruption (रुकावट की अवधि): 21 min**
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

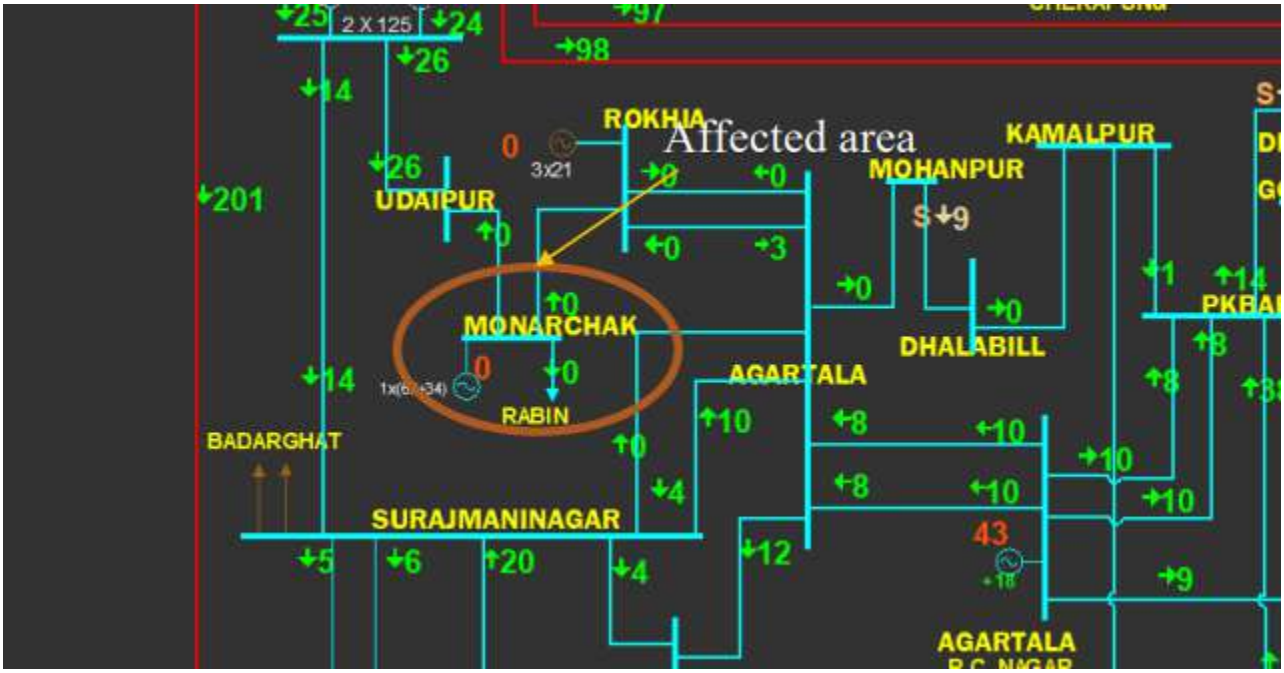


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Monarchak-Rokhia Line	12:49	13:33	DP, ZI, R-N, 12.85 Km	DP, ZII, 25.05 Km (DR/EL not submitted)
2	Monarchak GTG	12:49	-	Loss of evacuation path	
3	Monarchak STG	12:49	-	Loss of evacuation path	
4	Rokhia Unit-7	12:49	13:56	Loss of evacuation path	

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):

As per submitted DR of Monarchak end, R-Y-B fault (Ir-224 A, Iy-240 A, Ib-231 A) since initiation of DR. At 12:38:50.152 Hrs, R-Y-B-N with Ib-2.1 kA, In-2.7 kA initiated and cleared within 60 msec on DP, ZI. B-phase CB opened and current disappeared in B-phase. However, R & Y phase CB did not open. After 401 msec, R-N fault (Ir-1.8 kA, In-1.8 kA) appeared and cleared within 111 msec on operation of DP, ZI.

DR/EL not submitted at Rokhia end.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**NEEPCO & TSECL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**NEEPCO & TSECL**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**NEEPCO & TSECL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 11 min at Monarchak**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

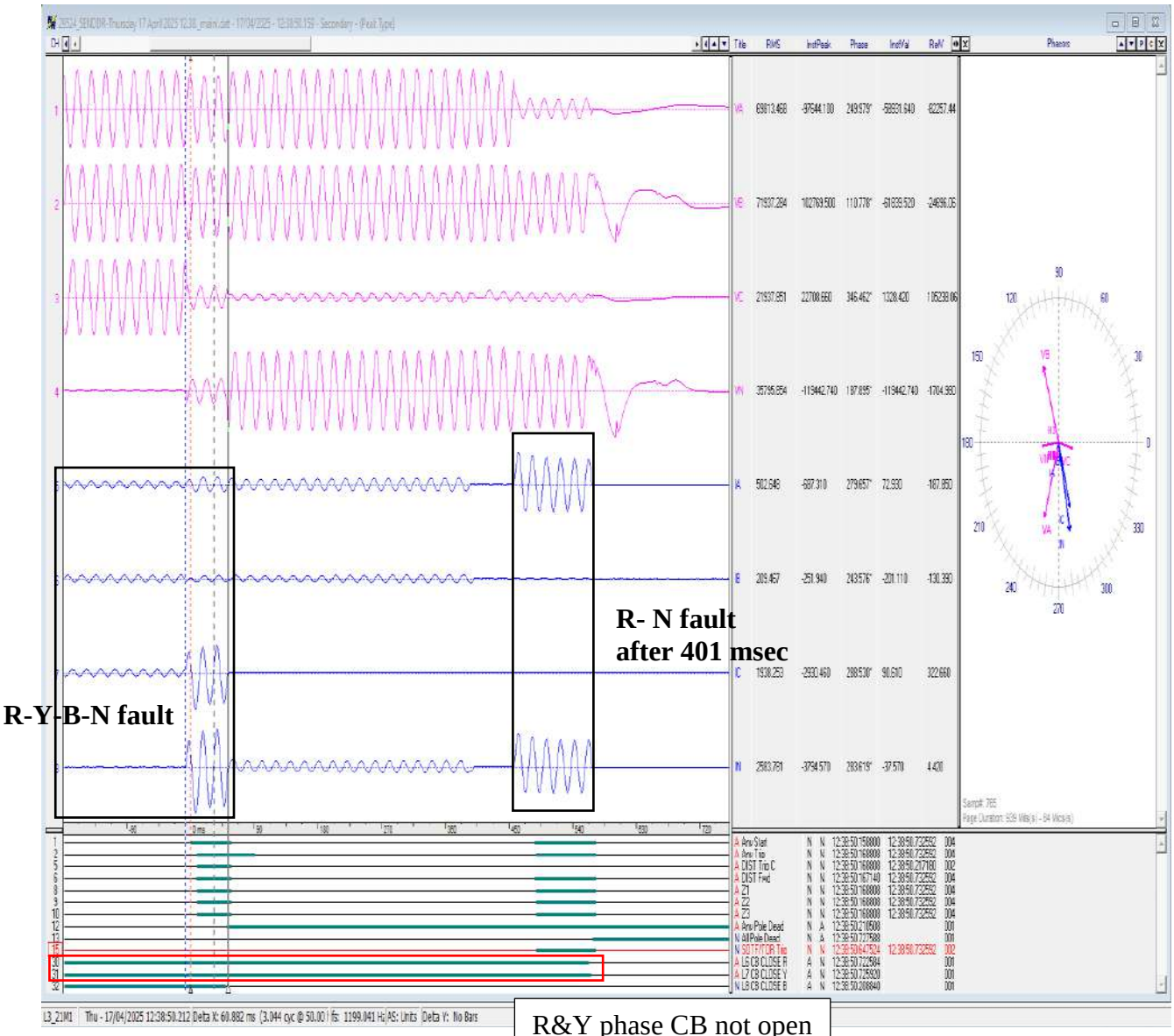
Proper patrolling and maintenance related activities needs to be undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
NAGALD	1C	DIMAP_NA	DIMAPUR NAGARJAN CB 33Kv LOAD-1 OPEN	17 Apr 2025 08:52:28:000	20 Jan 2015 17:11:06:000	7.33E+08
TSECL	1C	ROKHI_TE	ROKHIA CB 11 KV UNIT G7 CLOSED	17 Apr 2025 13:56:45:000	17 May 2017 14:51:59:000	2.63E+08
TSECL	1C	ROKHI_TE	ROKHIA CB 11 KV UNIT G7 OPEN	17 Apr 2025 12:49:18:000	17 May 2017 14:51:59:000	2.63E+08
MSPCL	1C	LOKTA_NH	LOKTAK PLANT LOKTA BETWEEN	17 Apr 2025 17:31:23:000	07 Jun 2021 00:10:37:000	10000000
AEGCL	1C	MISA__PG	MISA CB MN CB BALIP 1 & BUS 1 CLOSED	17 Apr 2025 12:46:08:000	17 Apr 2025 12:46:06:000	9.98E+08
AEGCL	1C	MISA__PG	MISA CB MN CB BALIP 1 & BUS 1 INVALID	17 Apr 2025 12:46:13:000	17 Apr 2025 12:46:11:000	2.81E+08
TSECL	1C	UDAIP_TE	UDAIPUR CB 132Kv LINE-1 TO MONAR OPEN	17 Apr 2025 12:48:07:000	17 Apr 2025 12:47:38:000	25000000
TSECL	1C	MONAR_TE	MONARCHAK CB 132Kv LINE-1 TO UDAIP INVALID	17 Apr 2025 12:48:07:000	17 Apr 2025 12:47:42:000	3.49E+08
MEECL	1C	UMIA4_ME	UMIAM IV CB 132Kv LINE-2 TO UMIA3 CLOSED	17 Apr 2025 12:49:18:000	17 Apr 2025 12:48:33:000	8.01E+08
TSECL	1C	MONAR_TE	MONARCHAK CB 132/11 T1 (PRIM) OPEN	17 Apr 2025 12:49:18:000	17 Apr 2025 12:48:56:000	6E+08
TSECL	1C	MONAR_TE	MONARCHAK CB 132Kv LINE-1 TO ROKHI OPEN	17 Apr 2025 12:49:18:000	17 Apr 2025 12:48:56:000	6E+08
TSECL	1C	ROKHI_TE	ROKHIA CB 132Kv LINE-1 TO MONAR OPEN	17 Apr 2025 12:49:18:000	17 Apr 2025 12:49:00:000	3.09E+08
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD RONGJ OPEN	17 Apr 2025 12:51:38:000	17 Apr 2025 12:51:15:000	9.25E+08
TSECL	1C	UDAIP_TE	UDAIPUR CB 132Kv LINE-1 TO MONAR CLOSED	17 Apr 2025 13:10:53:000	17 Apr 2025 13:10:14:000	2000000
TSECL	1C	MONAR_TE	MONARCHAK CB 132Kv LINE-1 TO UDAIP CLOSED	17 Apr 2025 13:11:27:000	17 Apr 2025 13:11:04:000	8.4E+08
AEGCL	1C	MISA__PG	MISA CB MN CB BALIP 1 & BUS 1 CLOSED	17 Apr 2025 13:11:09:000	17 Apr 2025 13:11:07:000	96000000
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD RONGJ CLOSED	17 Apr 2025 13:32:06:000	17 Apr 2025 13:31:33:000	86000000
TSECL	1C	ROKHI_TE	ROKHIA CB 132Kv LINE-1 TO MONAR CLOSED	17 Apr 2025 13:32:28:000	17 Apr 2025 13:31:57:000	9.56E+08
NAGALD	1C	DIMAP_NA	DIMAPUR NAGARJAN CB 33Kv LOAD-1 OPEN	17 Apr 2025 13:33:08:000	17 Apr 2025 13:32:41:000	3.38E+08
TSECL	1C	MONAR_TE	MONARCHAK CB 132Kv LINE-1 TO ROKHI CLOSED	17 Apr 2025 13:33:27:000	17 Apr 2025 13:33:04:000	8.94E+08
MIZORM	1C	ZUANG_MI	ZUANGTUI CB 132Kv LINE TO SAITU OPEN	17 Apr 2025 13:34:14:000	17 Apr 2025 13:33:36:000	9.25E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1 DR snapshot of Monarchak end for 132 kV Monarchak-Rokhia Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in 132 kV Kameng S/S of NEEPCO & Khupi and Seppa areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):01-05-2025

1. Event Summary (घटना का सारांश):

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 400/132 kV ICT at Kameng. Prior to the event, 132 kV Tenga-Khupi Line tripped at 00:01 Hrs of 17-04-2025.

At 13:58 Hrs of 17.04.2025, 400/132 kV ICT at Kameng and 132 kV Khupi-Seppa line tripped. Due to these trippings, 132 kV Kameng S/S, Khupi and Seppa areas of Arunachal Pradesh got isolated from NER grid and collapsed due to no source available in these areas.

Power supply was extended to 132 kV Kameng S/S by charging 400/132 kV Kameng ICT at 14:45 Hrs of 17-04-2025 and to Khupi area of Arunachal Pradesh Power System by charging 132 kV Kameng-Khupi line at 15:57 hrs of 17-04-2025. Power extended to Seppa area by charging 132 kV Khupi-Seppa line at 17:59 Hrs of 17-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 13:58 Hrs of 17-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): 132 kV Kameng S/S of NEEPCO, Khuppi and Seppa areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.99	1360	1981
Post Event (घटना के बाद)	49.99	1365	1986

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Tenga-Khupi Line tripped at 00:01 Hrs of 17.04.2025
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 1 MW
3. **Duration of interruption (रुकावट की अवधि):** 1 hrs 47 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

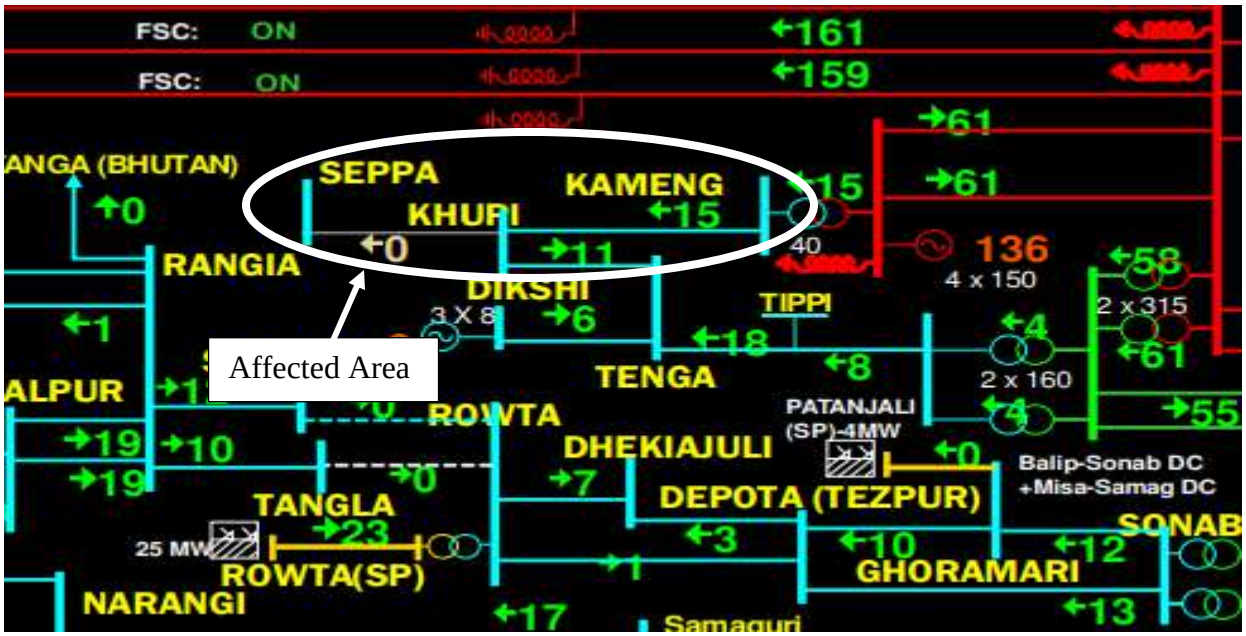
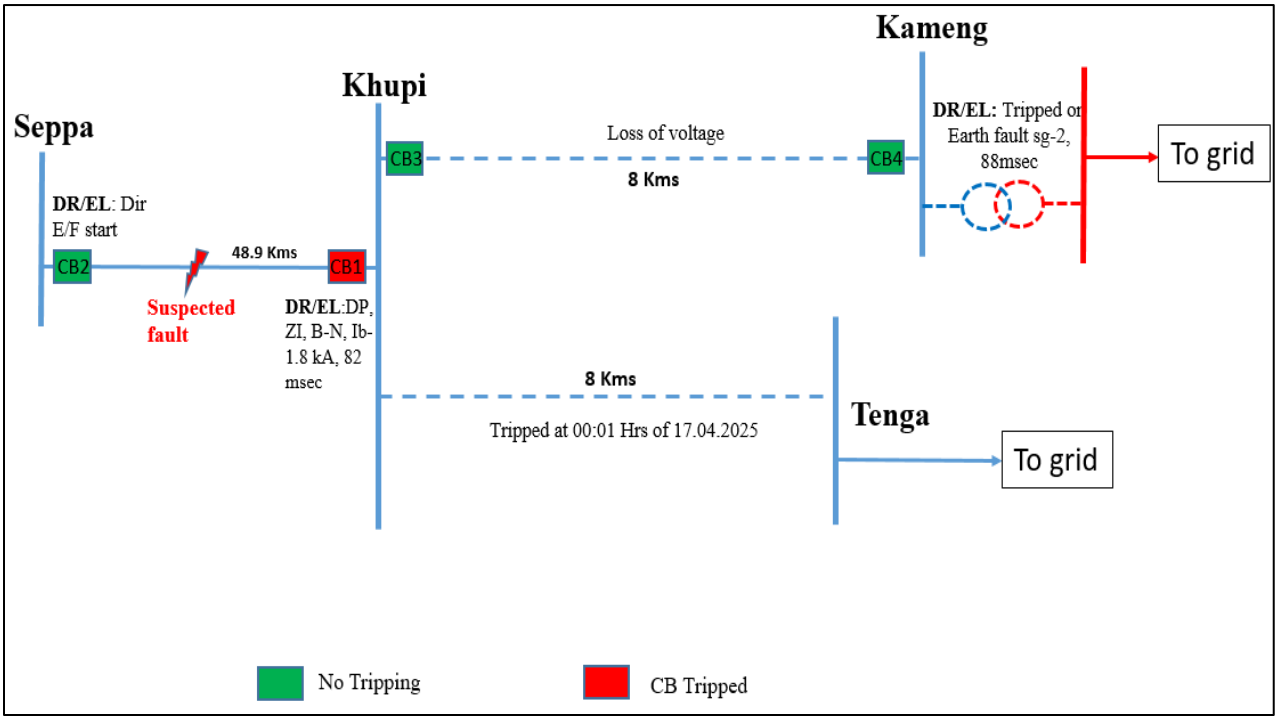


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**
6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Khupi-Seppa Line	13:58	17:59	E/F, B-N, 28.3 Km (DR/EL not submitted)	Dir EF start
2	400/132 kV ICT at Kameng	13:58	14:45	E/F Stg-2 in HV Side operated	
3	132 kV Kameng-Khupi Line	13:58	15:57	Loss of voltage	

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, B-N fault with Ib-1.8 kA initiated at 14:01:22.820 Hrs which was cleared within 82 msec from Khupi end on operation of DP, ZI. Directional E/F started at 13:58:54.479 Hrs and no tripping from Seppa end.

As intimated by DoP Arunachal Pradesh, vegetation B-N fault in 132 kV Khupi-Seppa Line at a distance of 28.3 Km from Khupi end.

At 13:58:52.814 Hrs, Kameng ICT tripped on E/F Stg-II within 88 msec which seems to be unwanted.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Tripping of 400/132 kV ICT at Kameng on Earth fault Stg-2 for beyond the protected zone is inferred unwanted. Maloperation of the ICT HV side protection is due to very low current pick up settings for High set B/U E/F protection.
- DR analog and digital channel of Kameng ICT needs to be standardized as per recommendations in FOLD working group.
- It is unclear which protection system cleared the fault in 132 kV Khupi-Seppa Line.
- The back-up protection settings at Kameng, Khupi and Tenga needs to be reviewed and coordinated as per NER protection philosophy.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**NEEPCO & DoP AP**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**DoP AP**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**NEEPCO & DoP AP**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**No violation**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

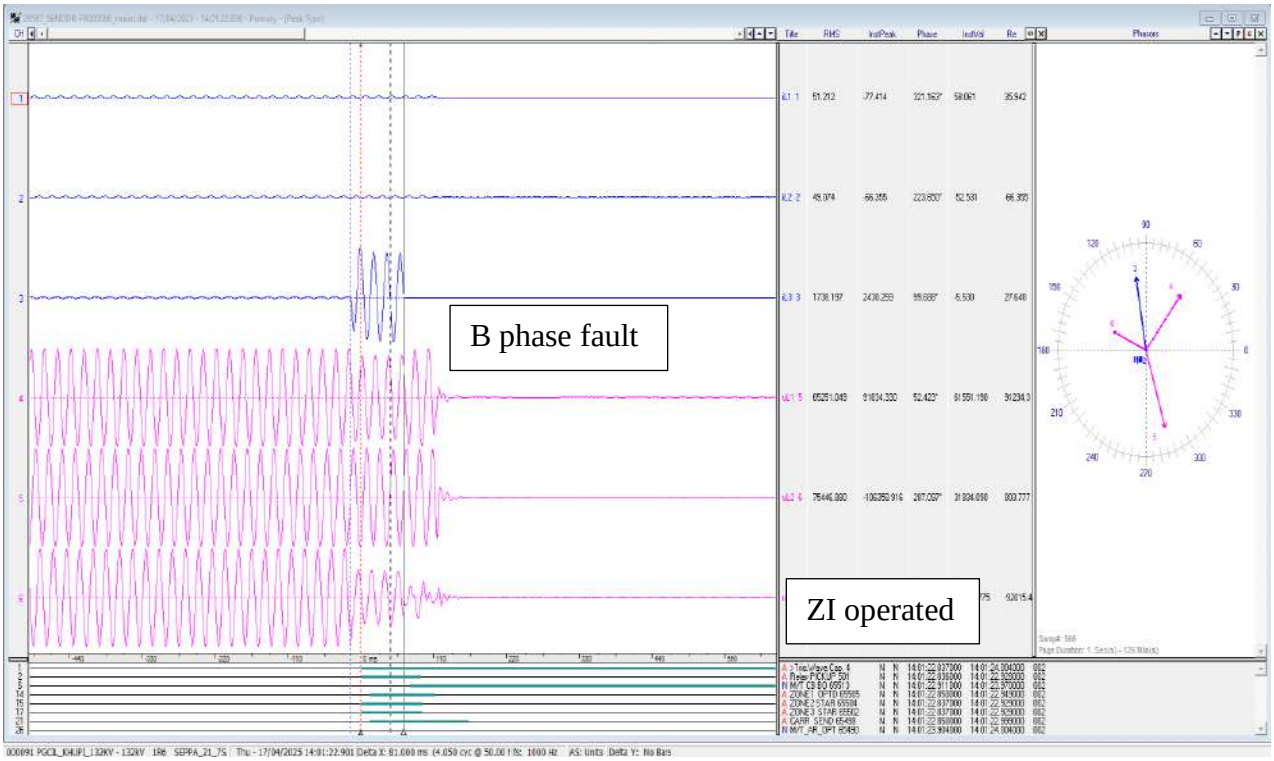
- Proper maintenance related activities as per CEA regulations needs to be carried out.
- Periodical review of B/U settings coordination is necessary. Healthiness of protection system needs to be ensured at all times.
- Installation of time synchronization equipment at Substations needs to be ensured for correct post fault analysis

Annexure 1: Sequence of Events as per SCADA-

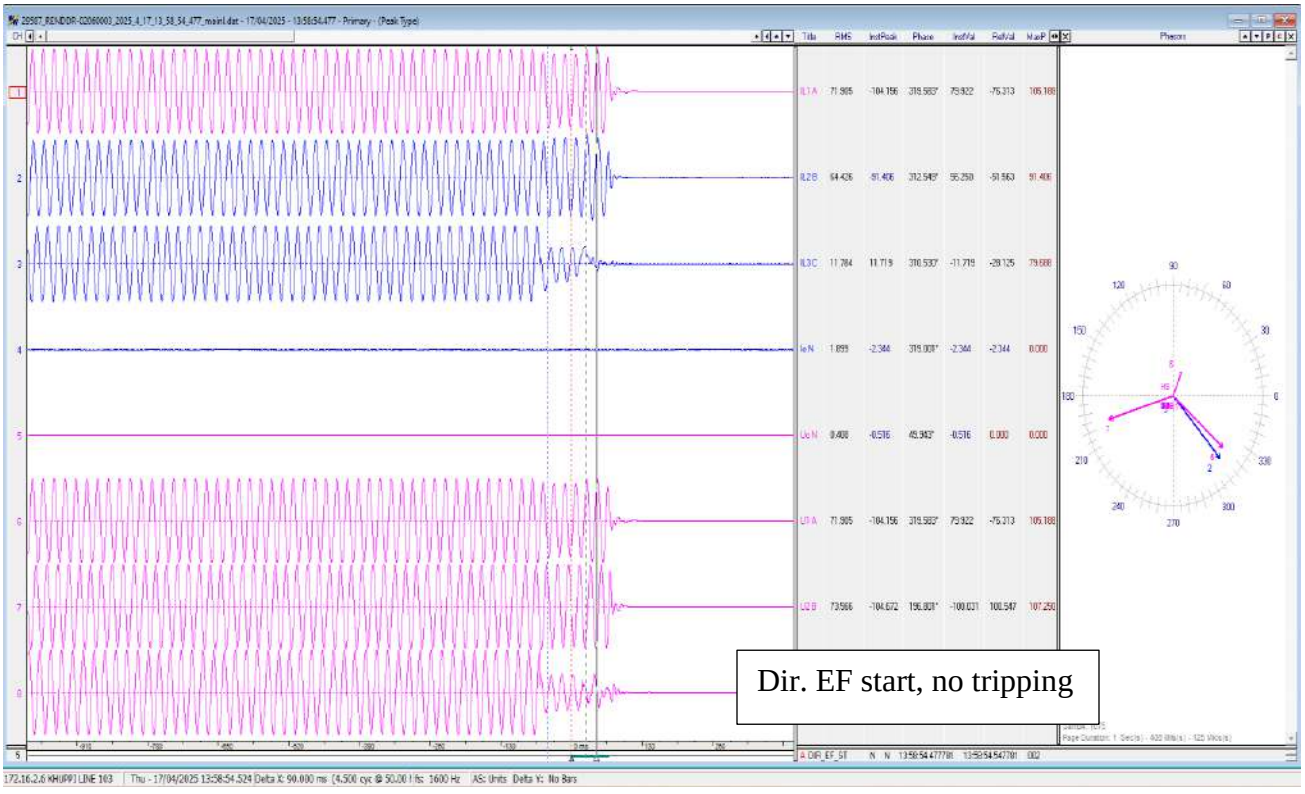
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
ARUNCH	1C	NAMSA_PG	NAMSAI CB 220Kv LINE-1 TO KATHA CLOSED	17 Apr 2025 14:03:33:000	17 Apr 2025 13:57:50:000	6.89E+08
MEECL	1C	MAWPH_ME	MAWNGAP CB 33Kv LOAD MAWSY CLOSED	17 Apr 2025 13:58:26:000	17 Apr 2025 13:57:54:000	7.44E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (PRIM) OPEN	17 Apr 2025 13:59:02:000	17 Apr 2025 13:58:57:000	37000000
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (SEC) OPEN	17 Apr 2025 13:59:02:000	17 Apr 2025 13:58:57:000	37000000
ARUNCH	1C	NAMSA_PG	NAMSAI CB 220/132 T3 (SEC) CLOSED	17 Apr 2025 14:00:33:000	17 Apr 2025 14:00:27:000	58000000
TSECL	1C	UDAIP_TE	UDAIPUR CB 66Kv LINE-1 TO GUMTI CLOSED	17 Apr 2025 14:06:12:000	17 Apr 2025 14:05:22:000	3.74E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE-1 TO KMENG OPEN	17 Apr 2025 14:06:33:000	17 Apr 2025 14:06:04:000	7.63E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132/33 T1 (PRIM) BETWEEN	17 Apr 2025 14:06:33:000	17 Apr 2025 14:06:12:000	8.04E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD BAJEN CLOSED	17 Apr 2025 14:17:15:000	17 Apr 2025 14:16:53:000	5.55E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO SEPPA OPEN	17 Apr 2025 14:17:38:000	17 Apr 2025 14:17:14:000	7.87E+08
ARUNCH	1C	NAMSA_PG	NAMSAI CB 220/132 T3 (PRIM) CLOSED	17 Apr 2025 14:17:17:000	17 Apr 2025 14:17:16:000	2.9E+08
TSECL	1C	UDAIP_TE	UDAIPUR CB 66Kv LINE-1 TO GUMTI CLOSED	17 Apr 2025 14:42:18:000	17 Apr 2025 14:41:52:000	6.23E+08
TSECL	1C	UDAIP_TE	UDAIPUR CB 66Kv LINE-1 TO GUMTI OPEN	17 Apr 2025 14:44:20:000	17 Apr 2025 14:43:54:000	3.09E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (PRIM) CLOSED	17 Apr 2025 14:44:12:000	17 Apr 2025 14:44:08:000	7.73E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (SEC) CLOSED	17 Apr 2025 14:44:30:000	17 Apr 2025 14:44:25:000	5.8E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 132 KV COUPLER (07) CLOSED	17 Apr 2025 14:44:51:000	17 Apr 2025 14:44:49:000	1.15E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 132/33 T1 (PRIM) BETWEEN	17 Apr 2025 14:45:12:000	17 Apr 2025 14:45:09:000	6.51E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 CLOSED	17 Apr 2025 15:59:09:000	17 Apr 2025 15:58:43:000	7.91E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 CLOSED	17 Apr 2025 15:59:09:000	17 Apr 2025 15:58:43:000	7.91E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE-1 TO KMENG CLOSED	17 Apr 2025 15:59:21:000	17 Apr 2025 15:58:54:000	3.17E+08
TSECL	1C	BUDHJ_TE	BUDHJUNGNAGAR CB 132/33 T1 (PRIM) CLOSED	17 Apr 2025 15:59:21:000	17 Apr 2025 15:59:04:000	4.26E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132/33 T1 (PRIM) CLOSED	17 Apr 2025 01:33:26:000	21 May 2029 06:54:45:000	1.71E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132/33 T1 (PRIM) CLOSED	17 Apr 2025 16:00:34:000	21 May 2029 21:21:16:000	69000000
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO SEPPA CLOSED	17 Apr 2025 17:59:03:000	21 May 2029 23:20:21:000	2.74E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

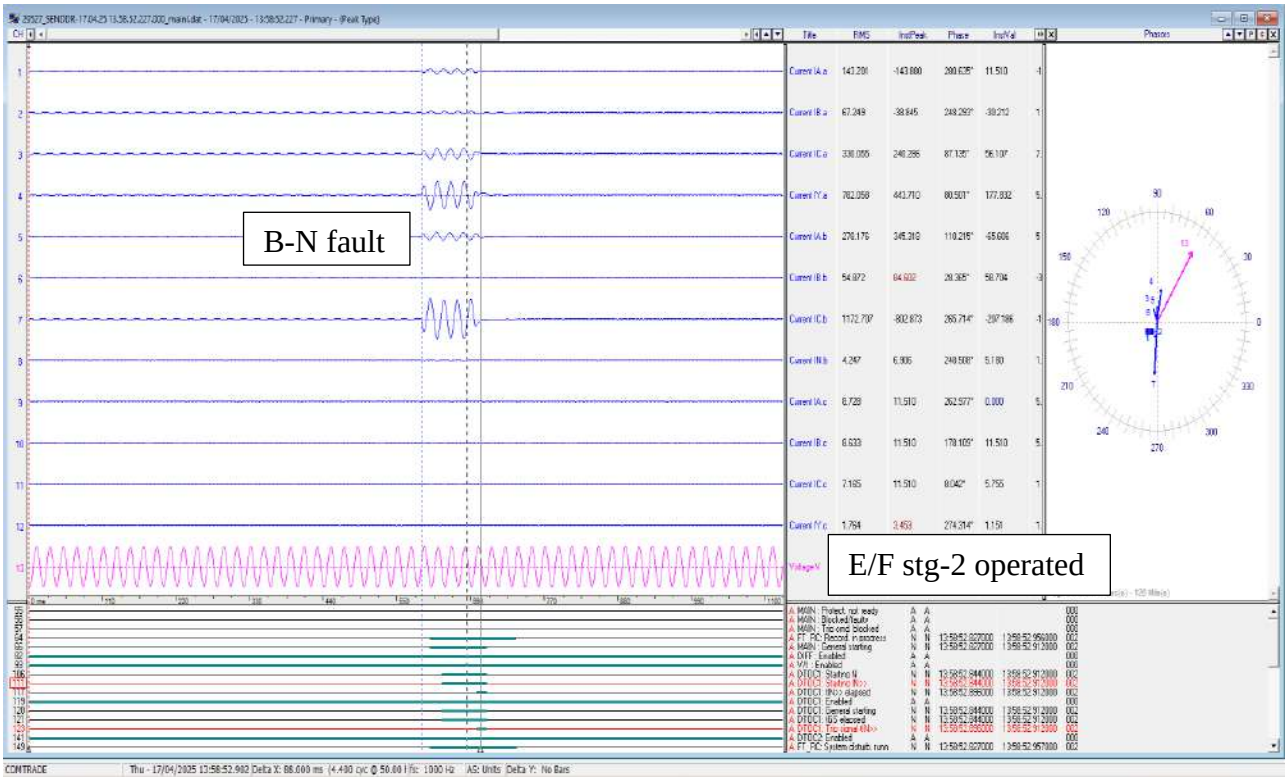
2.1. DR Snapshot of Khupi for 132 kV Khupi-Seppa Line



2.2. DR Snapshot of Seppa for 132 kV Khupi-Seppa Line



2.2. DR Snapshot of Kameng for 400/132 kV Kameng ICT



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Zuangtui, Serchhip and Saitual areas of Mizoram power system of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):01-05-2025

1. Event Summary (घटना का सारांश):

Zuangtui, Serchhip and Saitual areas of Mizoram power system were connected with rest of NER grid through 132 kV Melriat(PG)-Zuangtui Line. Prior to the event, 132 kV Serchhip-Lunglei & 132 kV Sihhmui-Zuangtui Lines were kept open due to system requirement.

At 15:16 Hrs of 17.04.2025, 132 kV Zuangtui-Serchhip Line tripped leading to grid disturbance in Serchhip area of Mizoram power system.

At 15:23 Hrs of 17.04.2025, 132 kV Melriat(PG)-Zuangtui Line tripped leading to grid disturbance in Zuangtui & Saitual areas of Mizoram power system.

Power supply was restored to Zuangtui S/S by charging 132 kV Melriat(PG) – Zuangtui line at 16:36 Hrs of 17-04-2025.

Power supply was restored to Serchhip area by charging 132 kV Zuangtui-Serchhip line at 14:12 Hrs of 19-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 15:16 Hrs of 17-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Zuangtui, Serchhip and Saitual areas of Mizoram

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.99	1421	2167
Post Event (घटना के बाद)	49.99	1426	2171

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Lunglei – Serchhip and 132 kV Sihhmui-Zuangtui lines open due to system requirement
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 24 MW at Zuangtui & 9 MW at Serchhip
3. **Duration of interruption (रुकावट की अवधि):** 1 hrs 13 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

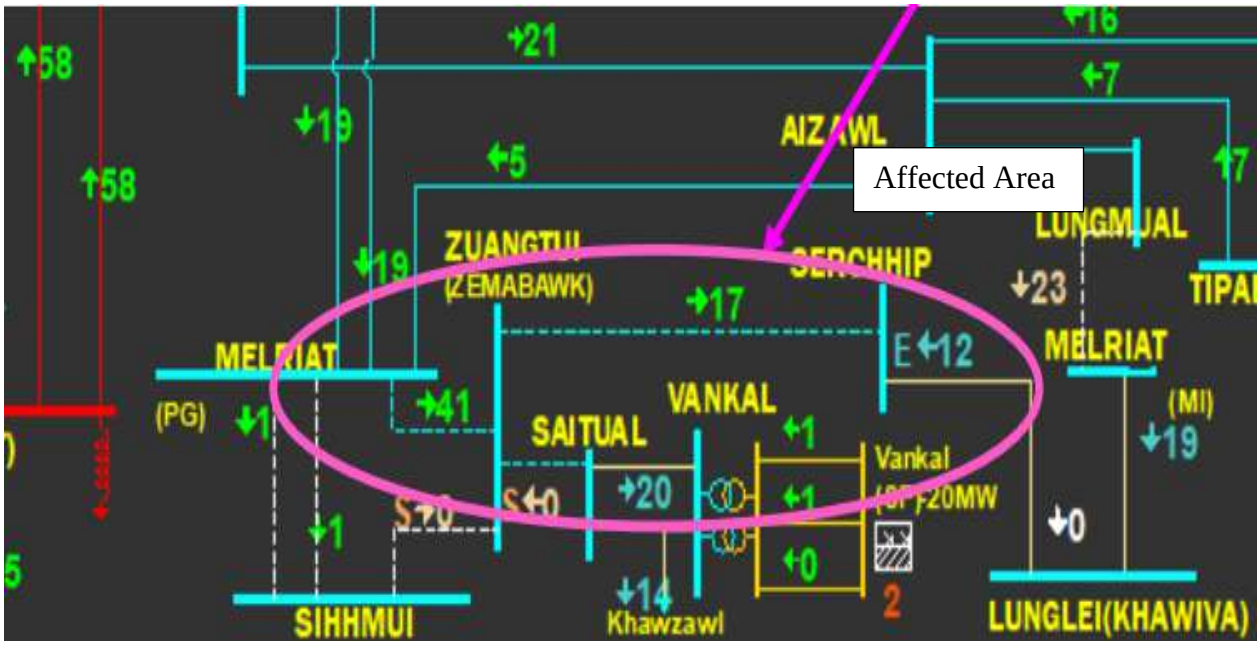


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**
6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Zuangtui-Serchhip Line	15:16	13:51 Hrs of 19.04.2025	DP, ZI, R-Y, 19.29 Km	No tripping (radial)

2	132 kV Melriat(PG)-Zuangtui Line	15:23	16:36	Not furnished (DR/EL not submitted)	DP, ZI, R-Y

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):

As per DR analysis of 132 kV Zuangtui-Serchhip Line, R-Y fault (Ir-2.49 kA, Iy-2.38 kA) initiated at 15:15:08.702 Hrs and cleared within 80 msec from Zuangtui end on operation of DP, ZI. There was no tripping from Serchip end (radial). AR attempted from Zuangtui end and tripped on reclaim time.

Tripping of 132 kV Melriat(PG)-Zuangtui Line could not be analysed due to non-availability of FIR/DR/EL.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NIL

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**P&ED Mizoram**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**POWERGRID & P&ED Mizoram**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**P&ED Mizoram (submitted on 29.04.2025)**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**No violation**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

- Proper maintenance related activities as per CEA regulations needs to be carried out.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
TSECL	1C	UDAIP_TE	UDAIPUR CB 66Kv LINE-1 TO GUMTI CLOSED	17 Apr 2025 15:10:13:000	17 Apr 2025 15:09:19:000	7.69E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 CLOSED	17 Apr 2025 15:14:20:000	17 Apr 2025 15:14:10:000	9.53E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 CLOSED	17 Apr 2025 15:14:20:000	17 Apr 2025 15:14:10:000	9.53E+08
MIZORM	1C	ZUANG_MI	ZUANGTUI CB 132Kv LINE TO SERCH OPEN	17 Apr 2025 15:16:26:000	17 Apr 2025 15:16:06:000	4.47E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 BETWEEN	17 Apr 2025 15:18:27:000	17 Apr 2025 15:18:26:000	4.78E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 BETWEEN	17 Apr 2025 15:18:27:000	17 Apr 2025 15:18:26:000	4.78E+08
TSECL	1C	BUDHJ_TE	BUDHJUNGNAGAR CB 132 KV COUPLER (02) OPEN	17 Apr 2025 15:23:21:000	17 Apr 2025 15:22:58:000	1.58E+08
MIZORM	1C	MELRI_PG	MELRIAT CB 132Kv LINE TO ZUANG OPEN	17 Apr 2025 15:23:47:000	17 Apr 2025 15:23:46:000	6.42E+08
MEECL	1C	MAWPH_ME	MAWNGAP CB 132Kv LINE-2 TO UMIA1 CLOSED	17 Apr 2025 15:28:18:000	17 Apr 2025 15:27:48:000	7.23E+08
MEECL	1C	MAWPH_ME	MAWNGAP CB 132Kv LINE-2 TO UMIA1 OPEN	17 Apr 2025 15:28:55:000	17 Apr 2025 15:28:29:000	1.62E+08
ARUNCH	1C	NAMSA_PG	NAMSAI CB REACTOR E_05_BR CB CLOSED	17 Apr 2025 16:50:16:000	17 Apr 2025 16:34:53:000	5.84E+08
MIZORM	1C	MELRI_PG	MELRIAT CB 132Kv LINE TO ZUANG CLOSED	17 Apr 2025 16:36:36:000	17 Apr 2025 16:36:35:000	1.9E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD BAJEN CLOSED	17 Apr 2025 16:37:33:000	17 Apr 2025 16:37:23:000	6.43E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. EL Snapshot of Zuangtui for 132 kV Zuangtui-Serchhip Line

Thursday 17 April 2025 15:15:08.781	Any Trip C OFF
Thursday 17 April 2025 15:15:08.781	3P Trip OFF
Thursday 17 April 2025 15:15:08.781	Any Trip B OFF
Thursday 17 April 2025 15:15:08.781	Any Int. Trip C OFF
Thursday 17 April 2025 15:15:08.781	Any Trip A OFF
Thursday 17 April 2025 15:15:08.770	DIST Sig. Send OFF
Thursday 17 April 2025 15:15:08.760	DIST Trip A OFF
Thursday 17 April 2025 15:15:08.760	DIST Trip B OFF
Thursday 17 April 2025 15:15:08.760	Any Start OFF
Thursday 17 April 2025 15:15:08.760	DIST Fwd OFF
Thursday 17 April 2025 15:15:08.760	DIST Trip C OFF
Thursday 17 April 2025 15:15:08.760	Z2 OFF
Thursday 17 April 2025 15:15:08.760	Z3 OFF
Thursday 17 April 2025 15:15:08.760	Z1 OFF
Thursday 17 April 2025 15:15:08.760	DIST Start A OFF
Thursday 17 April 2025 15:15:08.760	DIST Start B OFF
Thursday 17 April 2025 15:15:08.755	Any Pole Dead ON
Thursday 17 April 2025 15:15:08.755	All Pole Dead ON
Thursday 17 April 2025 15:15:08.752	CB Aux A ON
Thursday 17 April 2025 15:15:08.752	CB Aux B ON
Thursday 17 April 2025 15:15:08.752	CB Aux C ON
Thursday 17 April 2025 15:15:08.747	Logic Inputs 1
Thursday 17 April 2025 15:15:08.735	Output Contacts1
Thursday 17 April 2025 15:15:08.730	Logic Inputs 1
Thursday 17 April 2025 15:15:08.702	DIST Trip C ON
Thursday 17 April 2025 15:15:08.702	DIST Trip B ON
Thursday 17 April 2025 15:15:08.702	DIST Start A ON
Thursday 17 April 2025 15:15:08.702	Z1 ON

Thursday 17 April 2025 15:15:09.055	Fault Recorded
Description	132kv Line
Plant reference	SERCHHIP
Model number	P442911B2M0710M
Address	001 Column:01 Row:00
Event type	Fault record
Event Value	0
Active Group	1
Faulted Phase	1110011
Start Elements	00000000010000000000000001
Tripped Elts	00000000000000010000000000C
Time Stamp Thursday 17 April ...	15:15:08.702
Fault Alarms	00000000000000
System Frequency	50.06 Hz
Fault Duration	58.26ms
Relay Trip Time	79.90ms
Fault Location	19.29km
IA	2494 A
IB	2387 A
IC	111.1 A
VAN	42.93kV
VBN	41.43kV
VCN	74.82kV
Fault Resistance	-2.798mOhm
Fault in Zone Zone	1
Tripped Elts 2	0000000000000000
Start Elements 2	000000000000
Evt Unique Id	32304

R-Y fault

Thursday 17 April 2025 15:15:17.620	Any Trip A ON
Thursday 17 April 2025 15:15:17.620	Any Int. Trip C ON
Thursday 17 April 2025 15:15:17.620	Output Contacts1
Thursday 17 April 2025 15:15:17.620	3P Trip ON
Thursday 17 April 2025 15:15:17.620	Any Trip C ON
Thursday 17 April 2025 15:15:17.620	Z3 ON
Thursday 17 April 2025 15:15:17.620	Z2 ON
Thursday 17 April 2025 15:15:17.620	Z1 ON
Thursday 17 April 2025 15:15:17.620	Any Int. Trip B ON
Thursday 17 April 2025 15:15:17.620	Any Int. Trip A ON
Thursday 17 April 2025 15:15:17.620	Any Trip ON
Thursday 17 April 2025 15:15:14.198	TOR Enable OFF
Thursday 17 April 2025 15:15:13.899	A/R Close OFF
Thursday 17 April 2025 15:15:13.899	Output Contacts1
Thursday 17 April 2025 15:15:13.782	Any Pole Dead OFF
Thursday 17 April 2025 15:15:13.779	Output Contacts1
Thursday 17 April 2025 15:15:13.775	All Pole Dead OFF
Thursday 17 April 2025 15:15:13.774	Logic Inputs 1
Thursday 17 April 2025 15:15:13.760	CB Aux A OFF
Thursday 17 April 2025 15:15:13.760	CB Aux B OFF
Thursday 17 April 2025 15:15:13.760	CB Aux C OFF
Thursday 17 April 2025 15:15:13.755	Logic Inputs 1
Thursday 17 April 2025 15:15:13.700	TOR Enable ON
Thursday 17 April 2025 15:15:13.699	A/R 3P In Prog OFF
Thursday 17 April 2025 15:15:13.699	A/R Close ON
Thursday 17 April 2025 15:15:13.699	Output Contacts1
Thursday 17 April 2025 15:15:13.699	A/R Reclaim ON

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Pasighat, Napit & Niglok areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):06-05-2025

1. Event Summary (घटना का सारांश):

Pasighat, Napit & Niglok areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Along-Pasighat & 132 kV Roing - Pasighat lines.

At 00:37 Hrs of 22-04-2025, 132 kV Along-Pasighat & 132 kV Roing - Pasighat lines tripped. Due to tripping of these elements, Pasighat and radially connected Napit & Niglok areas of Arunachal Pradesh Power System got isolated from NER Grid and collapsed due to no source available in these areas.

Power supply was extended to Pasighat area and radially connected Napit & Niglok by charging 132 kV Roing –Pasighat line at 01:56 Hrs of 22-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 00:37 Hrs of 22-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Pasighat, Napit & Niglok areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.88	2041	2075
Post Event (घटना के बाद)	49.88	1992	2039

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL

Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 22 MW
3. **Duration of interruption (रुकावट की अवधि):** 1 Hr 19 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

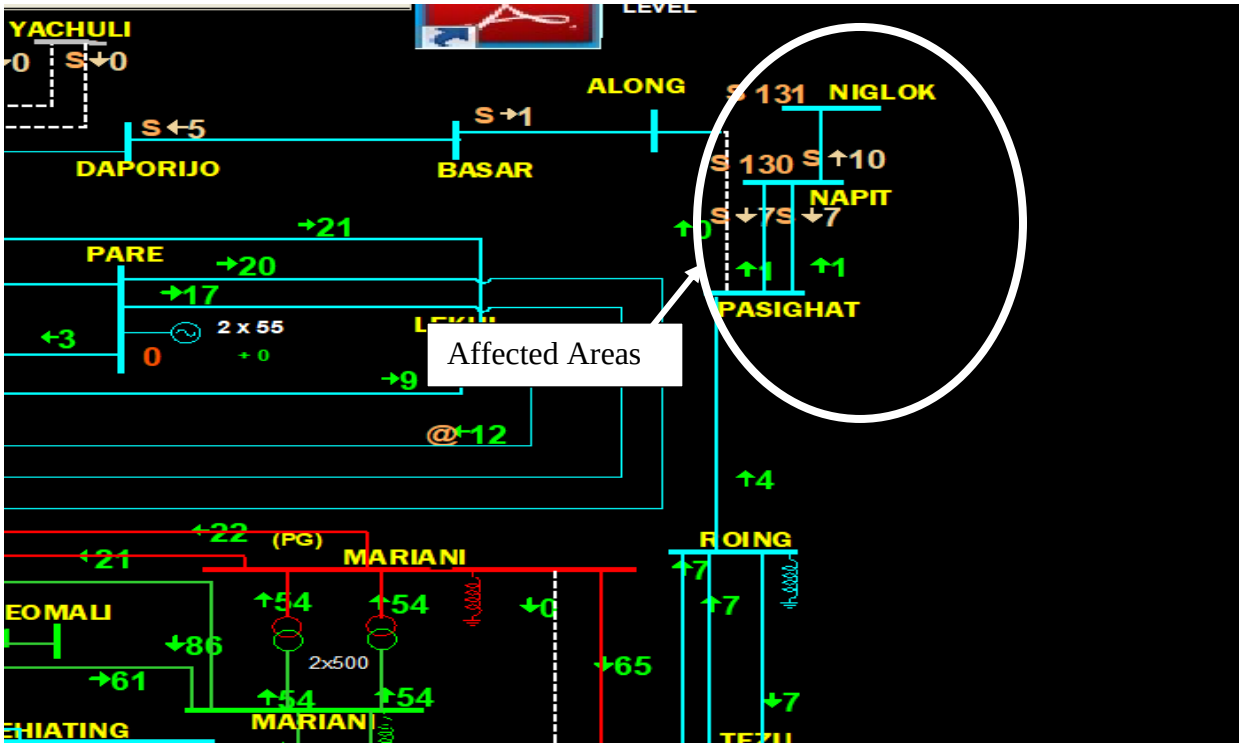


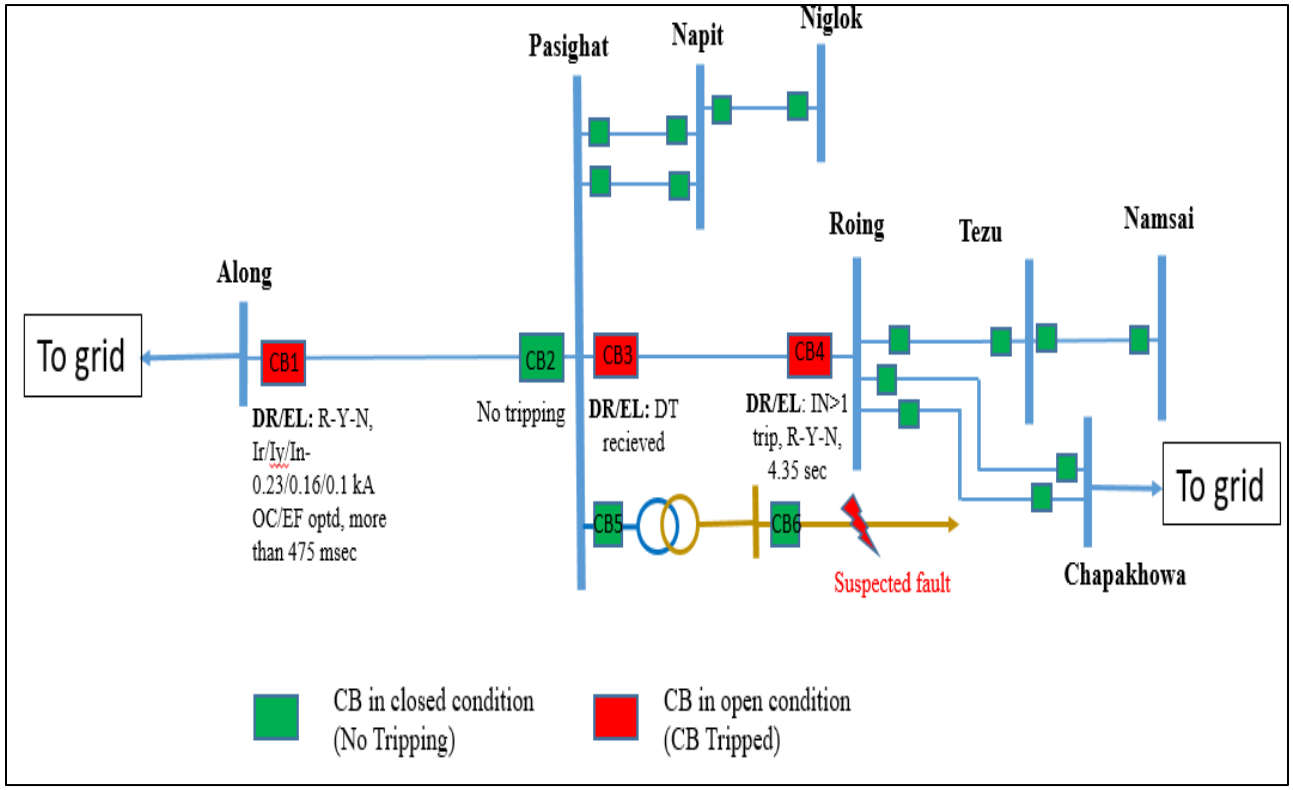
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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	132kV Along-Pasighat Line	00:37	08:49	R-Y-N, OC/EF optd	No tripping
2	132kV Pasighat – Roing Line	00:37	01:56	DT recieved	E/F, R-Y-N

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, R-Y-N fault with Ir-237 A, Iy-167 A, In-107 A observed which was cleared in more than 475 msec from Along end on operation of OC/EF protection. No tripping from Pasighat end as per submitted DR. Fault duration recorded at Pasighat EL - 3.726 sec.

For 132 kV Roing-Pasighat Line, R-Y-N fault initiated at 00:37:16.786 Hrs and cleared within 4.35 sec on operation of E/F from Roing end and DT recieved at Pasighat end.

As informed by DoP Arunachal Pradesh, fault was in 33 kV side of Pasighat S/S which was not cleared resulting in clearing of fault by tripping of healthy 132 kV Along-Pasighat & 132 kV Roing-Pasighat lines.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Protection system of downstream feeder and HV side of transformer failed to isolate the fault resulting in clearing of fault by tripping of healthy 132 kV Along-Pasighat and 132 kV Roing-Pasighat Lines.
- For DR submitted for 132 kV Along-Pasighat & 132 kV Roing-Pasighat lines, pre-fault data is not visible which is the cause of concern. As per DR Standardisation report of FOLD Working Group 3, pre-fault data of 500 msec and post fault data of 1500 msec should be visible in the DR window.

- DR Time drift of 2 min observed at Pasighat for 132 kV Along Line and 13 min for 132 kV Roing Line.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**No violation**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**POWERGRID**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**DoP AP**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**2 min observed at Pasighat for 132 kV Along Line and 13 min for 132 kV Roing Line**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

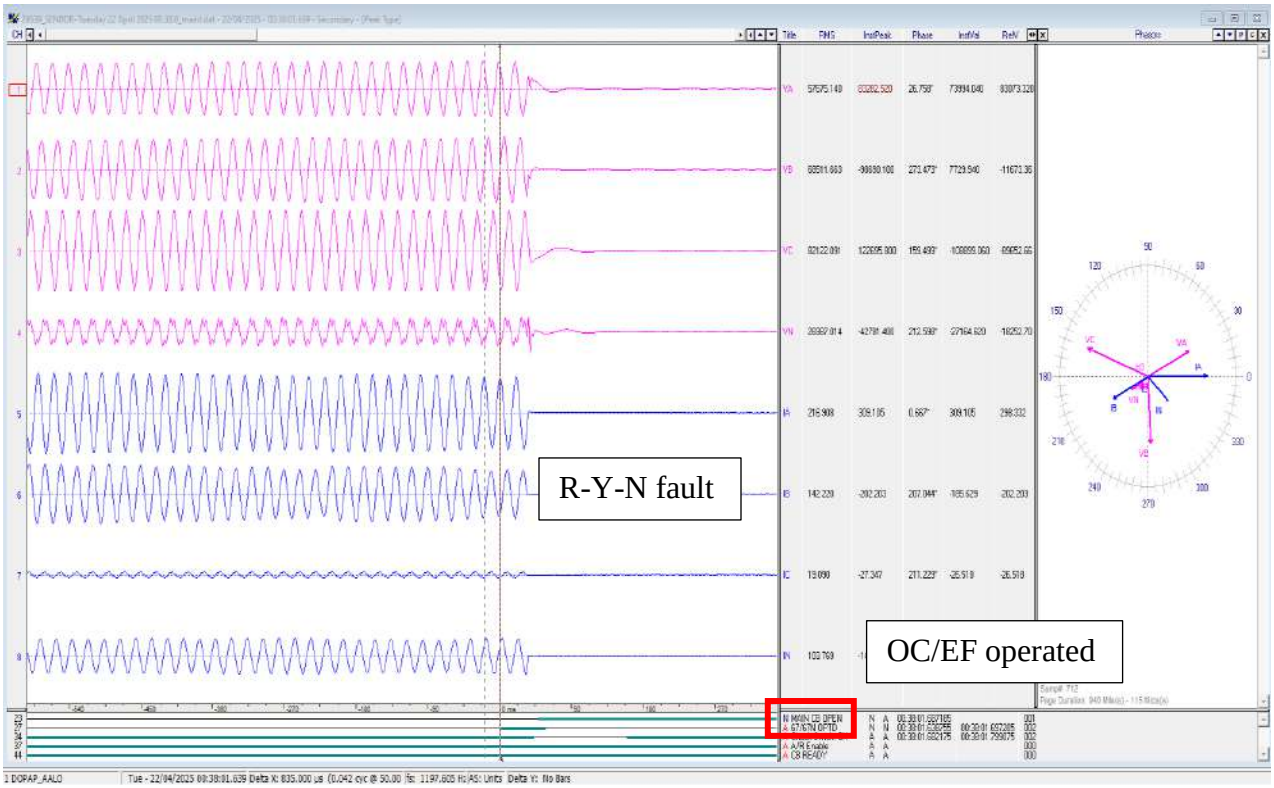
- Proper maintenance related activities as per CEA regulations needs to be carried out.
- Healthiness of protection system of downstream needs to be ensured at all times.
- Installation of time synchronization equipment at Substations needs to be ensured for correct post fault analysis.

Annexure 1: Sequence of Events as per SCADA-

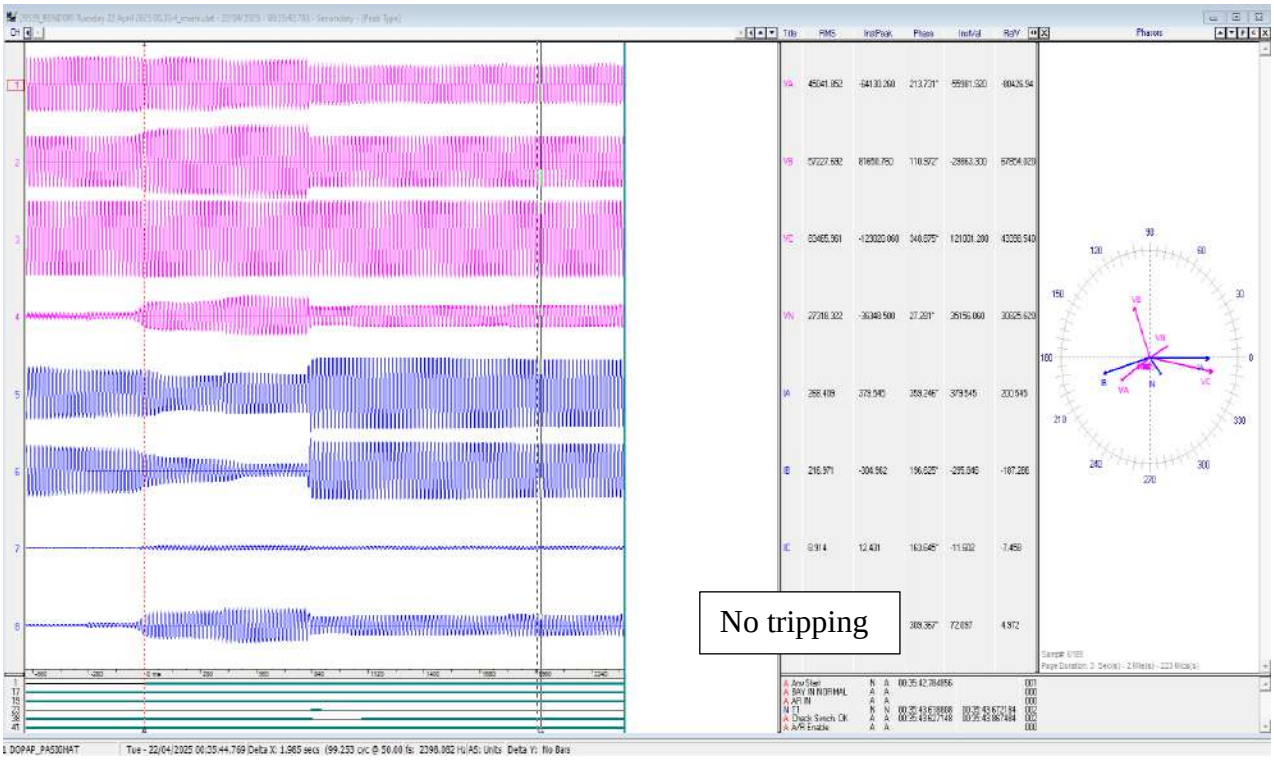
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
NAGALD	1C	DIMAP_NA	DIMAPUR NAGARJAN CB 33Kv LOAD-1 OPEN	22 Apr 2025 00:06:17:000	22 Apr 2025 00:05:44:000	1.17E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC CLOSED	22 Apr 2025 00:28:48:000	22 Apr 2025 00:28:18:000	7.62E+08
ARUNCH	1C	ALONG_AR	ALONG CB 132Kv LINE TO PASIG OPEN	22 Apr 2025 00:37:46:000	22 Apr 2025 00:31:06:000	8.03E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO PASIG OPEN	22 Apr 2025 00:37:22:000	22 Apr 2025 00:37:21:000	1.31E+08
AEGCL	1C	LANGP_AS	KARBI LONGPI CB 11 KV UNIT (G2) OPEN	22 Apr 2025 00:37:46:000	22 Apr 2025 00:37:29:000	2.13E+08
AEGCL	1C	BALIP_PG	BALIPARA CB MN CB BONGA 3 OPEN	22 Apr 2025 01:53:06:000	22 Apr 2025 01:53:06:000	17000000
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD BAGHM OPEN	22 Apr 2025 01:54:38:000	22 Apr 2025 01:54:15:000	9.1E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO PASIG CLOSED	22 Apr 2025 01:56:25:000	22 Apr 2025 01:56:23:000	9.41E+08
NAGALD	1C	MOKOK_NA	MOKOKCHUNG CB 66Kv LINE-1 TO ZUHEN CLOSED	22 Apr 2025 02:04:48:000	22 Apr 2025 02:04:20:000	5.75E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC CLOSED	22 Apr 2025 02:05:42:000	22 Apr 2025 02:04:48:000	5.01E+08
MEECL	1C	KILLI_ME	KILLING CB 132Kv LINE-1 TO EPIP1 OPEN	22 Apr 2025 08:46:17:000	22 Apr 2025 08:45:48:000	1.18E+08
ARUNCH	1C	ALONG_AR	ALONG CB 132Kv LINE TO PASIG CLOSED	22 Apr 2025 08:49:18:000	22 Apr 2025 08:48:53:000	8.98E+08
MEECL	1C	KILLI_ME	KILLING CB 400/220 T4 (PRIM) OPEN	22 Apr 2025 09:02:32:000	22 Apr 2025 09:01:44:000	6.76E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

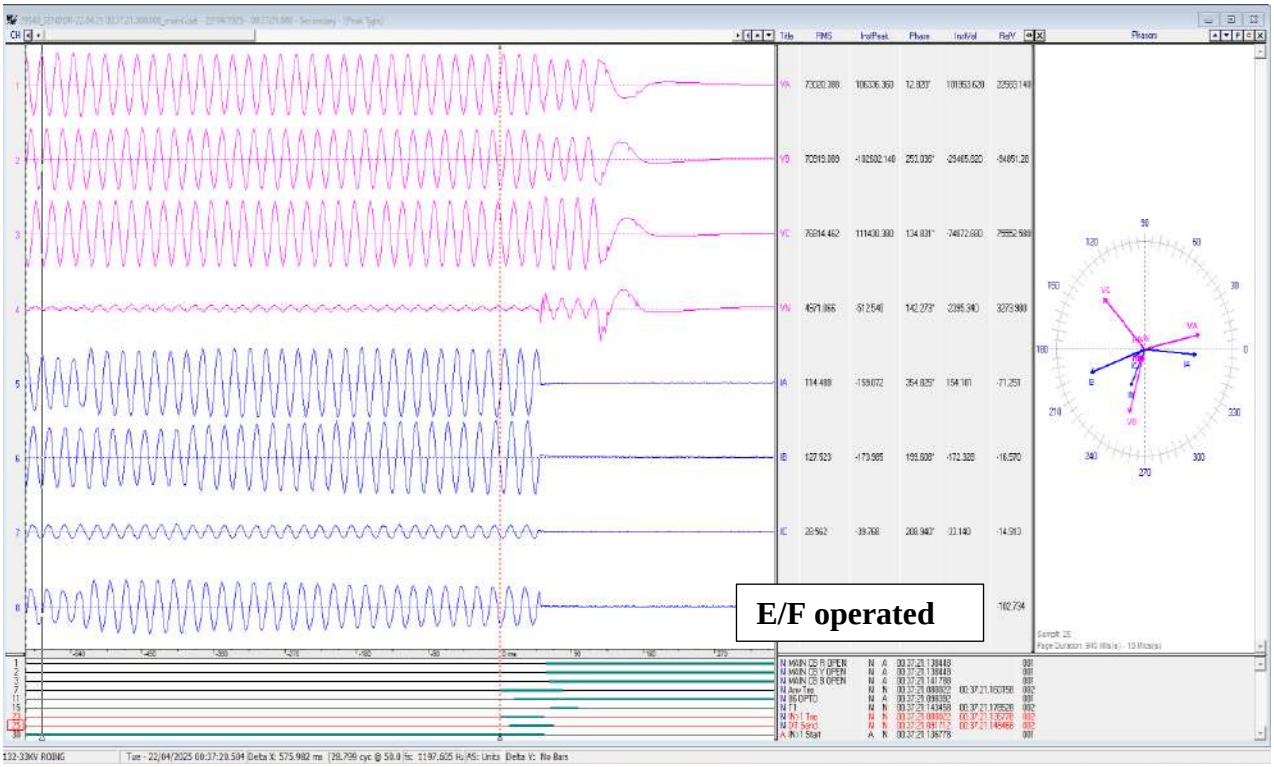
2.1. DR Snapshot of Along for 132 kV Along-Pasighat Line



2.2. DR Snapshot of Pasighat for 132 kV Along-Pasighat Line



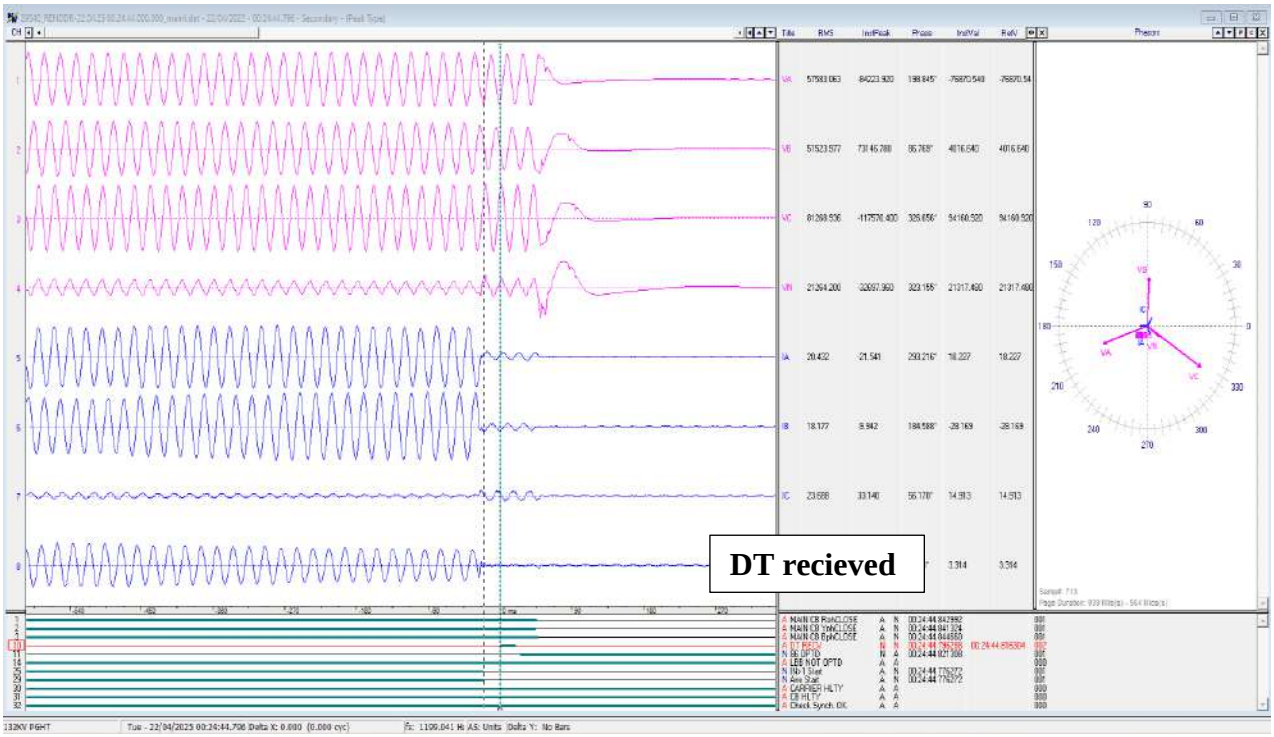
2.3. DR Snapshot of Roing for 132 kV Roing-Pasighat Line



2.4. EL Snapshot of Roing for 132 kV Roing-Pasighat Line

Tuesday 22 April 2025 00:37:21.592	**Fault Recorded**
Description	PASIGHAT DIST PR
Plant reference	132/33KV ROING
Model number	P442316B6M0D70K
Address	001 Column:01 Row:00
Event type	Fault record
Event Value	0
Active Group	1
Faulted Phase	1110000
Start Elements	00000000000000000001000001
Tripped Elts	00000000000000000000000010C
Time Stamp Tuesday 22 April 2025	00:37:16.786
Fault Alarms	000000000000000
System Frequency	49.93 Hz
Fault Duration	4.349 s **Fault duration**
Relay Trip Time	80.12ms
IA	161.6 A
IB	165.7 A
IC	78.24 A
VAN	69.76kV
VBN	68.97kV
VCN	72.89kV
Fault in Zone	None
Tripped Elts 2	000000000000000000
Start Elements 2	000000000000

2.5. DR Snapshot of Pasighat for 132 kV Roing-Pasighat Line



ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Pasighat, Napit & Niglok areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):06-05-2025

1. Event Summary (घटना का सारांश):

Pasighat and radially connected Napit & Niglok areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Roing - Pasighat lines. Prior to the event, 132 kV Along-Pasighat line tripped at 00:37 Hrs of 22-04-2025.

At 08:02 Hrs of 22-04-2025, 132 kV Roing - Pasighat line tripped. Due to tripping of these elements, Pasighat and radially connected Napit & Niglok areas of Arunachal Pradesh Power System got isolated from NER Grid and collapsed due to no source available in these areas.

Power supply was extended to Pasighat area and radially connected Napit & Niglok by charging 132 kV Along –Pasighat line at 08:49 Hrs of 22-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 08:02 Hrs of 22-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Pasighat, Napit & Niglok areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.15	1808	2056
Post Event (घटना के बाद)	50.15	1748	2043

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Along-Pasighat Line tripped at 00:37 Hrs of 22.04.2025

Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 5 MW
3. **Duration of interruption (रुकावट की अवधि):** 41 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

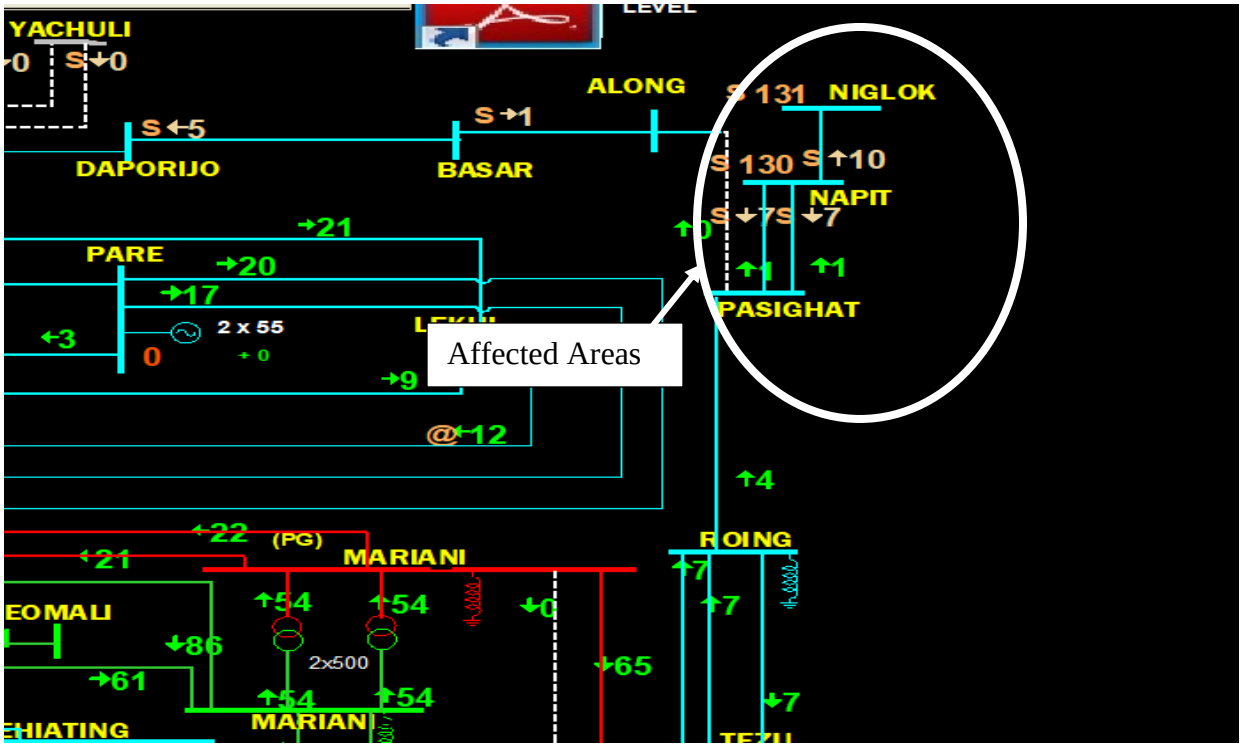


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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	132kV Roing-Pasighat Line	08:02	09:31	DP, ZII, R-Y	No tripping, Z4 start

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):

As per DR analysis, resistive R-Y fault (Ir-0.759 kA, Iy-0.719 kA) initiated at 08:01:55.689 Hrs and cleared within 409 msec from Roing end on operation of DP, ZII. There was no tripping from Pasighat end (Z4 start)

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NIL

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**DoP Arunachal Pradesh**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**DoP Arunachal Pradesh**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 13 min at Pasighat end**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

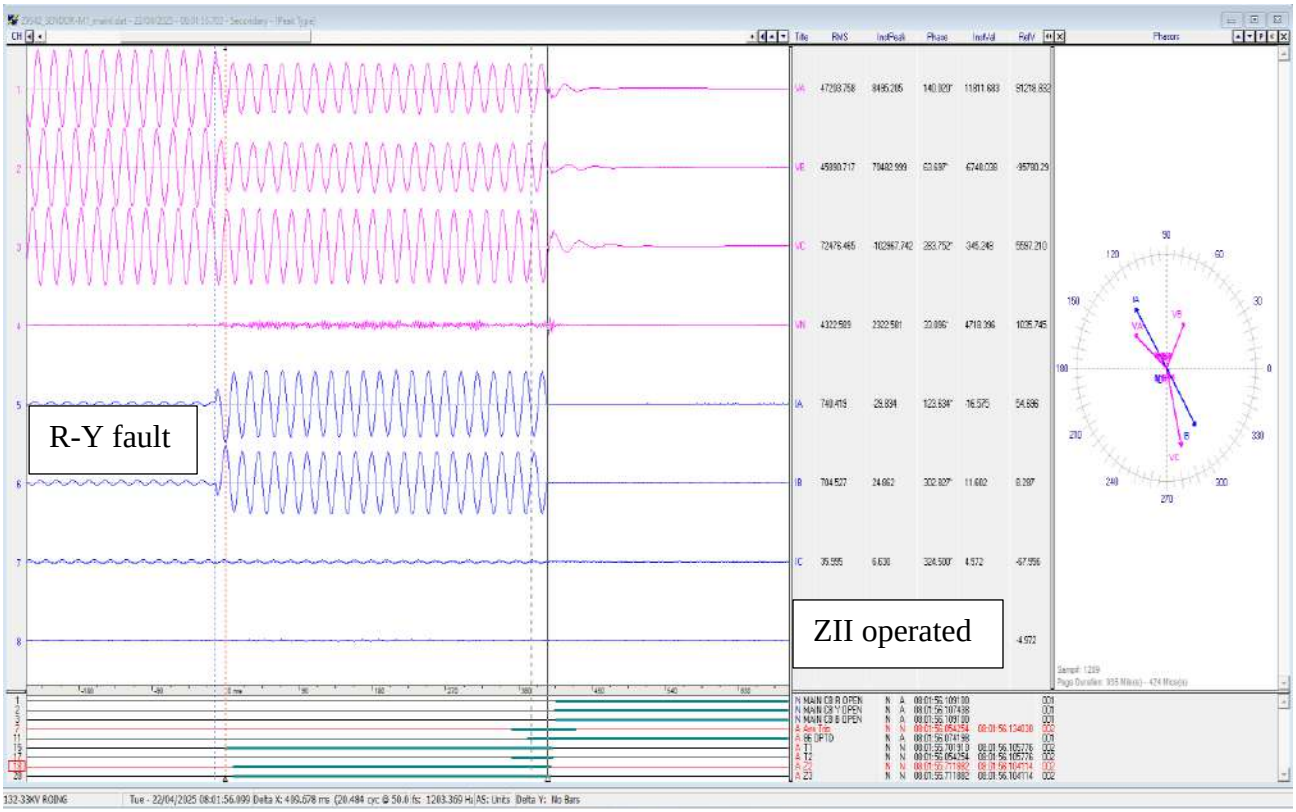
- Proper maintenance related activities as per CEA regulations needs to be carried out.
- Installation of time synchronization equipment at Substations needs to be ensured for correct post fault analysis.

Annexure 1: Sequence of Events as per SCADA-

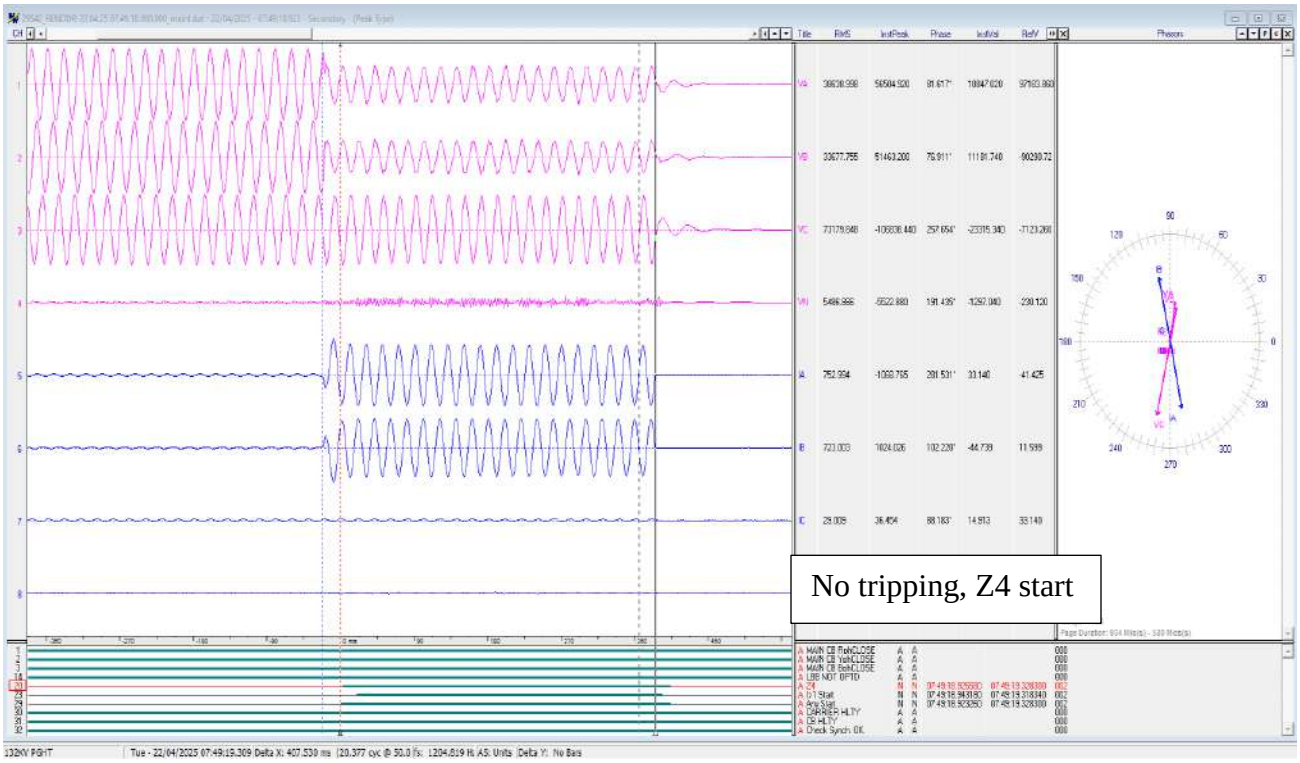
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
-------	----------	-------	----------	----------	----------	----------
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 CLOSED	22 Apr 2025 08:02:04:000	22 Apr 2025 08:01:55:000	7.63E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 CLOSED	22 Apr 2025 08:02:04:000	22 Apr 2025 08:01:55:000	7.63E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO PASIG OPEN	22 Apr 2025 08:01:57:000	22 Apr 2025 08:01:56:000	1.02E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	22 Apr 2025 08:02:10:000	22 Apr 2025 08:02:09:000	4.5E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB BETWEEN	22 Apr 2025 08:02:47:000	22 Apr 2025 08:02:17:000	6.4E+08
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD NANGL OPEN	22 Apr 2025 08:03:00:000	22 Apr 2025 08:02:31:000	13000000
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_3 BETWEEN	22 Apr 2025 09:31:18:000	22 Apr 2025 09:31:17:000	7.49E+08
AEGCL	1C	BALIP_PG	BALIPARA CB FSC_BONGA_4 BETWEEN	22 Apr 2025 09:31:18:000	22 Apr 2025 09:31:17:000	7.49E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO PASIG CLOSED	22 Apr 2025 09:31:48:000	22 Apr 2025 09:31:47:000	1.89E+08
AEGCL	1C	RANGI_AS	RANGIA CB 132Kv LOAD MTNGA CLOSED	22 Apr 2025 12:27:25:000	22 Apr 2025 09:37:55:000	17000000

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Roing for 132 kV Roing-Pasighat Line



2.2. DR Snapshot of Pasighat for 132 kV Roing-Pasighat Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Kohima area of Nagaland of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):07-05-2025

1. Event Summary (घटना का सारांश):

Kohima area of Nagaland power system was connected with rest of NER grid through 132 kV Kohima-Zadhima Line. Prior to the event, 132 kV Kohima-Karong & 132 kV Dimapur(PG)-Kohima were already under outage from 11:45 Hrs & 16:04 Hrs of 23-04-2024 respectively. Also, 132 kV Meluri-Kohima line is under prolonged shutdown.

At 16:23 Hrs of 23-04-2025, 132 kV Kohima-Zadhima Line tripped. Due to tripping of this element, Kohima area of Nagaland power system got isolated from NER grid and collapsed due to no source available in these areas.

Power supply was extended to Kohima area by charging 132 kV Kohima – Dimapur line at 16:38 Hrs of 23-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 16:23 Hrs of 23-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Kohima area of Nagaland Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.00	1982	2172
Post Event (घटना के बाद)	50.01	1998	2215

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	• 132 kV Kohima-Karong & 132 kV Dimapur(PG)-Kohima were already under outage from 11:45 Hrs & 16:04 Hrs of 23-04-2024 respectively.

	• 132 kV Meluri-Kohima line is under prolonged shutdown.
Weather Condition (मौसम स्थिति)	Cloudy

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 15 MW
3. **Duration of interruption (रुकावट की अवधि):** 15 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

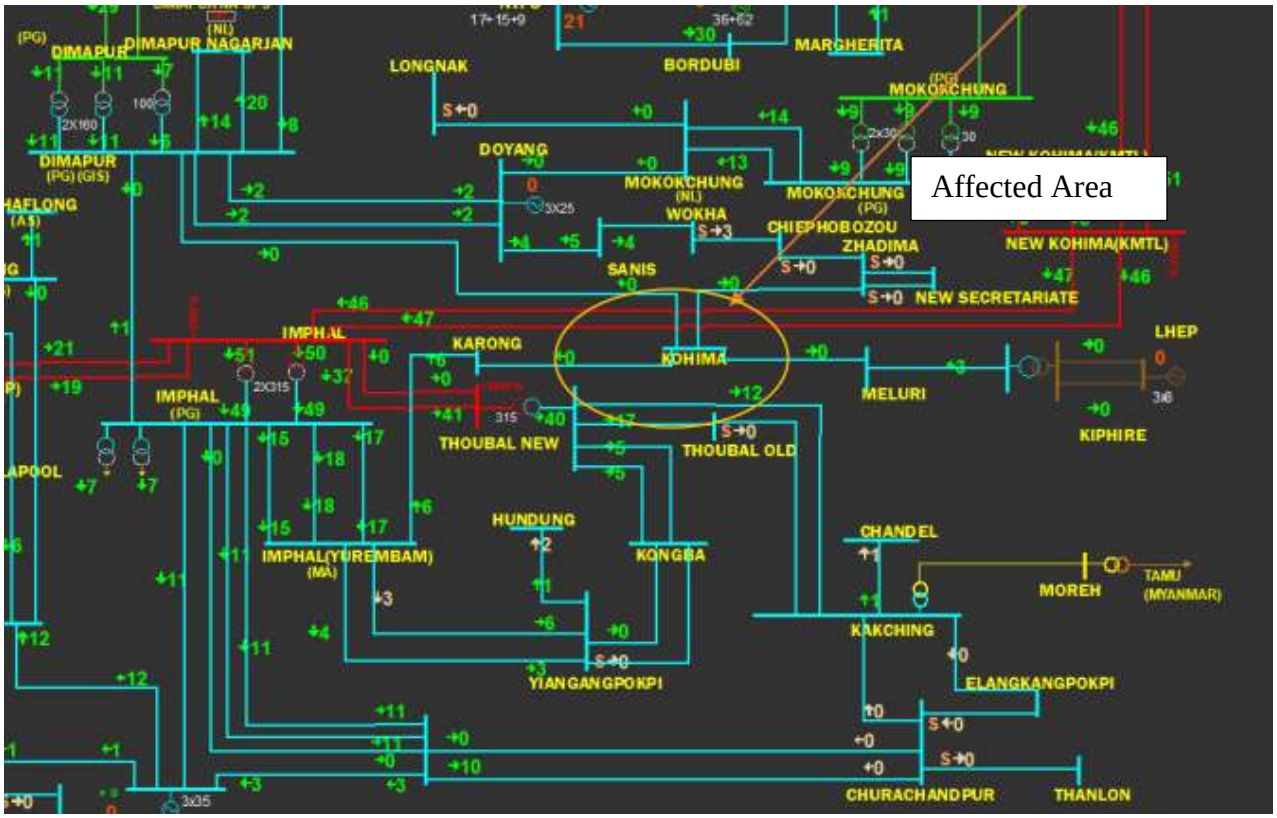


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Kohima-Zadhima Line	16:23	16:44	DT received, R-Y-B	O/C optd

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):

As per DR of Kohima end, Y-B fault initiated at 16:19:58.226 Hrs. After 137 msec, Y-B fault converted into R-Y-B fault (Ir-133 A, Iy-143 A, Ib-140 A). At 16:19:58.357 hrs, DT received at Kohima end. Total fault clearing time- 196 msec.

As per detailed report submitted by DoP Nagaland, O/C protection operated at Zadima. However, no DR/EL at Zadhima end submitted.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Reason of DT received at Kohima end needs to be investigated.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**DoP Nagaland**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**DoP Nagaland**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**DoP Nagaland**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

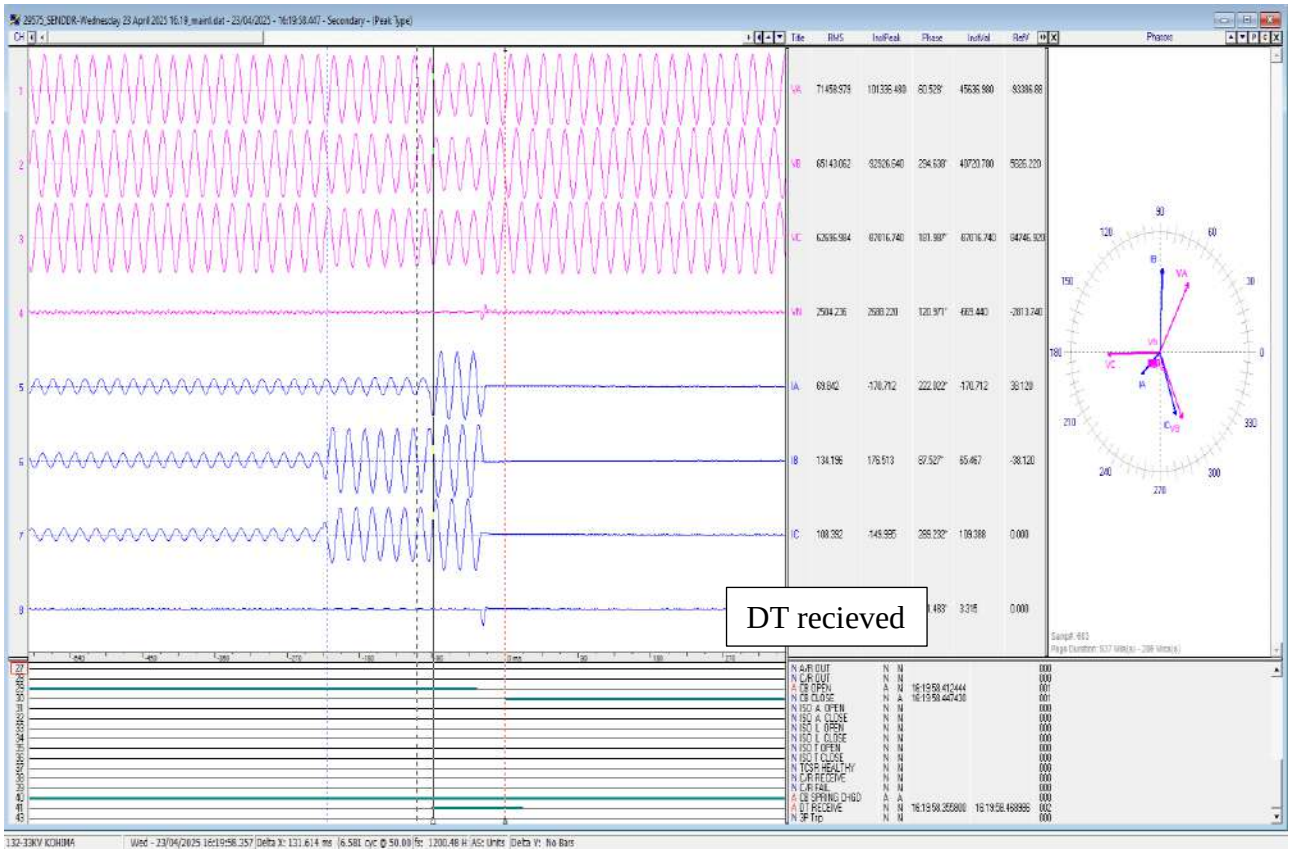
- Proper maintenance related activities as per CEA regulations needs to be carried out.
- Installation of time synchronization equipment at Substations needs to be ensured for correct post fault analysis.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
NAGALD	1C	KOHIM_NA	KOHIMA CB 132Kv LINE-1 TO DIMAP OPEN	23 Apr 2025 16:04:56:000	23 Apr 2009 16:04:35:000	9.2E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132 KV COUPLER (02) BETWEEN	23 Apr 2025 16:20:55:000	23 Apr 2009 16:20:00:000	6.83E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132Kv LINE TO ZHADI OPEN	23 Apr 2025 16:20:55:000	23 Apr 2009 16:20:00:000	6.1E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132 KV COUPLER (02) CLOSED	23 Apr 2025 16:39:01:000	23 Apr 2009 16:38:29:000	4.62E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132Kv LINE-1 TO DIMAP CLOSED	23 Apr 2025 16:39:01:000	23 Apr 2009 16:38:29:000	4.58E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132Kv LINE TO ZHADI CLOSED	23 Apr 2025 16:44:34:000	23 Apr 2009 16:44:05:000	3.54E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 33Kv LOAD OPEN	23 Apr 2025 21:54:05:000	23 Apr 2009 21:53:50:000	7.26E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 33Kv LOAD CLOSED	23 Apr 2025 21:57:40:000	23 Apr 2009 21:57:24:000	3.95E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Kohima for 132 kV Kohima-Zadhima Line



ग्रिड-इंडिया GRID-INDIA
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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Seppa area of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):07-05-2025

1. Event Summary (घटना का सारांश):

Seppa area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Khupi-Seppa Line.

At 15:47 Hrs of 24-04-2025, 132 kV Khupi-Seppa Line tripped. Due to tripping of this element, Seppa area of Arunachal Pradesh Power System got isolated from NER Grid and collapsed due to no source available in this area.

Power was extended to Seppa area by charging 132 kV Khupi-Seppa Line at 20:10 Hrs of 24-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 15:47 Hrs of 24-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Seppa areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.99	1939	2422
Post Event (घटना के बाद)	49.99	1976	2435

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 2 MW
3. **Duration of interruption (रुकावट की अवधि):** 4 Hr 23 min
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

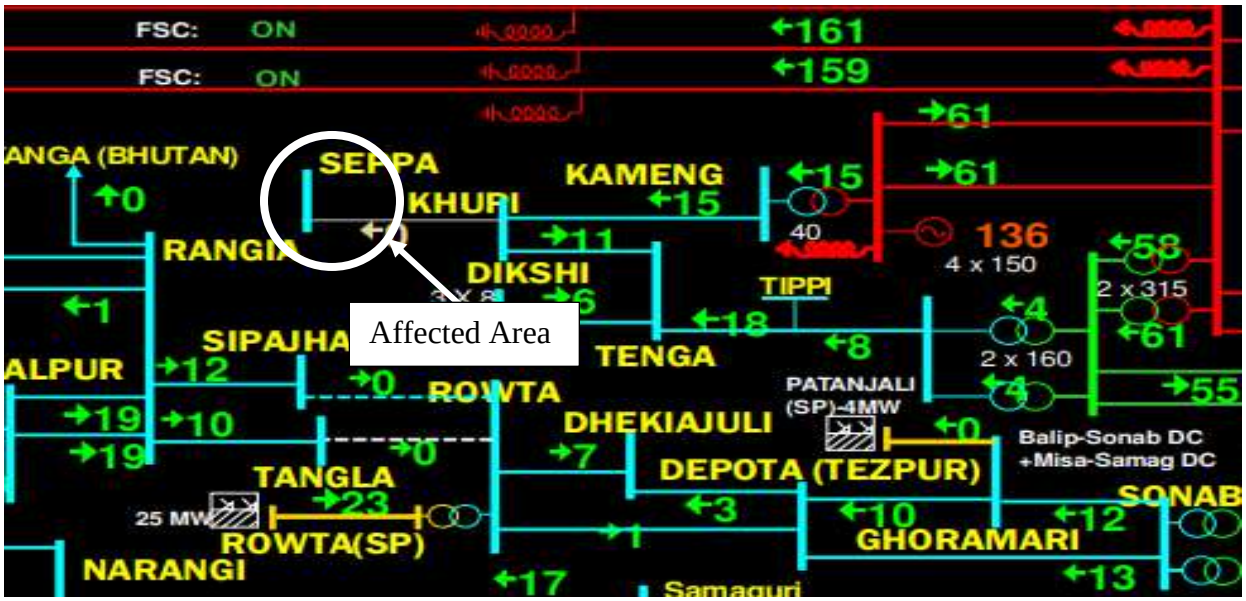


Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**
6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Khupi-Seppa Line	15:47	20:10	DP, ZI, R-Y	Details awaited

7. **Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):**

   As per DR analysis, R-Y fault (Ir-2.2 kA, Iy-2.2 kA) initiated at 15:49:09.280 Hrs which was cleared within 84 msec from Khupi end on operation of DP, ZI.

8. **Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NA**
9. **Action Taken/Remedial Measures (सुधारात्मक उपाय):** **NIL**

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**DoP AP**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**DoP AP**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**DoP AP**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

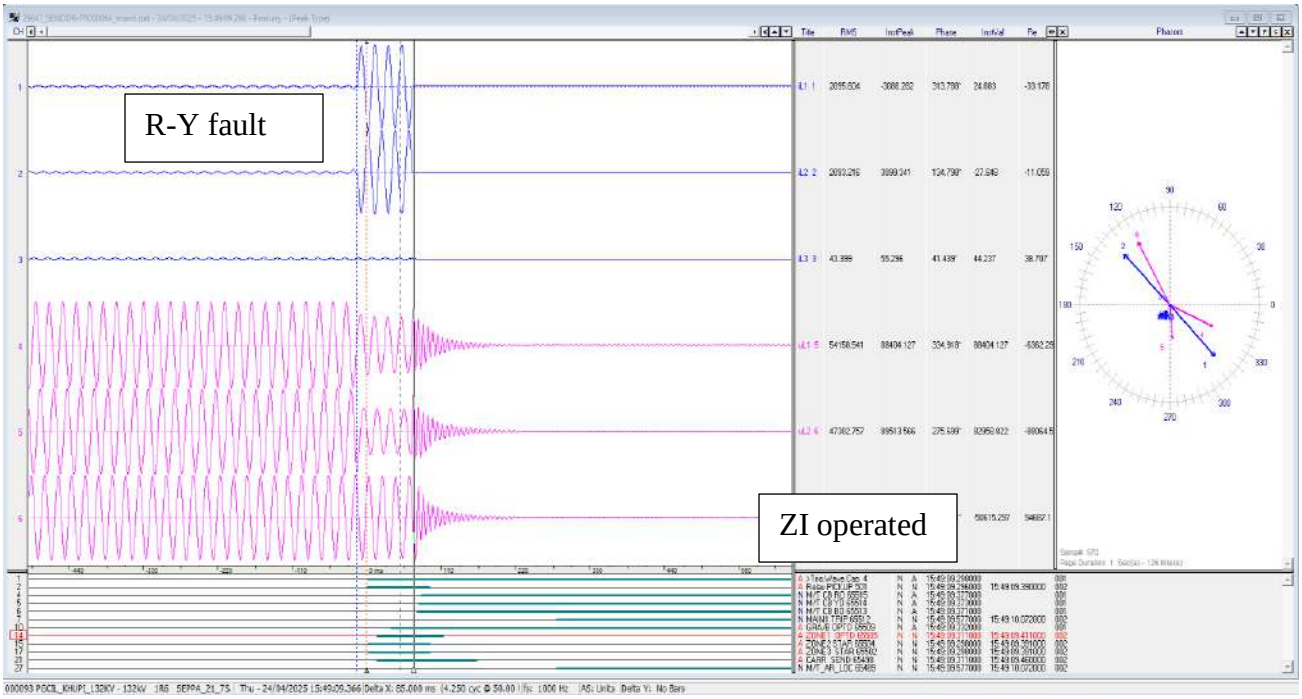
- Proper maintenance related activities as per CEA regulations needs to be carried out.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEG	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO SEPPA OPEN	24 Apr 2025 15:47:08:000	24 Apr 2025 15:46:42:000	8.45E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132/33 T1 (PRIM) BETWEEN	24 Apr 2025 18:29:00:000	24 Apr 2025 18:28:27:000	4000000
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO TENGA OPEN	24 Apr 2025 18:36:09:000	24 Apr 2025 18:35:34:000	5.58E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132/33 T1 (PRIM) CLOSED	24 Apr 2025 20:05:43:000	24 Apr 2025 20:05:13:000	2.47E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO SEPPA CLOSED	24 Apr 2025 20:10:34:000	24 Apr 2025 20:10:04:000	7.52E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1 DR snapshot of Khupi end for 132 kV Khupi-Seppa Line



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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in 132 kV Kameng S/S of NEEPCO & Tenga, Khupi and Dikshi areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):28-04-2025

1. Event Summary (घटना का सारांश):

132 kV Kameng S/S of NEEPCO and Tenga, Khupi and Dikshi areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 400/132 kV ICT at Kameng & 132 kV Balipara-Tenga Line. Prior to the event, 132 kV Khupi-Seppa line was under outage.

At 18:15 Hrs of 24.04.2025, 400/132 kV ICT at Kameng, 132 kV Balipara-Tenga line and 132 kV Tenga-Khupi line tripped. Due to these trippings, 132 kV Kameng S/S, Tenga, Khupi and Dikshi areas of Arunachal Pradesh got isolated from NER grid and collapsed due to no source available in these areas.

Power supply was restored at Khupi, Dikshi & Tenga areas of Arunachal Pradesh Power System by charging 132 kV Balipara-Tenga line and 132 kV Kameng-Khuppi line at 19:27 Hrs and 19:36 Hrs of 24-04-2025 respectively.

2. Time and Date of the Event (घटना का स मय और दिनांक): 18:15 Hrs of 24-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): 132 kV Kameng S/S of NEEPCO, Tenga, Khuppi and Seppa areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.08	3115	3071
Post Event (घटना के बाद)	50.08	3085	3131

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Khupi-Seppa Line was under outage
Weather Condition (मौसम स्थिति)	Normal

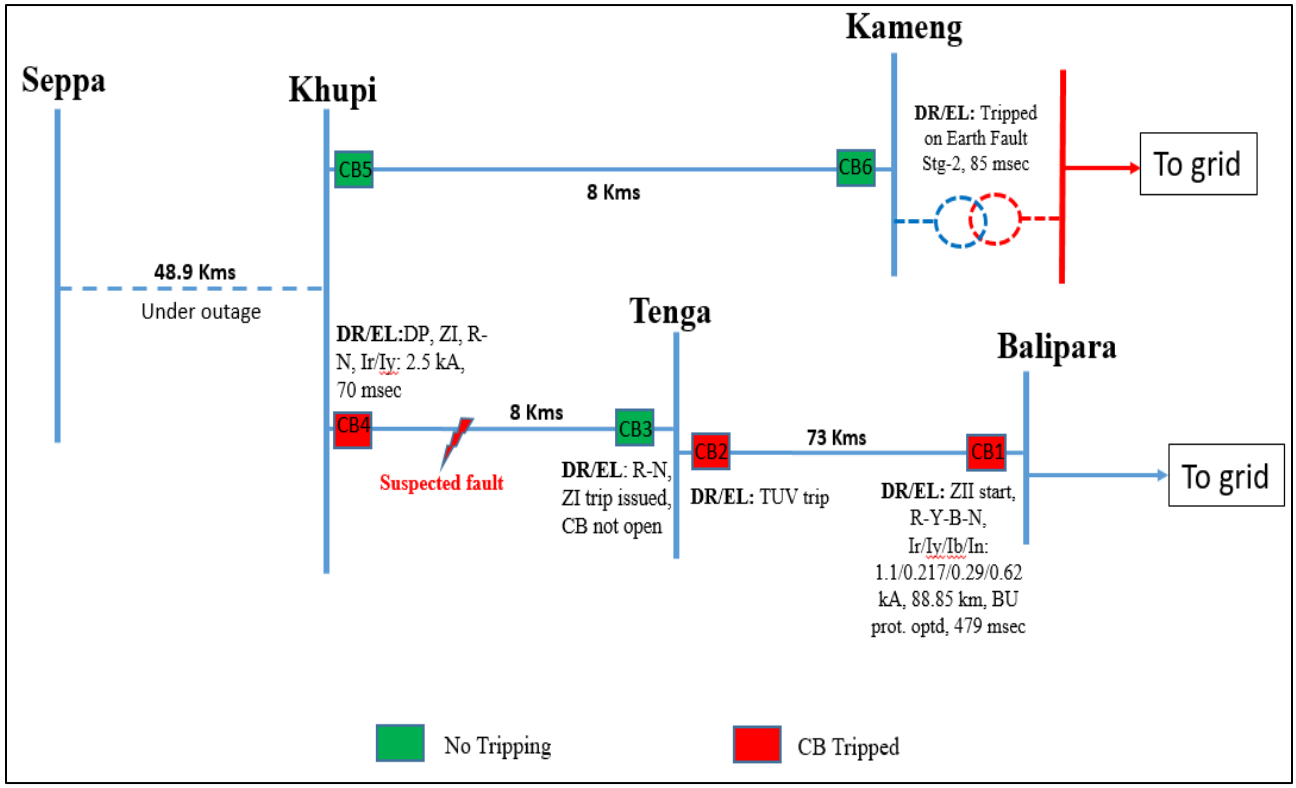
2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 13 MW
3. **Duration of interruption (रुकावट की अवधि):** 42 mins
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**
6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Balipara-Tenga Line	18:15	19:27	DP, Z2 start, BU protection operated, R-Y-B-N, 88.85 km	TUV trip
2	132 kV Tenga-Khupi Line	18:15	-	CB not open (ZI trip)	DP, ZI, R-N
3	400/132kV ICT at Kameng	18:15	18:30	E/F Stg-2 in HV side operated	

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, R-N fault (Ir-2.5 kA, In-2.5 kA) initiated at 18:15:35.763 Hrs in 132 kV Tenga-Khupi Line which was cleared within 70 msec from Khupi end on operation of DP, ZI. From Tenga end, DEF start & ZI trip command issued. However, Tenga CB did not open.

For 132 kV Balipara-Tenga line, R-Y-B-N fault (Ir-1.1 kA, Iy-0.217 kA, Ib-0.299 kA, In-0.626 kA) at a distance of 88.85 Km from Balipara initiated at 18:15:54.992 Hrs which was cleared within 479 msec from Balipara end on operation of BU E/F O/C (Z2 started). From Tenga end, tripped on under voltage protection.

Due to non-opening of CB at Tenga, fault was continuously feeding through 132 kV Balipara-Tenga line which was cleared by tripping of Balipara CB within 479 msec

At 18:15:49.699 Hrs, Kameng ICT tripped on E/F Stg-II within 85 msec which seems to be unwanted.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Non-opening of CB at Tenga end for 132 kV Khupi Line despite issuance of ZI trip.
- Tripping of 400/132 kV ICT at Kameng on Earth fault Stg-2 for fault beyond the protected zone is inferred unwanted. Maloperation of the ICT HV side protection is due to very low current pick up settings for High set B/U E/F protection.
- DR analog and digital channel of Kameng ICT needs to be standardized as per recommendations in FOLD working group.

- The back-up protection settings at Kameng, Khupi and Tenga needs to be reviewed and coordinated as per NER protection philosophy.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**NEEPCO & DoP AP**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**DoP AP**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**NEEPCO & DoP AP**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**No violation**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

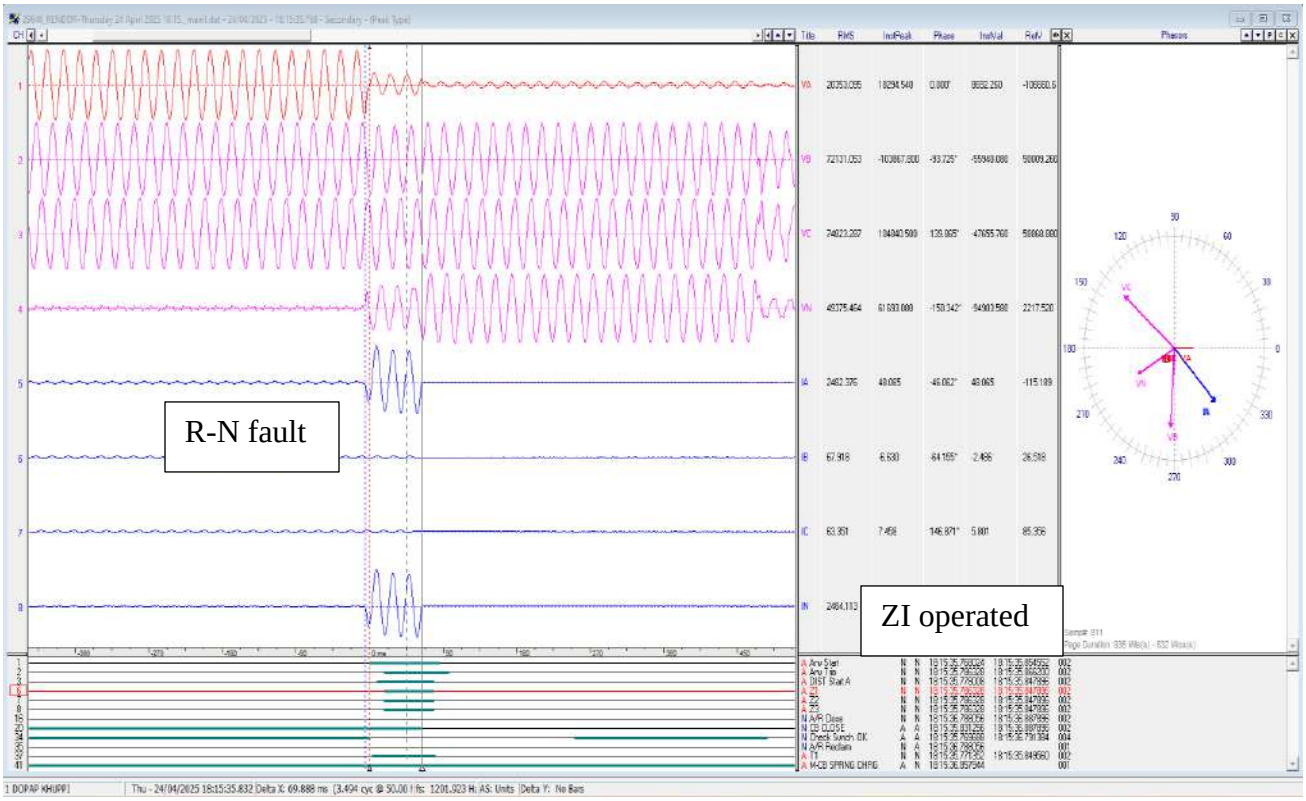
- Proper maintenance related activities as per CEA regulations needs to be carried out.
- Periodical review of B/U settings coordination is necessary. Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

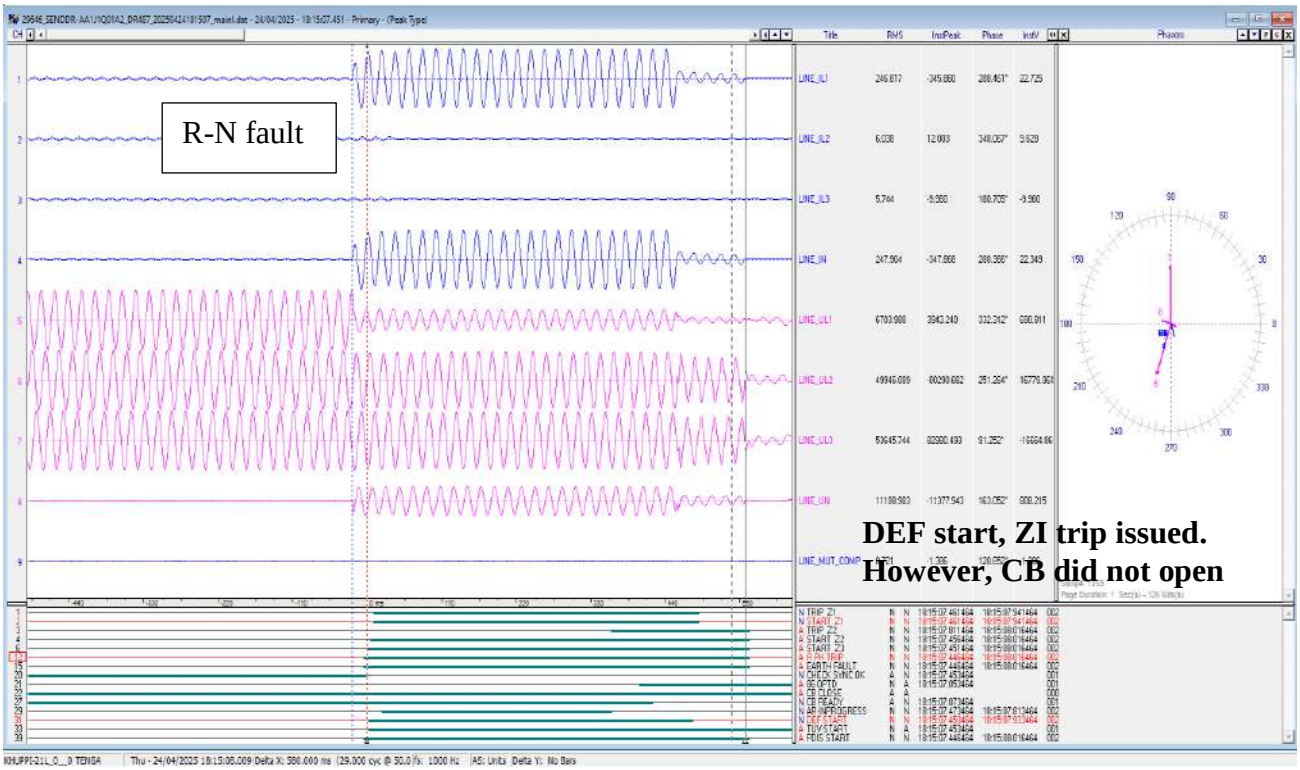
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD MENLC CLOSED	24 Apr 2025 18:13:47:000	24 Apr 2025 18:13:14:000	2.62E+08
MEECL	1C	MENDI_ME	MENDIPATHAR CB 33Kv LOAD BAJEN CLOSED	24 Apr 2025 18:14:23:000	24 Apr 2025 18:13:49:000	7.88E+08
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO BALIP OPEN	24 Apr 2025 18:16:14:000	24 Apr 2025 18:15:53:000	5.38E+08
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO DIKSH OPEN	24 Apr 2025 18:16:14:000	24 Apr 2025 18:15:53:000	5.08E+08
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO KHUPI OPEN	24 Apr 2025 18:16:14:000	24 Apr 2025 18:15:53:000	5.18E+08
AEGCL	1C	BALIP_PG	BALIPARA CB 132Kv LINE TO TENGA OPEN	24 Apr 2025 18:15:57:000	24 Apr 2025 18:15:55:000	4.97E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (PRIM) OPEN	24 Apr 2025 18:16:07:000	24 Apr 2025 18:15:59:000	1.41E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (SEC) OPEN	24 Apr 2025 18:16:07:000	24 Apr 2025 18:15:59:000	1.41E+08
MEECL	1C	MAWPH_ME	MAWNGAP CB 33Kv LOAD MAWSY CLOSED	24 Apr 2025 18:18:45:000	24 Apr 2025 18:18:29:000	6.77E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (PRIM) CLOSED	24 Apr 2025 18:30:33:000	24 Apr 2025 18:30:20:000	4.72E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (SEC) CLOSED	24 Apr 2025 18:30:38:000	24 Apr 2025 18:30:36:000	9.5E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 132/33 T1 (PRIM) CLOSED	24 Apr 2025 18:30:50:000	24 Apr 2025 18:30:47:000	9.23E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132/33 T2 (PRIM) OPEN	24 Apr 2025 18:32:58:000	24 Apr 2025 18:32:48:000	3.3E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE TO TENGA OPEN	24 Apr 2025 18:36:09:000	24 Apr 2025 18:35:34:000	5.58E+08
MEECL	1C	MAWPH_ME	MAWNGAP CB 33Kv LOAD MAWJR OPEN	24 Apr 2025 19:25:46:000	24 Apr 2025 19:24:59:000	3.83E+08
AEGCL	1C	BALIP_PG	BALIPARA CB 132Kv LINE TO TENGA CLOSED	24 Apr 2025 19:26:02:000	24 Apr 2025 19:26:01:000	8.37E+08
ARUNCH	1C	KMENG_NO	KAMENG CB 400/132 T1 (SEC) BETWEEN	24 Apr 2025 19:36:25:000	24 Apr 2025 19:36:25:000	2.81E+08
ARUNCH	1C	KHUPI_AR	KHUPI CB 132Kv LINE-1 TO KMENG CLOSED	24 Apr 2025 19:37:26:000	24 Apr 2025 19:36:48:000	61000000
ARUNCH	1C	TENGA_AR	TENGA CB 132Kv LINE TO DIKSH CLOSED	24 Apr 2025 19:37:26:000	24 Apr 2025 19:36:48:000	2.86E+08
AEGCL	1C	KOPIL_NO	KOPILI CB 220 KV COUPLER (07) BETWEEN	24 Apr 2025 19:37:19:000	24 Apr 2025 19:37:16:000	6.8E+08
AEGCL	1C	KOPIL_NO	KOPILI CB 132 KV COUPLER (03) BETWEEN	24 Apr 2025 19:37:19:000	24 Apr 2025 19:37:16:000	7E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

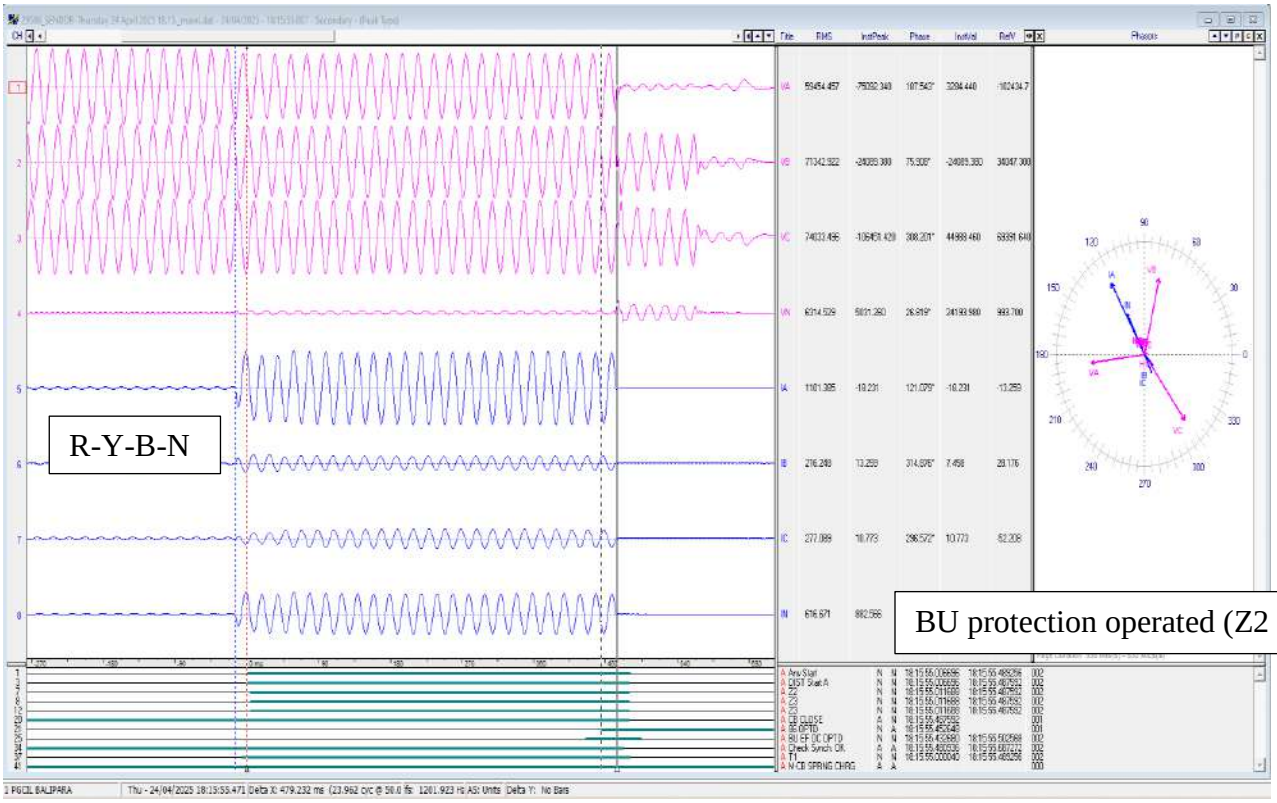
2.1. DR Snapshot of Khupi for 132 kV Tenga-Khupi Line



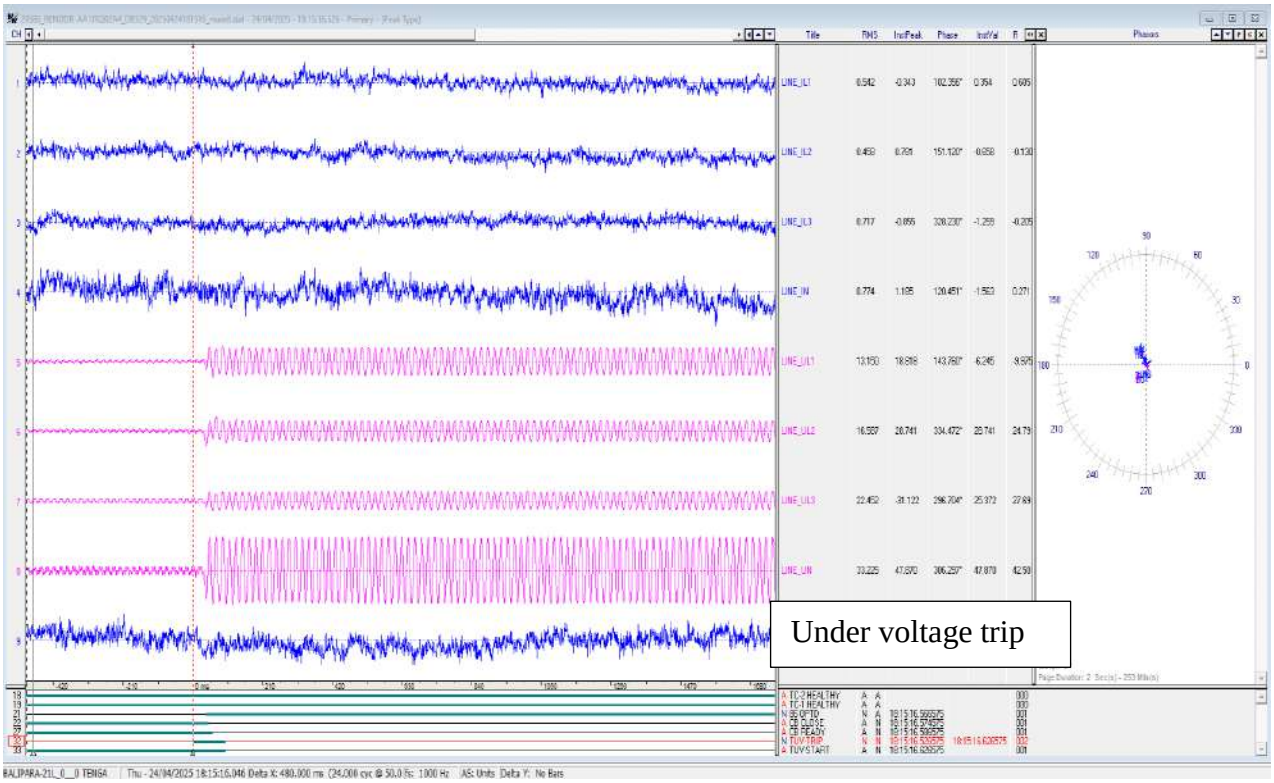
2.2. DR Snapshot of Tenga for 132 kV Tenga-Khupi Line



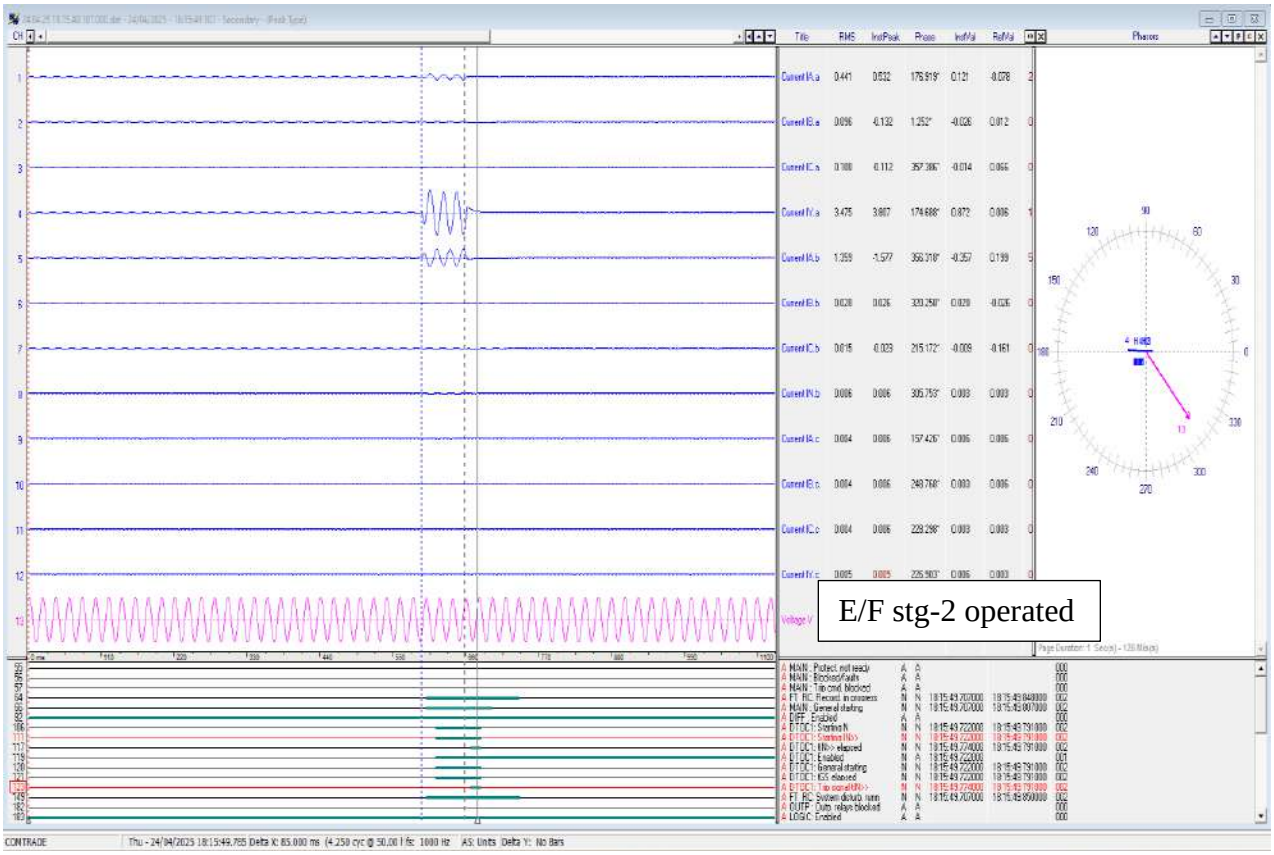
2.3. DR Snapshot of Balipara for 132 kV Balipara-Tenga Line



2.4. DR Snapshot of Tenga for 132 kV Balipara-Tenga Line



2.5. DR Snapshot of Kameng for 400/132 kV Kameng ICT



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
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कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Tezu and Namsai areas of Arunachal Pradesh of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):09-05-2025

1. Event Summary (घटना का सारांश):

Tezu and Namsai areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Roing – Tezu line.

At 16:11 Hrs of 25-04-2025, 132 kV Roing – Tezu line tripped. Due to tripping of this element, Tezu and Namsai areas of Arunachal Pradesh Power System got isolated from NER Grid and collapsed due to no source available in these areas.

Power supply was extended to Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Roing – Tezu line at 00:10 Hrs of 26-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 16:11 Hrs of 25-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Tezu and Namsai areas of Arunachal Pradesh Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.94	1601	2476
Post Event (घटना के बाद)	49.94	1613	2507

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Rupai-Chapakhowa Line was under planned shutdown
Weather Condition (मौसम स्थिति)	Normal

2. **Load and Generation loss (लोड और जेनरेशन हानि)**: Load loss of 9 MW

3. **Duration of interruption (रुकावट की अवधि):** 7 Hrs 59 min

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

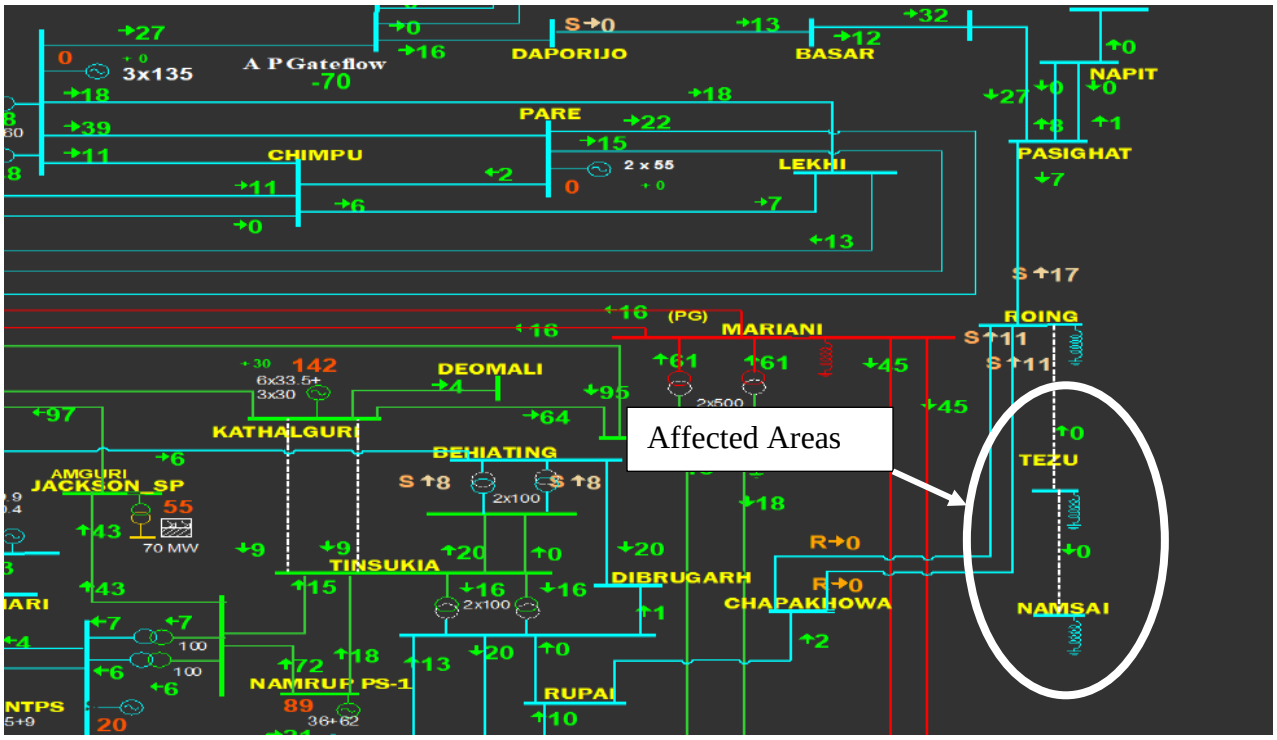


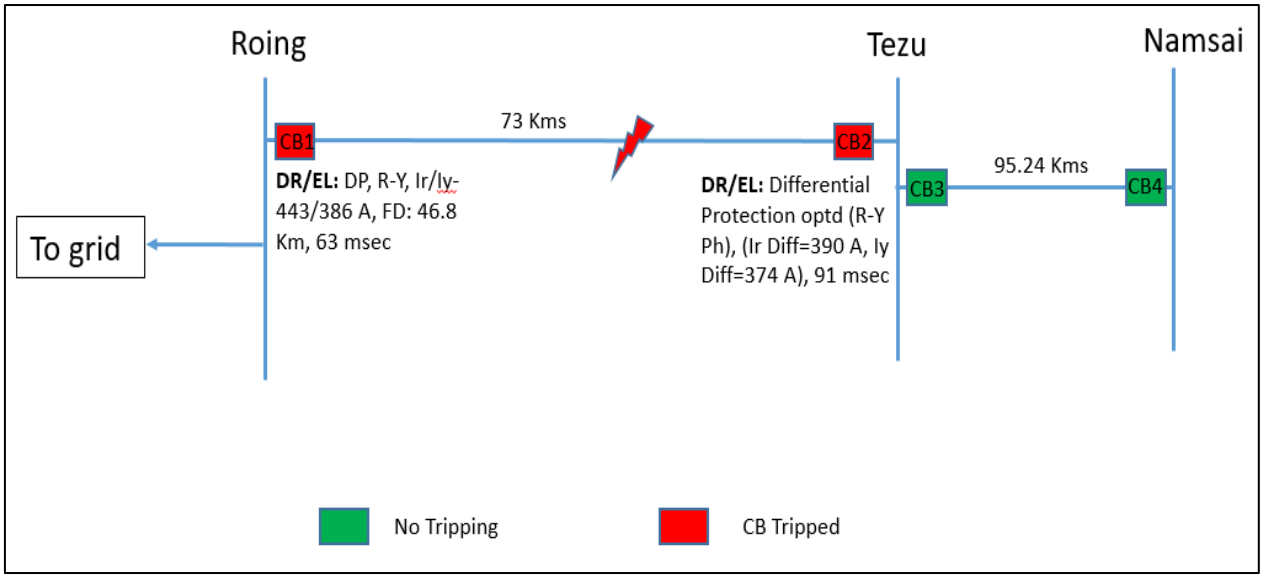
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Roing – Tezu Line	16:11	00:10 Hrs of 26-04-2025	DP, ZI, R-Y, 46.8 Km	R-Y, Differential protection operated

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, resistive R-Y fault (Ir-443 A, Iy-386 A) initiated at 16:11:17.113 Hrs and cleared within 63 msec from Roing end on operation of DP, ZI and within 91 msec from Tezu end on operation of differential protection (Ir diff- 390 A, Iy diff-374 A).

A/R not attempted from both ends.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Auto recloser not attempted from both ends. The same needs to be investigated by POWERGRID.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**POWERGRID**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**No violation**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**POWERGRID**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

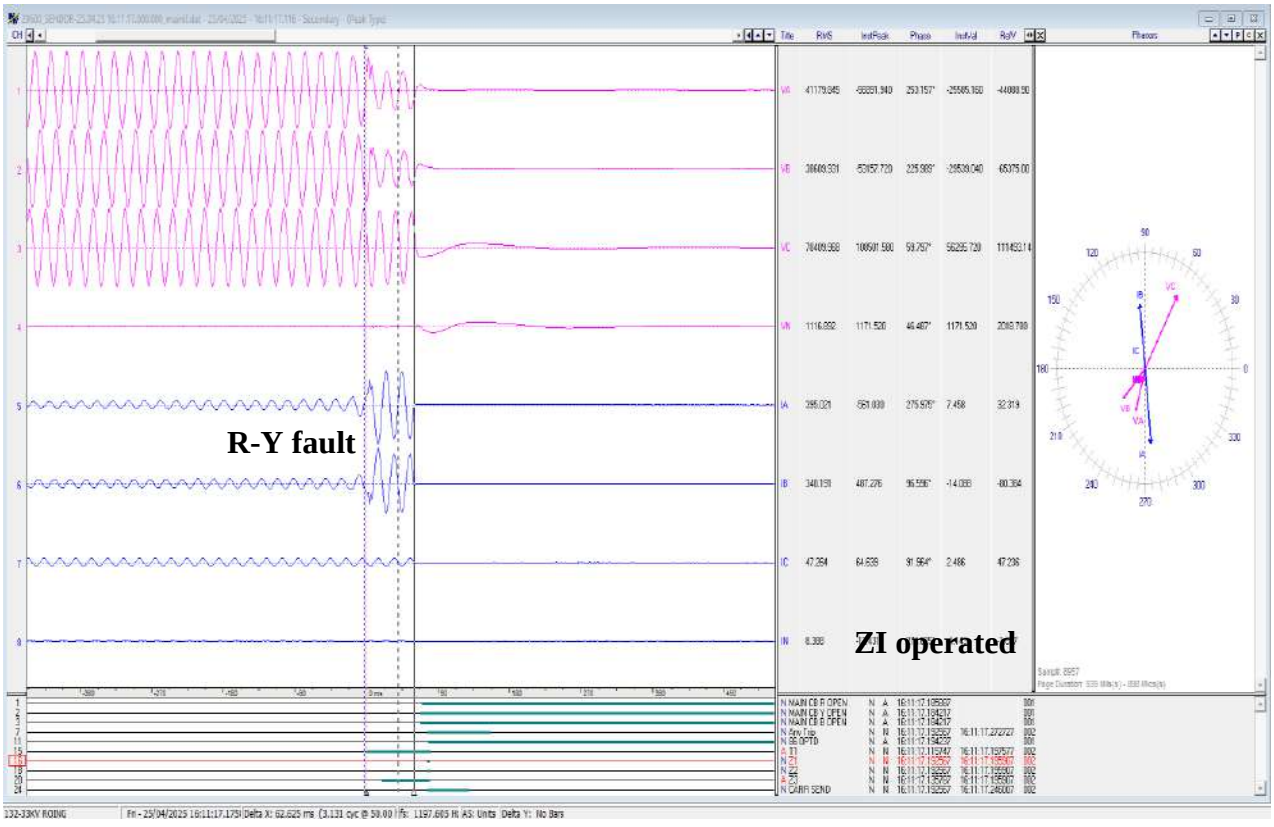
- POWERGRID is requested to ensure that patrolling related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis and measures may be identified and implemented at the earliest so as to minimize tripping of these lines.
- Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

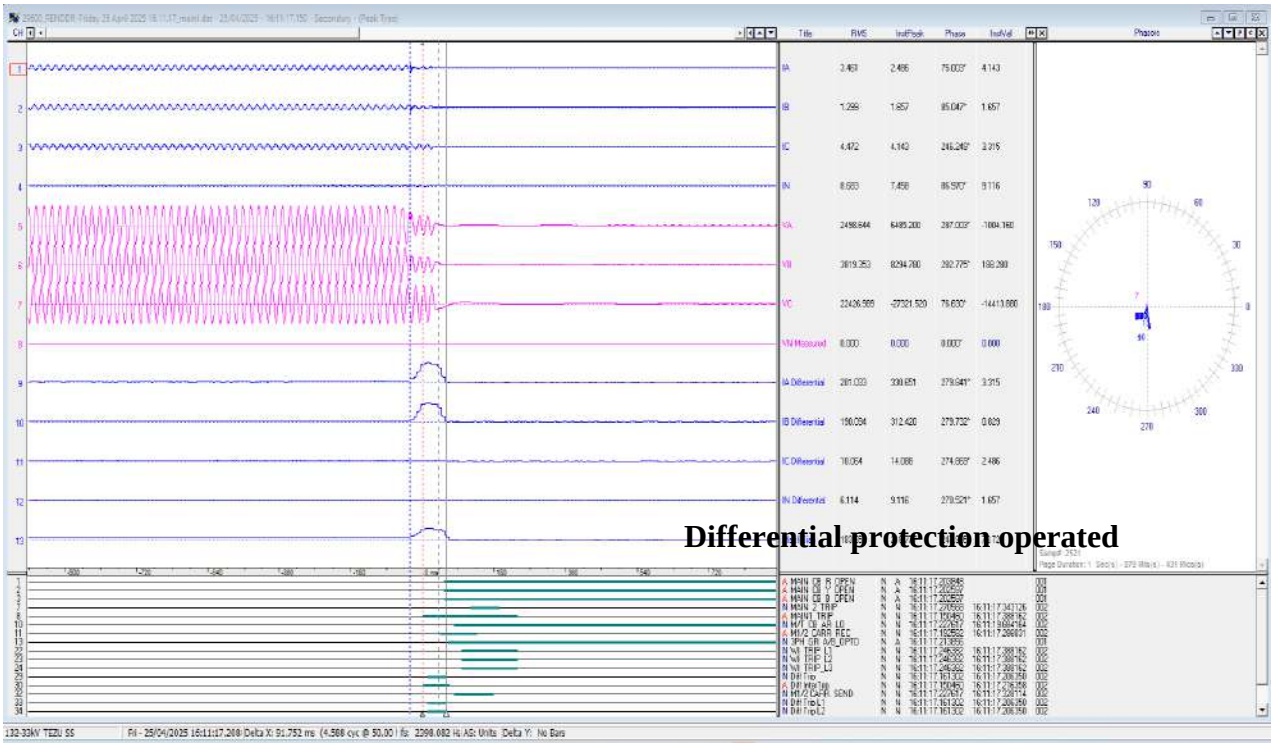
AREA	CATEGOR	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
ARUNCH	1C	ROING_PG	ROING CB REACTOR D_R1_BR CB OPEN	25 Apr 2025 09:07:15:000	25 Apr 2025 09:07:13:000	3.19E+08
ARUNCH	1C	ROING_PG	ROING CB REACTOR D_R1_BR CB CLOSED	25 Apr 2025 12:29:08:000	25 Apr 2025 12:29:04:000	1.91E+08
ARUNCH	1C	ROING_PG	ROING CB REACTOR D_R1_BR CB OPEN	25 Apr 2025 14:57:12:000	25 Apr 2025 14:57:09:000	36000000
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ OPEN	25 Apr 2025 16:11:08:000	25 Apr 2025 16:11:01:000	9.49E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ CLOSED	25 Apr 2025 16:11:10:000	25 Apr 2025 16:11:03:000	5.46E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ OPEN	25 Apr 2025 16:11:24:000	25 Apr 2025 16:11:17:000	1.78E+08
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ CLOSED	25 Apr 2025 16:44:36:000	25 Apr 2025 16:44:34:000	13000000
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ OPEN	25 Apr 2025 16:44:38:000	25 Apr 2025 16:44:34:000	73000000

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Roing for 132 kV Roing-Tezu Line



2.2. DR Snapshot of Tezu for 132 kV Roing-Tezu Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Leshka HEP of Meghalaya of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):06-05-2025

1. Event Summary (घटना का सारांश):

Leshka HEP of Meghalaya power system was connected with rest of NER grid through 132 kV Leshka-Mynkre I & II Lines.

At 02:43 Hrs of 27-04-2025, 132 kV Leshka-Mynkre I & II Lines tripped. Due to tripping of these elements, Leshka HEP of Meghalaya got isolated from NER grid and collapsed due to load-generation mismatch in this area.

Power was extended to Leshka HEP by charging 132 kV Leshka-Mynkre Line-I & II at 03:31 Hrs and 03:33 Hrs of 27-04-2025 respectively.

2. Time and Date of the Event (घटना का स मय और दिनांक): 02:43 Hrs of 27-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Leshka HEP of Meghalaya Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.03	1640	1532
Post Event (घटना के बाद)	50.03	1497	1517

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL
Weather Condition (मौसम स्थिति)	Inclement Weather

2. Load and Generation loss (लोड और जेनरेशन हानि): Generation loss of 119 MW

3. **Duration of interruption (रुकावट की अवधि):** 48 mins.

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

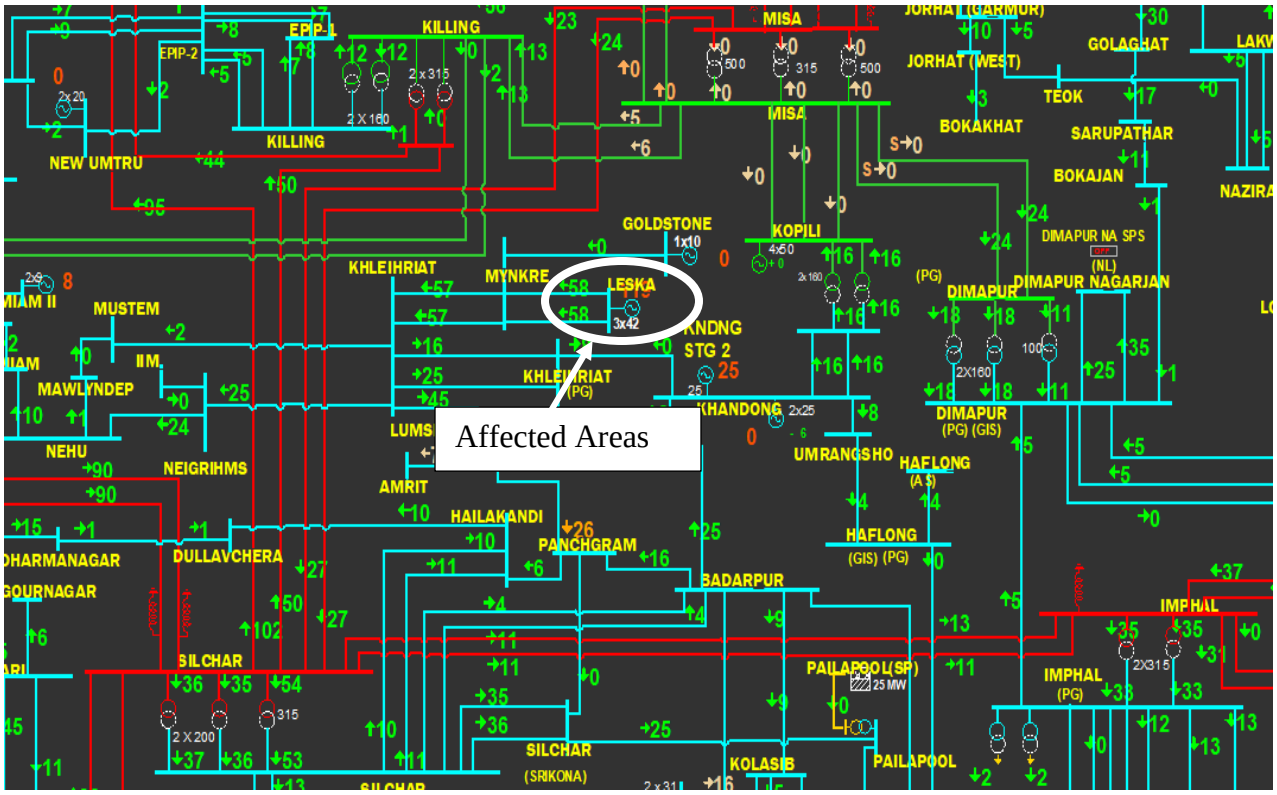


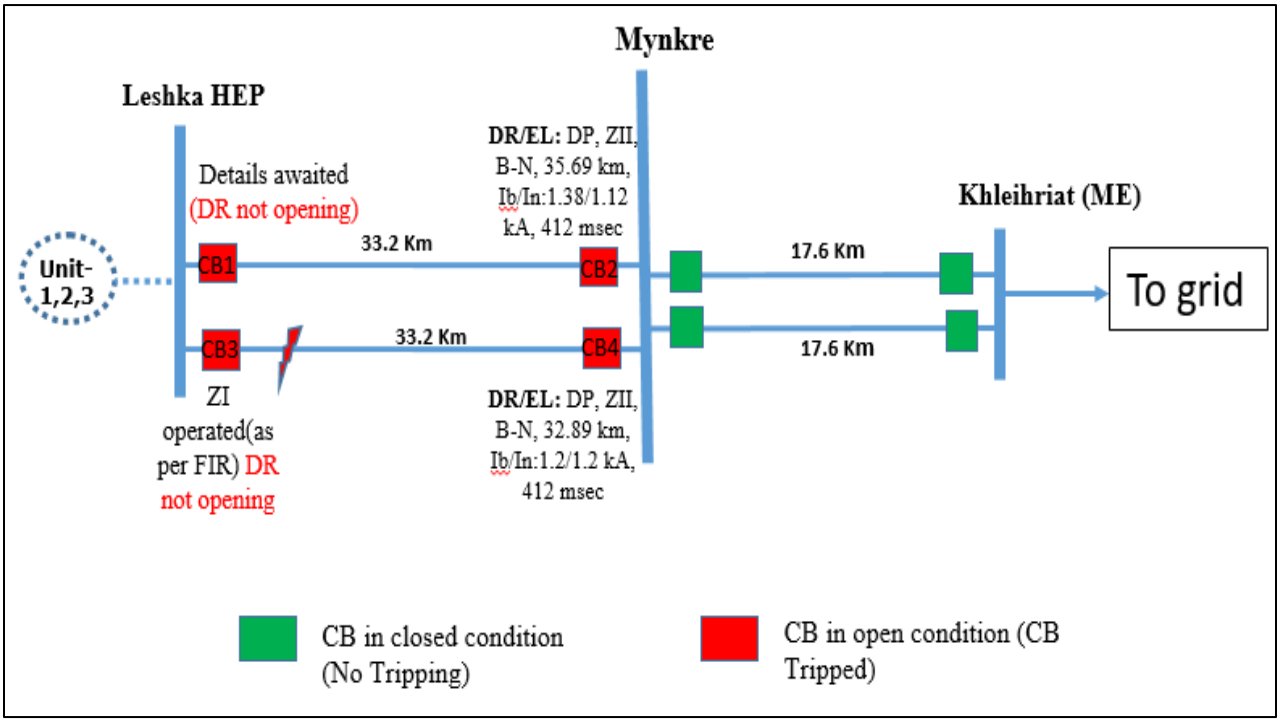
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Leshka-Mynkre I Line	02:43	03:31	Details awaited	DP, ZII, B-N, 35.69 Km
2	132 kV Leshka-Mynkre II Line	02:43	03:33	Details awaited	DP, ZII, B-N, 32.89 Km
3	Leshka Unit-1	02:43	03:51	Loss of evacuation path	
4	Leshka Unit-2	02:43	03:47	Loss of evacuation path	
5	Leshka Unit-3	02:43	04:01	Loss of evacuation path	

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, solid B-N fault (Ib-1.38 kA, In-1.12 kA) initiated in 132 kV Leshka-Mynkre I & II lines at 02:36:15.155 Hrs which was cleared within 412 msec from Mynkre end on operation of DP, ZII.

As per FIR, ZI operated at Leshka end **(DR file of Leshka end is not opening)**

Suspected fault in 132 kV Leshka-Mynkre II Line as fault distance of 32.89 Km from Mynkre end(as per EL)

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Suspected fault in 132 kV Leshka-Mynkre II Line which was not cleared from Leshka end resulting in clearing of fault by tripping of healthy 132 kV Leshka-Mynkre I line from remote end on ZII.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	Flash Report received within 8hrs?	IEGC section 37.2 (b)	No violation

2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**MePGCL**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**MePGCL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 7 min at Mynkre end for 132 kV Leshka I & II lines**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

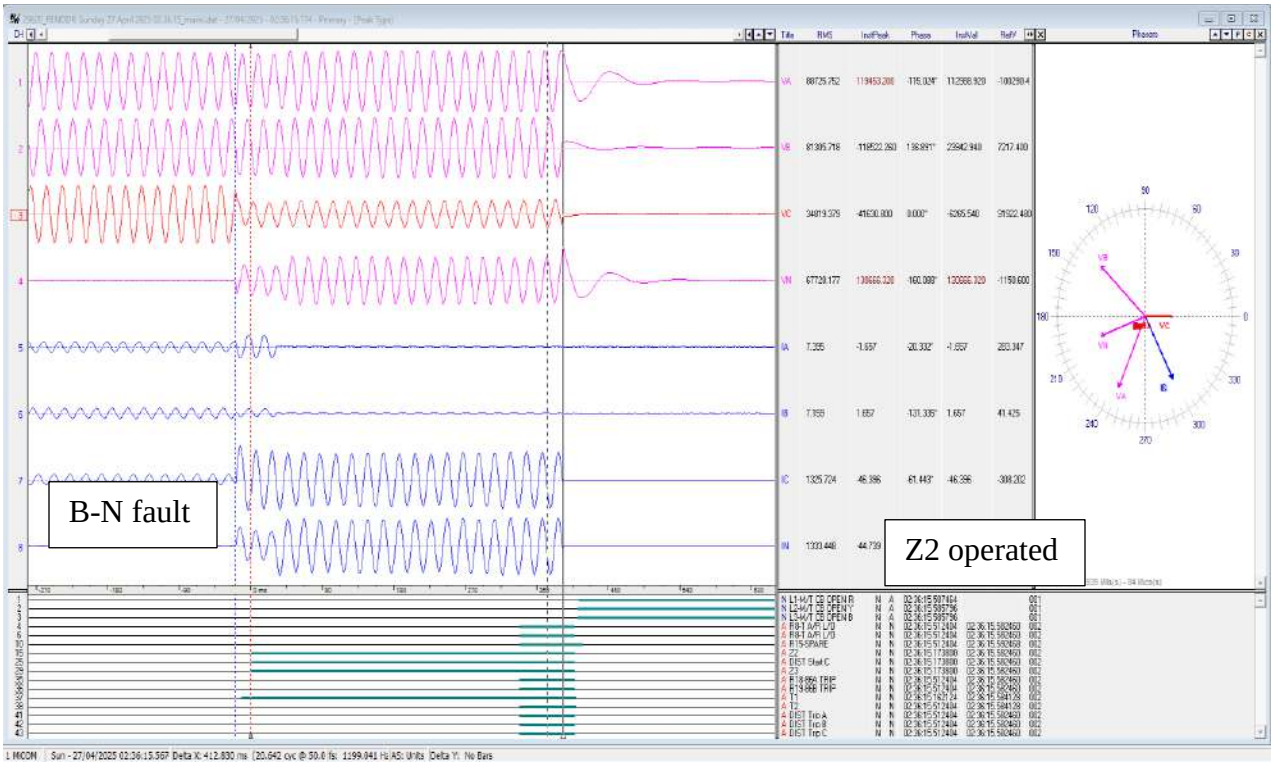
- Meghalaya is requested to ensure that patrolling related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis and measures may be identified and implemented at the earliest so as to minimize tripping of these lines.
- Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

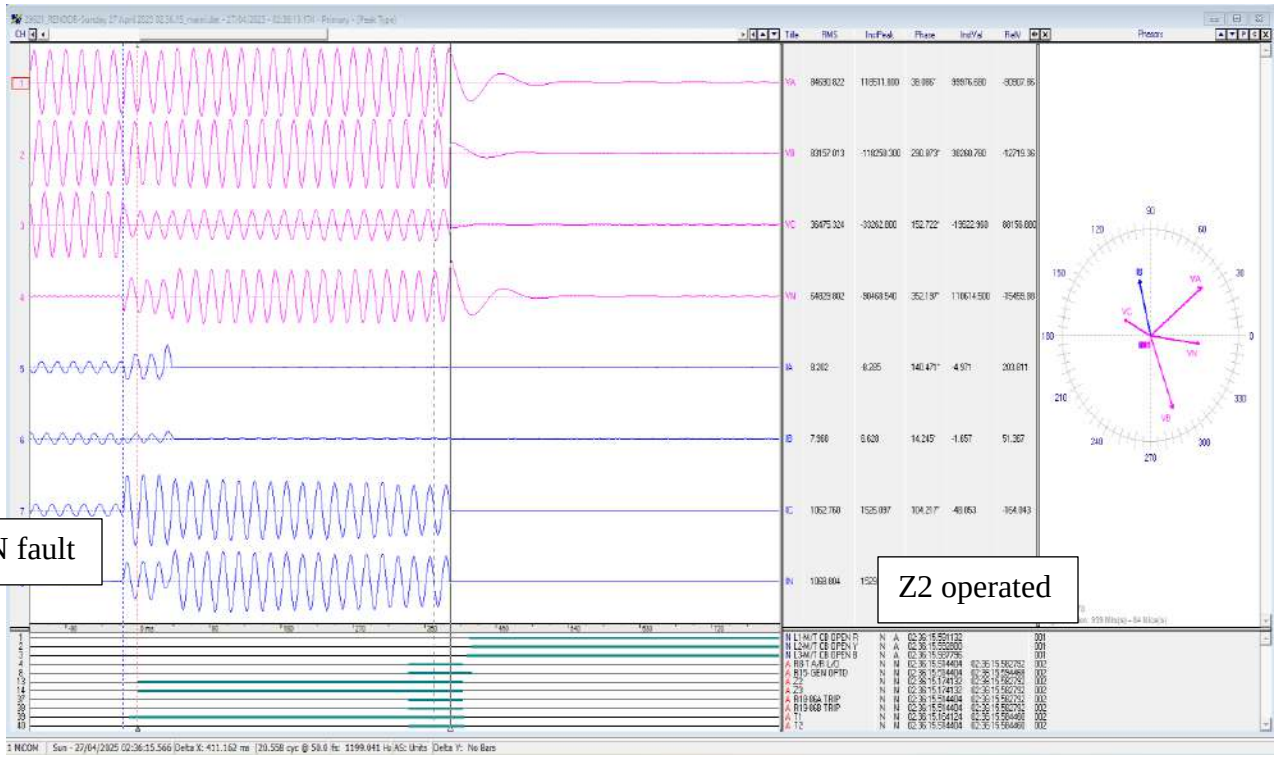
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
ARUNCH	1C	ROING_PG	ROING CB 132Kv LINE-1 TO TEZU_ CLOSED	27 Apr 2025 02:20:32:000	27 Apr 2025 02:20:20:000	7.28E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-1 TO LESKA OPEN	27 Apr 2025 02:42:59:000	27 Apr 2025 02:36:15:000	5.8E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-2 TO LESKA OPEN	27 Apr 2025 02:42:59:000	27 Apr 2025 02:36:15:000	5.83E+08
AEGCL	1C	LANGP_AS	KARBI LONGPI CB 220/33 T1 (PRIM) CLOSED	27 Apr 2025 02:37:40:000	27 Apr 2025 02:36:34:000	5.41E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-2 TO MYKRE OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:36:000	7.97E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H03) OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:36:000	8.53E+08
MEECL	1C	LESKA_ME	LESKA CB 132/33 T1 (PRIM) OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:36:000	8.3E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H01) OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:36:000	8.93E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-1 TO MYKRE OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:36:000	8.13E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H02) OPEN	27 Apr 2025 02:43:18:000	27 Apr 2025 02:42:38:000	1.77E+08
MEECL	1C	GOLDS_ME	GOLDSTONE CB 132Kv LINE TO MYKRE OPEN	27 Apr 2025 02:42:59:000	27 Apr 2025 02:42:42:000	9.22E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	27 Apr 2025 03:30:29:000	27 Apr 2025 03:30:16:000	8.69E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-1 TO LESKA CLOSED	27 Apr 2025 03:31:24:000	27 Apr 2025 03:30:38:000	1.81E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-1 TO MYKRE CLOSED	27 Apr 2025 03:31:59:000	27 Apr 2025 03:31:18:000	1.49E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB BETWEEN	27 Apr 2025 03:32:04:000	27 Apr 2025 03:31:29:000	9.22E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	27 Apr 2025 03:32:10:000	27 Apr 2025 03:31:59:000	6.73E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-2 TO LESKA CLOSED	27 Apr 2025 03:33:18:000	27 Apr 2025 03:32:23:000	6.77E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-2 TO MYKRE CLOSED	27 Apr 2025 03:33:18:000	27 Apr 2025 03:32:52:000	2.91E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB BETWEEN	27 Apr 2025 03:33:54:000	27 Apr 2025 03:33:12:000	77000000
MEECL	1C	RONGK_ME	RONGKHON CB 132Kv LINE TO NANGA OPEN	27 Apr 2025 03:42:21:000	27 Apr 2025 03:41:42:000	3.4E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H02) CLOSED	27 Apr 2025 03:47:57:000	27 Apr 2025 03:47:36:000	37000000
TSECL	1C	MOHAN_TE	MOHANPUR CB 132 KV COUPLER (02) OPEN	27 Apr 2025 03:49:06:000	27 Apr 2025 03:48:28:000	3.26E+08
AEGCL	1C	KHAND_NO	KHANDONG CB 11 KV UNIT (H03) CLOSED	27 Apr 2025 03:50:28:000	27 Apr 2025 03:50:28:000	6.05E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H01) CLOSED	27 Apr 2025 03:51:48:000	27 Apr 2025 03:51:19:000	14000000
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	27 Apr 2025 03:51:46:000	27 Apr 2025 03:51:34:000	4.57E+08
NAGALD	1C	DIMAP_PG	DIMAPUR CB 132Kv LINE-1 TO KOHIM OPEN	27 Apr 2025 04:00:16:000	27 Apr 2025 04:00:13:000	5.94E+08
MEECL	1C	LESKA_ME	LESKA CB 132 KV UNIT (H03) CLOSED	27 Apr 2025 04:01:27:000	27 Apr 2025 04:00:57:000	3.39E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	27 Apr 2025 04:06:37:000	27 Apr 2025 04:06:25:000	3.45E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Mynkre for 132 kV Leshka-Mynkre I Line



2.2. DR Snapshot of Mynkre for 132 kV Leshka-Mynkre II Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Leshka HEP of Meghalaya of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):06-05-2025

1. Event Summary (घटना का सारांश):

Leshka HEP of Meghalaya power system was connected with rest of NER grid through 132 kV Leshka-Mynkre I & II Lines.

At 07:04 Hrs of 28-04-2025, 132 kV Leshka-Mynkre I & II Lines tripped. Due to tripping of these elements, Leshka HEP of Meghalaya got isolated from NER grid and collapsed due to load generation mismatch in this area.

Power was extended to Leshka HEP by charging 132 kV Leshka-Mynkre Line-I & II at 07:48 Hrs and 07:52 Hrs of 28-04-2025 respectively.

2. Time and Date of the Event (घटना का स मय और दिनांक): 07:04 Hrs of 28-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Leshka HEP of Meghalaya Power System

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	50.08	1755	1888
Post Event (घटना के बाद)	50.08	1750	1892

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	Leshka Unit-1,2,3
Weather Condition (मौसम स्थिति)	Inclement Weather

2. Load and Generation loss (लोड और जेनरेशन हानि): There was no generation loss

3. **Duration of interruption (रुकावट की अवधि):** 44 mins.

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

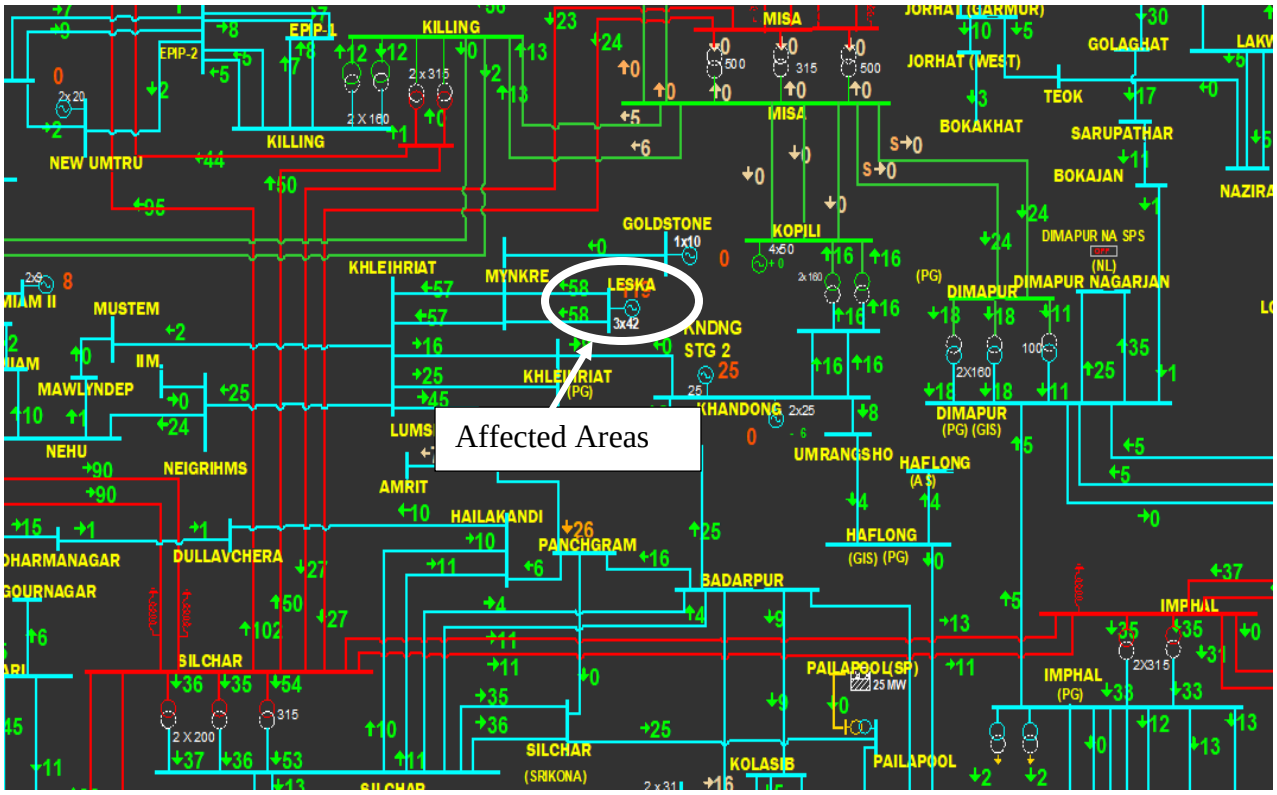


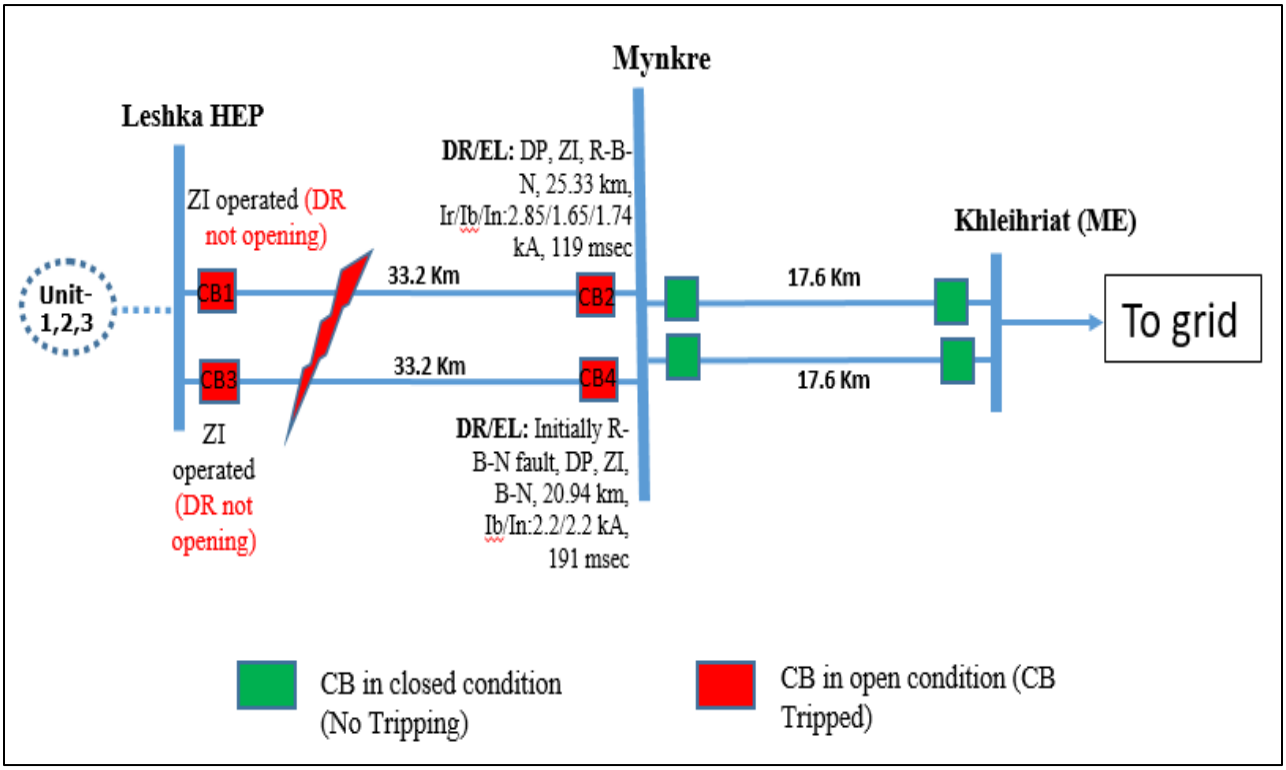
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NIL**

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 Leshka-Mynkre I Line	07:04	07:48	ZI operated(as per FIR) DR file not opening	DP, ZI, R-B-N, 25.33 Km
2	132 kV Leshka-Mynkre II Line	07:04	07:52	ZI operated(as per FIR) DR file not opening	DP, ZI, R-B-N, 20.94 Km

7. **Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):**



As per DR analysis of 132 kV Leshka-Mynkre I line, solid R-B-N fault (Ir-2.85 kA, Ib-1.65 kA, In-1.74 kA) initiated at 06:54:44.787 Hrs which was cleared within 119 msec from Mynkre end on operation of DP, ZI (initially ZII started). Leshka end DR file not opening.

For 132 kV Leshka-Mynkre II Line, R-B-N fault initiated at 06:54:44.787 Hrs (Z2/Z3 started). After 59 msec, R-phase current disappeared. B-N fault was cleared within 191 msec from Mynrke end on operation of DP, ZI.

8. **Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या): NIL**

9. **Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL**

10. **Non-compliance observed (विनियमन का गैर-अनुपालन):**

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**MePGCL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**MePGCL**

3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**MePGCL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 10 min at Mynkre end for 132 kV Leshka I & II lines**
5.	**Any other non-compliance**		**-**

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

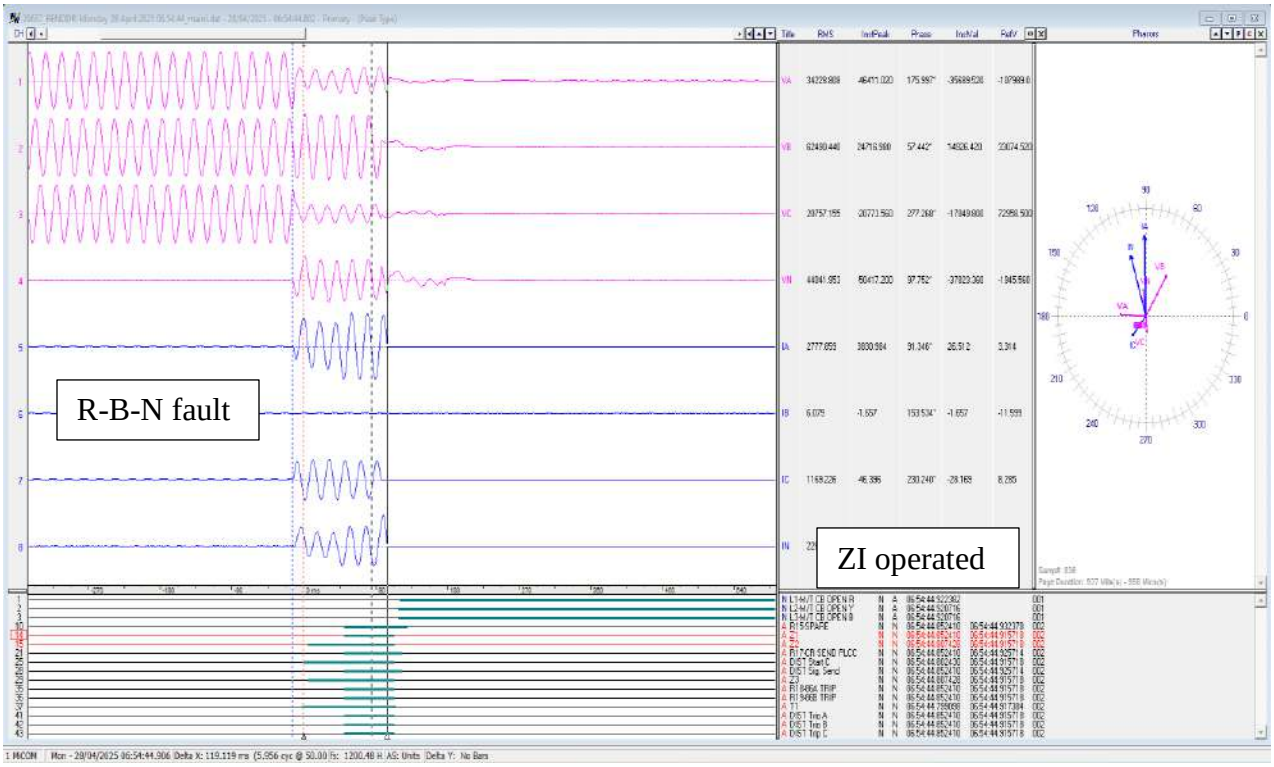
- Meghalaya is requested to ensure that patrolling related activities are undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis and measures may be identified and implemented at the earliest so as to minimize tripping of these lines.
- Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

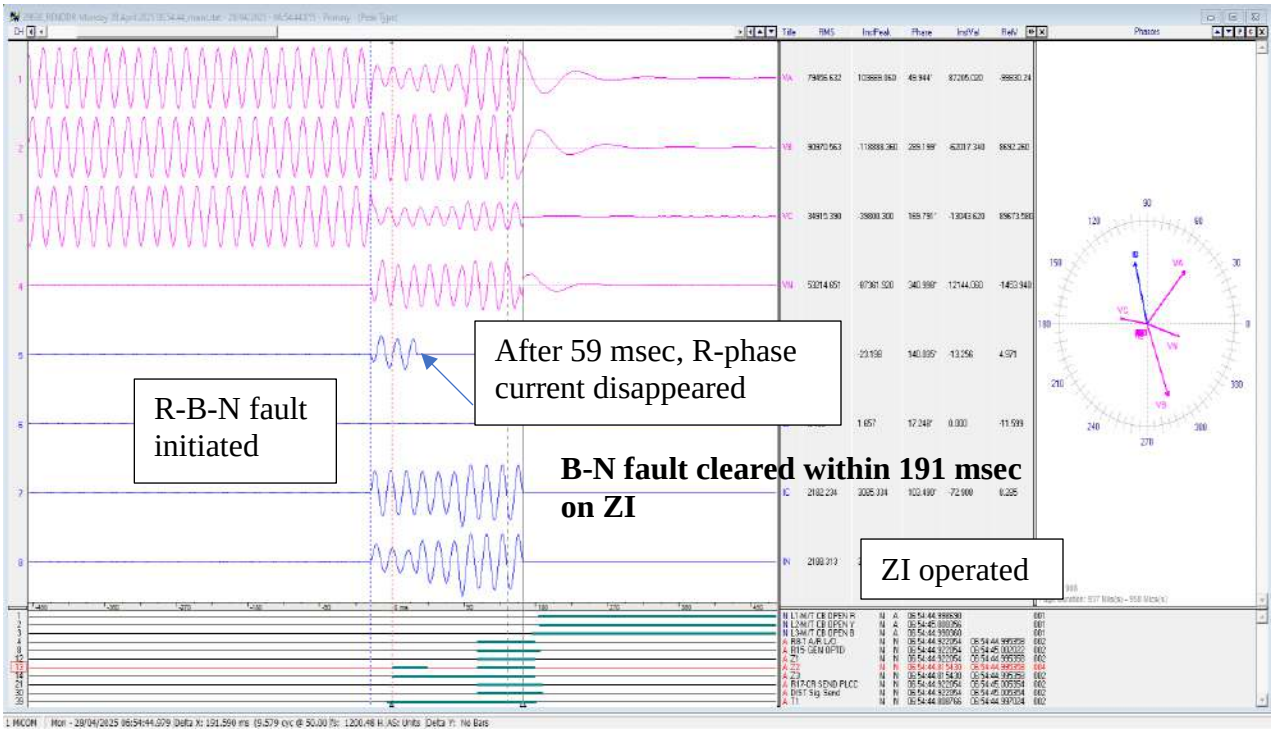
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
MEECL	1C	KHLEI_ME	KHLEIHRIAT CB 132Kv LINE TO LUMSH OPEN	28 Apr 2025 06:56:53:000	28 Apr 2025 06:56:09:000	7.05E+08
MEECL	1C	LESKA_ME	LESKA CB 132/33 T1 (PRIM) CLOSED	28 Apr 2025 07:04:00:000	28 Apr 2025 06:56:37:000	9.19E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-1 TO MYKRE OPEN	28 Apr 2025 07:04:27:000	28 Apr 2025 07:01:09:000	3.12E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-2 TO MYKRE OPEN	28 Apr 2025 07:04:27:000	28 Apr 2025 07:01:09:000	2.99E+08
MEECL	1C	LESKA_ME	LESKA CB 132/33 T1 (PRIM) OPEN	28 Apr 2025 07:04:27:000	28 Apr 2025 07:01:09:000	3.28E+08
MEECL	1C	GOLDS_ME	GOLDSTONE CB 132Kv LINE TO MYKRE OPEN	28 Apr 2025 07:05:01:000	28 Apr 2025 07:04:31:000	5.34E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-1 TO LESKA OPEN	28 Apr 2025 07:05:01:000	28 Apr 2025 07:04:44:000	1.24E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-2 TO LESKA OPEN	28 Apr 2025 07:05:01:000	28 Apr 2025 07:04:44:000	1.24E+08
MEECL	1C	NONGS_ME	NONGSTOIN CB 132Kv LINE TO NANGA OPEN	28 Apr 2025 07:14:05:000	28 Apr 2025 07:13:18:000	8.48E+08
MEECL	1C	MAWLY_ME	MAWLYNDEP CB 33Kv LOAD MES__CLOSED	28 Apr 2025 07:42:59:000	28 Apr 2025 07:42:43:000	3.72E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-1 TO LESKA CLOSED	28 Apr 2025 07:48:53:000	28 Apr 2025 07:48:33:000	7.26E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-1 TO MYKRE CLOSED	28 Apr 2025 07:50:12:000	28 Apr 2025 07:49:40:000	2.1E+08
MEECL	1C	MYKRE_ME	MYNKRE CB 132Kv LINE-2 TO LESKA CLOSED	28 Apr 2025 07:51:53:000	28 Apr 2025 07:51:24:000	1.04E+08
MEECL	1C	MAWLY_ME	MAWLYNDEP CB 33Kv LOAD MES__OPEN	28 Apr 2025 07:52:30:000	28 Apr 2025 07:52:06:000	6.92E+08
MEECL	1C	LESKA_ME	LESKA CB 132Kv LINE-2 TO MYKRE CLOSED	28 Apr 2025 07:52:30:000	28 Apr 2025 07:52:07:000	7.82E+08
AEGCL	1C	SIPAJ_AS	SIPAJHAR CB 132Kv LINE TO RANGI OPEN	28 Apr 2025 07:54:03:000	28 Apr 2025 07:53:38:000	1.13E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1. DR Snapshot of Mynkre for 132 kV Leshka-Mynkre I Line



2.2. DR Snapshot of Mynkre for 132 kV Leshka-Mynkre II Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Dharmanagar area of Tripura of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):02-05-2025

1. **Event Summary (घटना का सारांश):**

Dharmanagar area of Tripura power system was connected to rest of NER grid through 13 2kV Dharmanagar –Dullavcherra and 132 kV P K Bari – Dharmanagar lines.

At 09:07 Hrs of 28-04-2025, 132 kV Dharmanagar –Dullavcherra line and 132 kV P K Bari – Dharmanagar line tripped. Due to tripping of these lines, Dharmanagar area of Tripura Power System was isolated from NER Grid and collapsed due to no source available in this area.

Power supply was extended to Dharmanagar area of Tripura Power System by charging 132 kV PK Bari – Dharmanagar line at 09:44 Hrs of 28.04.2025.

2. **Time and Date of the Event (घटना का स मय और दिनांक):** 09:07 Hrs of 28-04-2025
3. **Event Category (ग्रिड घटना का प्रकार):** GD-I
4. **Location/Control Area** (स्थान/नियंत्रण क्षेत्र): Dharmanagar area of Tripura
5. **Antecedent Conditions (पूर्ववर्ती स्थिति):**

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.93	1469	1418
Post Event (घटना के बाद)	49.93	1471	1405

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	NIL
Weather Condition (मौसम स्थिति)	Heavy rain, storm with thundering

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 9 MW

3. **Duration of interruption (रुकावट की अवधि):** 37 min

4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

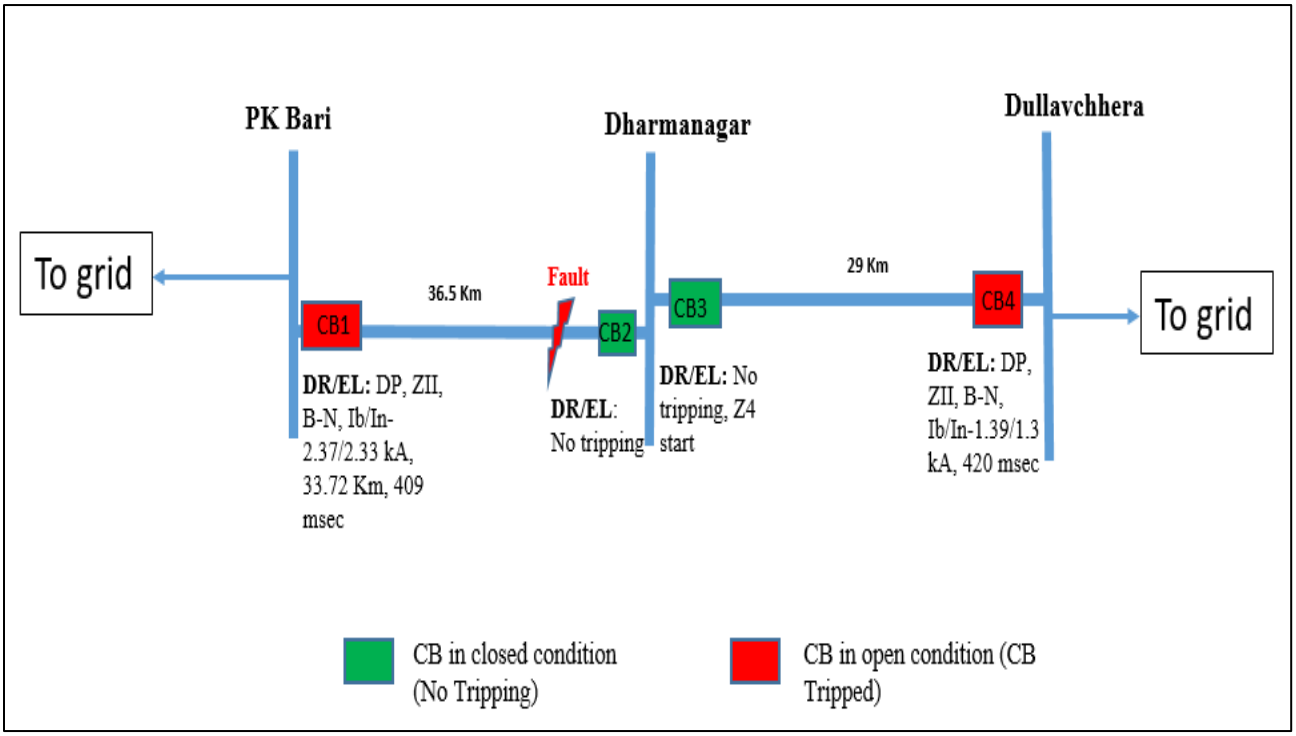
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** NIL

6. **Major Elements Tripped (प्रमुख ट्रिपिंग):**

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 PK Bari-Dharmanagar Line	09:07	09:44	DP, ZII, B-N, 33.72 km	No tripping
2	132 kV Dharmanagar-Dullavchhera Line	09:07	10:02	No tripping, Z4 start	DP, ZII, B-N

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis, solid B-N fault (Ib-2.37 kA, In-2.33 kA) in 132 kV PK Bari-Dharmanagar Line initiated at 09:03:35.099 Hrs which was cleared within 409 msec from PK Bari end on operation of DP, ZII. At Dharmanagar end, 'Any pole dead' at 08:49:39.885 Hrs.

For 132 kV Dharmanagar-Dullavchhera Line, fault cleared from Dullavchhera end within 420 msec on operation of ZII. Z4 started at 09:05:46.628 Hrs. Fault current disappears after 420 msec. 'Any Pole dead' at 09:05:47.045 Hrs**.**

Suspected fault in 132 kV PK Bari-Dharmanagar line as fault distance is 33.72 Km from PK Bari end. Also, Z4 started at Dharmanagar end for 132 kV Dullavchhera line indicating fault in reverse direction.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Protection system at Dharmanagar end for 132 kV PK Bari Line failed to isolate the fault in line resulting in clearance of fault by tripping of healthy 132 kV Dharmanagar-Dullavchhera Line from Dullavchhera end on ZII.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**TSECL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**TSECL & AEGCL**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**TSECL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	**Time drift of 4 min at PK Bari & 18 min at Dharmanagar for 132 kV PK Bari-Dharmanagar Line; 2 min at Dharmanagar end for 132 kV Dullavchhera line**
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

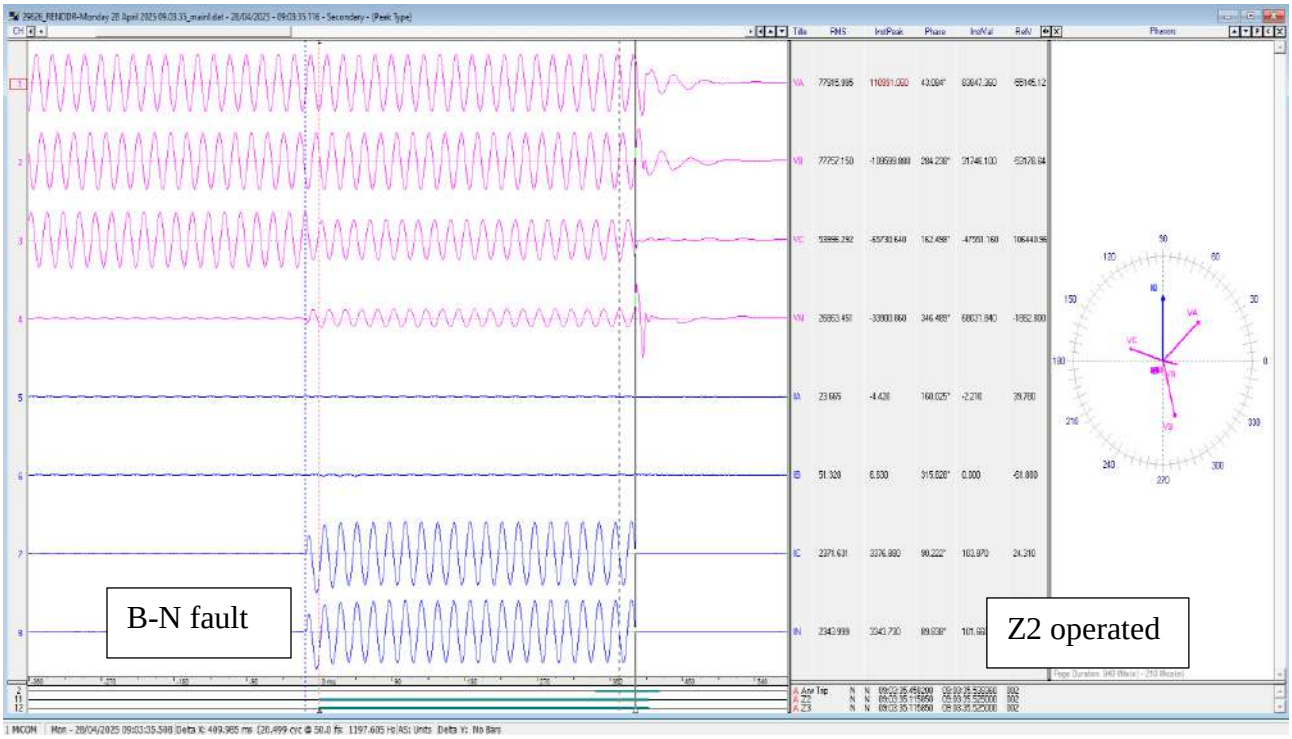
- Proper patrolling and maintenance related activities needs to be undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.
- Healthiness of protection system needs to be ensured at all times.

Annexure 1: Sequence of Events as per SCADA-

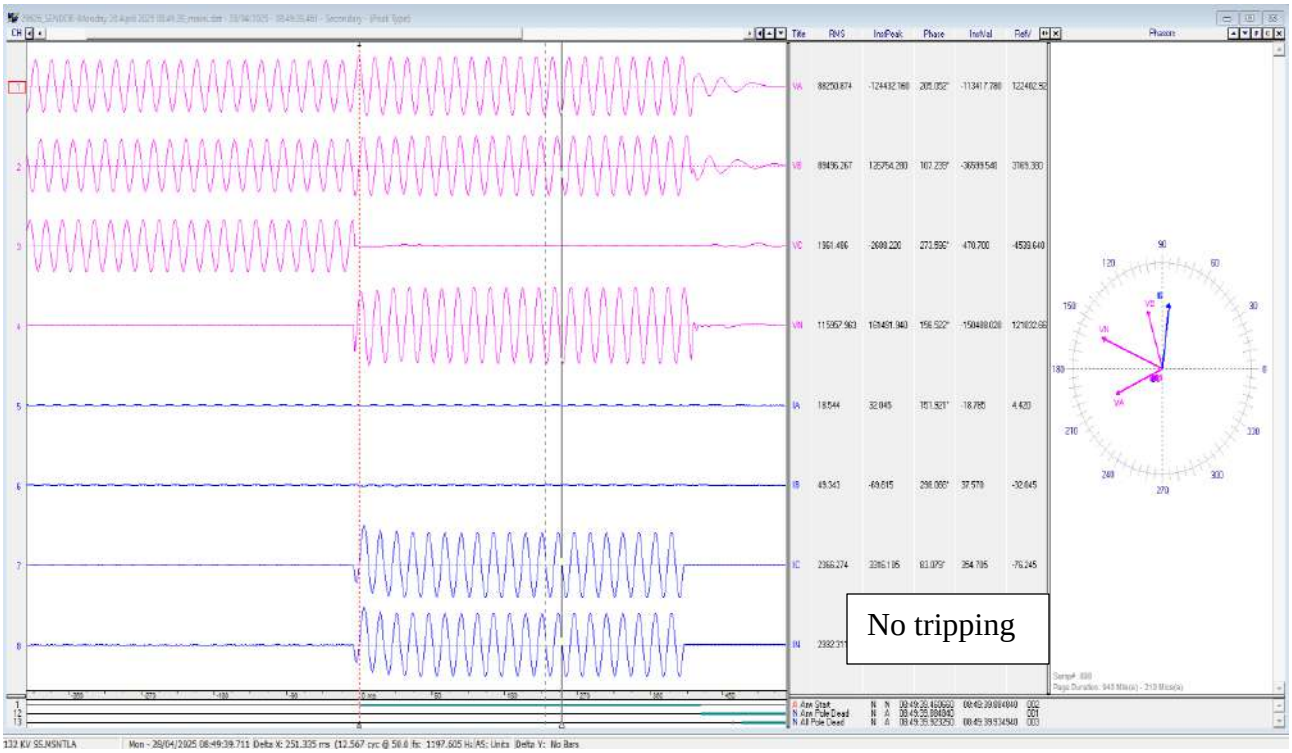
AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
AEGCL	1C	KAMAL_AS	KAMALPUR CB 132/33 T1 (SEC) OPEN	28 Apr 2025 08:07:50:000	28 Apr 2009 08:07:20:000	65000000
AEGCL	1C	KAMAL_AS	KAMALPUR CB 132/33 T2 (PRIM) OPEN	28 Apr 2025 08:07:50:000	28 Apr 2009 08:07:40:000	4.28E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM OPEN	28 Apr 2025 09:07:54:000	28 Apr 2009 09:07:13:000	5.67E+08
AEGCL	1C	SAMAG_AS	SAMAGURI CB 220Kv LINE TO MARIA BETWEEN	28 Apr 2025 13:43:24:000	28 Apr 2009 09:13:00:000	9.55E+08
AEGCL	1C	BALIP_PG	BALIPARA CB MN CB BONGA LINE 4 CLOSED	28 Apr 2025 10:01:43:000	28 Apr 2009 10:01:40:000	3.3E+08
AEGCL	1C	DULLA_AS	DULLAVCHERA CB 132Kv LINE-1 TO DHARM CLOSED	28 Apr 2025 10:02:23:000	28 Apr 2009 10:02:13:000	5.48E+08
AEGCL	1C	GOLAG_AS	GOLAGHAT CB 132/33 T2 (PRIM) CLOSED	28 Apr 2025 10:07:19:000	28 Apr 2009 10:06:35:000	3.48E+08
AEGCL	1C	SAMAG_AS	SAMAGURI CB 220Kv LINE TO MARIA CLOSED	28 Apr 2025 14:38:04:000	28 Apr 2009 10:06:47:000	4.54E+08
MEECL	1C	NONGS_ME	NONGSTOIN CB 33Kv LOAD MAIRA CLOSED	28 Apr 2025 09:05:36:000	28 Apr 2025 09:05:10:000	8.06E+08
TSECL	1C	PKBAR_TE	PKBARI CB 132Kv LINE-1 TO DHARM OPEN	28 Apr 2025 09:07:54:000	28 Apr 2025 09:07:13:000	1.05E+08
AEGCL	1C	SARUS_AS	SARUSAJAI CB 220Kv LINE-2 TO LANGP OPEN	28 Apr 2025 09:11:08:000	28 Apr 2025 09:10:55:000	50000000
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB BETWEEN	28 Apr 2025 09:43:54:000	28 Apr 2025 09:43:29:000	8.33E+08
TSECL	1C	PKBAR_TE	PKBARI CB 132Kv LINE-1 TO DHARM CLOSED	28 Apr 2025 09:44:41:000	28 Apr 2025 09:44:12:000	2.31E+08
MSPCL	1C	IMPHA_PG	IMPHAL CB Kohim2 CB CLOSED	28 Apr 2025 09:44:16:000	28 Apr 2025 09:44:15:000	3.68E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

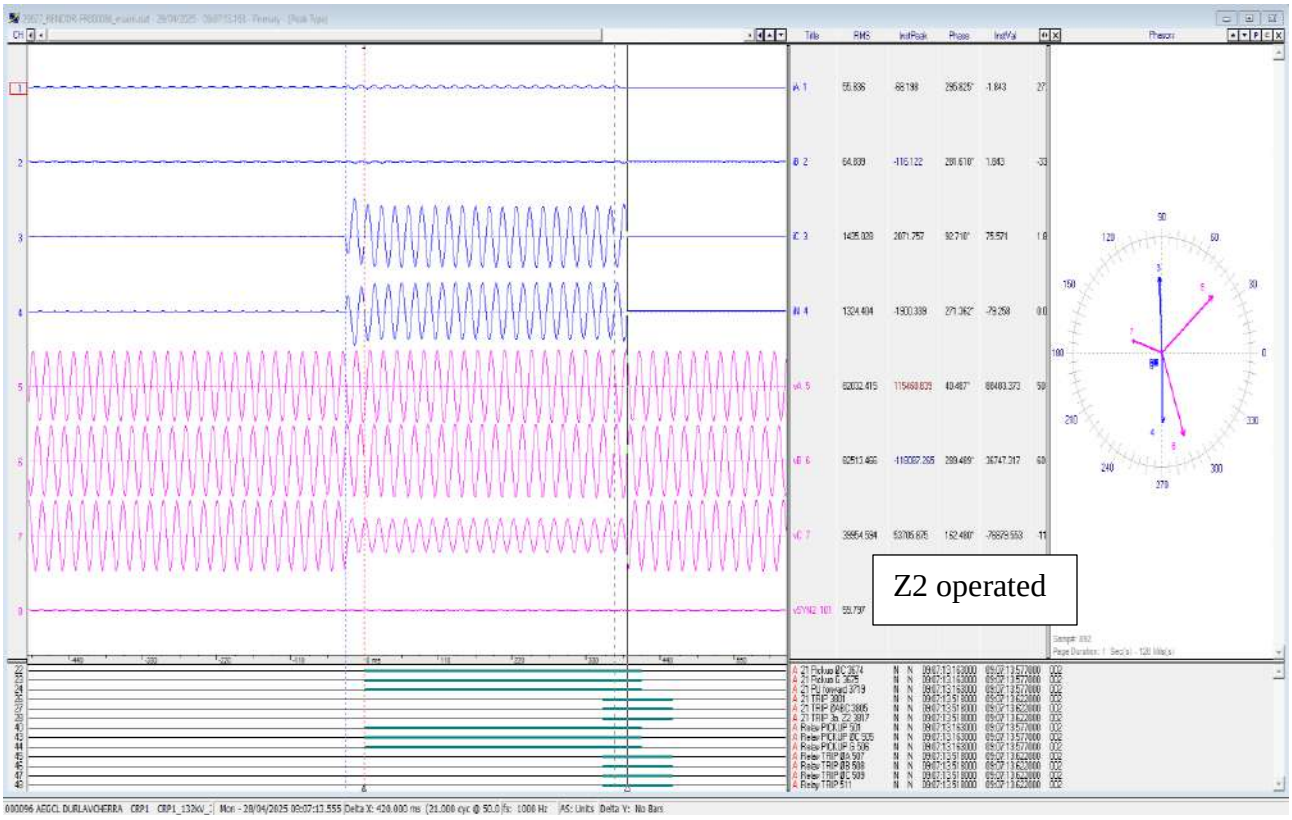
2.1. DR snapshot of PK Bari end for 132 kV PK Bari-Dharmanagar Line



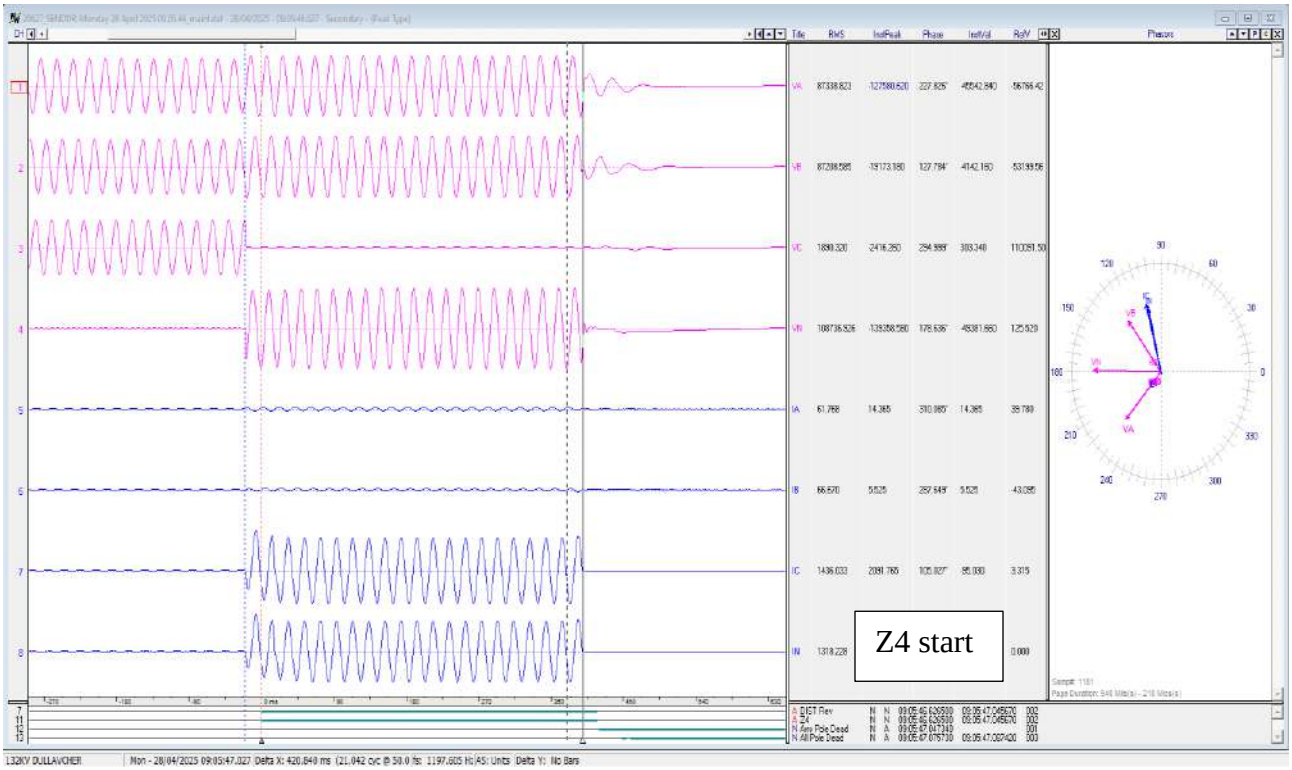
2.2. DR snapshot of PK Bari end for 132 kV PK Bari-Dharmanagar Line



2.3. DR snapshot of Dharmanagar end for 132 kV Dharmanagar-Dullavchhera Line



2.4. DR snapshot of Dharmanagar end for 132 kV Dharmanagar-Dullavchhera Line



ग्रिड-इंडिया GRID-INDIA
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / North Eastern Regional Load Despatch Centre
कार्यालय : लोवर, लापालांग, शिलांग -793006
Office : Lower Nongrah, Lapalang, Shillong- 793006
CIN : U40105DL2009GOI188682, Website : www.nerldc.in, E-mail : nerldc@grid-india.in, Tel.: 0364-2537470/427, Fax: 03642537486

Detailed Report of Grid Disturbance in Churachandpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar Power system of North Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))
(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date (दिनांक):02-05-2025

1. Event Summary (घटना का सारांश):

Churachandpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar Power system were connected to rest of NER grid through 132 kV Ningthoukhong-Churachandpur II, 132 kV Old Thoubal-Kakching & 132 kV New Thoubal-Kakching Lines. Prior to the event, 132 kV Ningthoukhong-Churachandpur I line is under outage since13:48 Hrs of 04.08.2024.

At 13:43 Hrs of 28-04-2025, 132 kV Ningthoukhong-Churachandpur II, 132 kV Old Thoubal-Kakching, 132 kV New Thoubal-Kakching & 132 kV Churachandpur-Kakching Lines tripped. Due to tripping of these lines, Churachanpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar Power system got isolated from NER Grid and collapsed due to no source available in these areas.

Power supply was extended to Kakching area by charging 132 kV Old Thoubal-Kakching Line at 14:05 Hrs of 28-04-2025 and to Churachandpur area by charging 132 kV Churachandpur-Kakching Line at 14:17 Hrs of 28-04-2025.

2. Time and Date of the Event (घटना का स मय और दिनांक): 13:43 Hrs of 28-04-2025

3. Event Category (ग्रिड घटना का प्रकार): GD-I

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Churachandpur, Elangkankpokpi, Thanlon, Kakching, Chandel and Morey areas of Manipur and Tamu area Myanmar

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation (MW)	Regional Demand (MW)
Pre-Event (घटना पूर्व)	49.94	1270	1512
Post Event (घटना के बाद)	49.94	1270	1495

Pre and post data of 1 minute before and after the event

Important Transmission Line/Unit if under outage (before the event))महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है(	132 kV Ningthoukhong-Churachandpur I line is under outage since13:48 Hrs of 04.08.2024
Weather Condition (मौसम स्थिति)	High wind

2. **Load and Generation loss (लोड और जेनरेशन हानि):** Load loss of 30 MW
3. **Duration of interruption (रुकावट की अवधि):** 34 min
4. **Network across the affected area (प्रभावित क्षेत्र का नक्शा):**

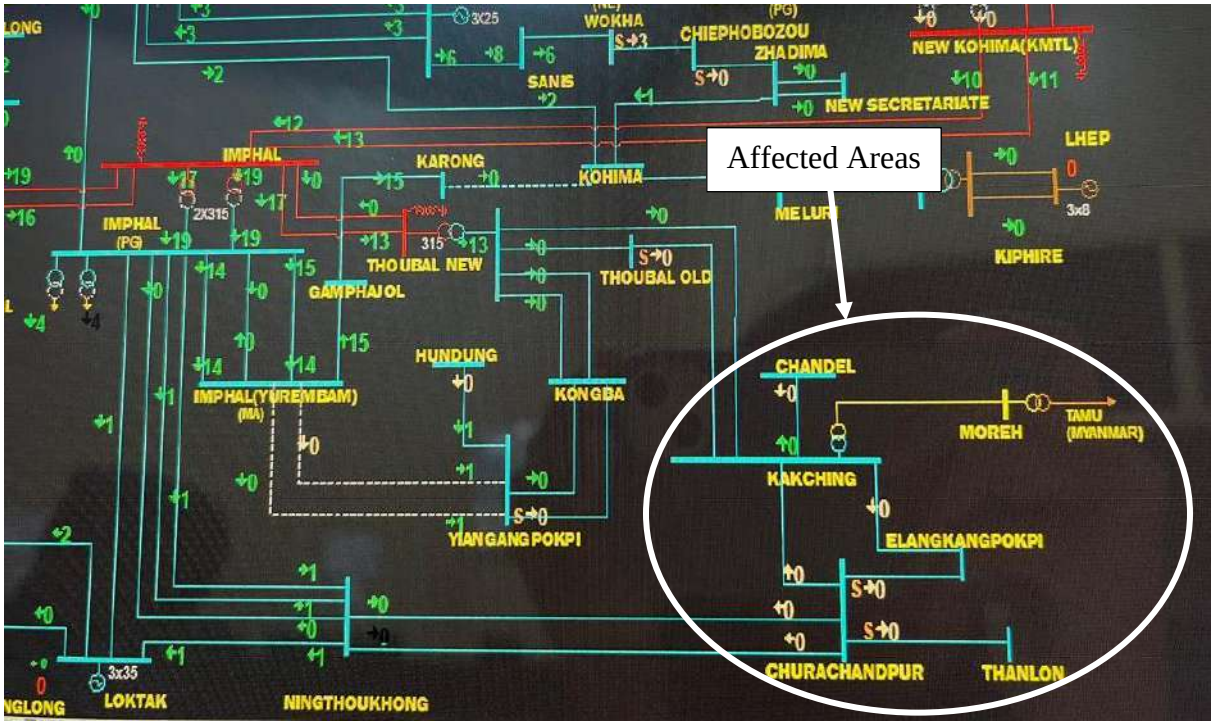


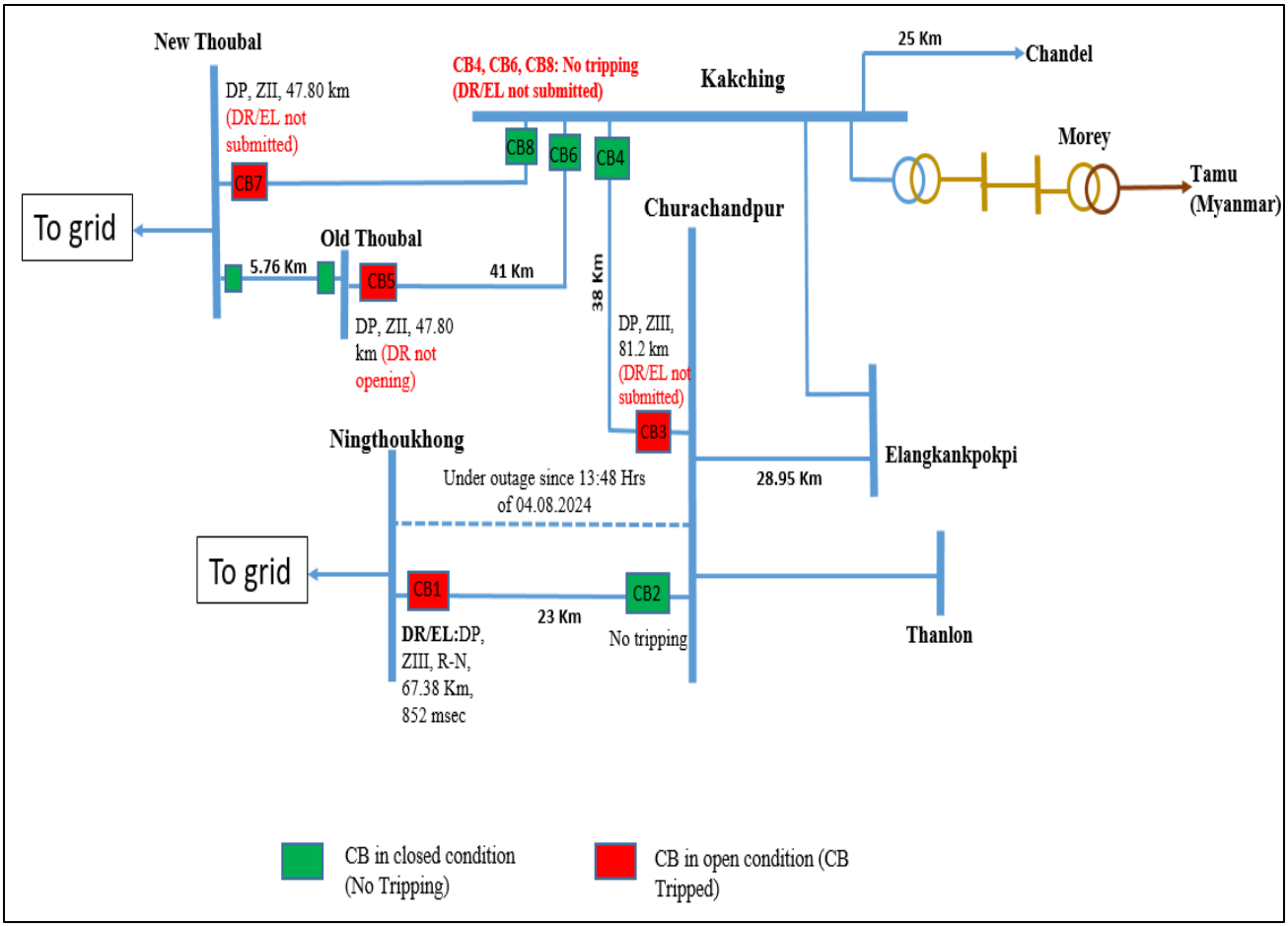
Figure 1: Network across the affected area

5. **Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण):** **NIL**

6. Major Elements Tripped (प्रमुख ट्रिपिंग):

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 Ningthoukhong-Churachandpur II Line	13:43	14:55	DP, ZIII, R-N, 67.38 km	No tripping
2	132 kV Old Thoubal-Kakching Line	13:43	14:05	DP, ZII, 47.80 km (DR not opening)	No tripping
3	132 kV New Thoubal-Kakching Line	13:43	14:06	DP, ZII, 47.80 km (DR/EL not submitted)	No tripping
4	132 kV Churachandpur-Kakching Line	13:43	14:17	DP, ZIII, 81.2 km (DR/EL not submitted)	No tripping

7. Event Analysis (Based on PMU, SCADA & DR) (घटना का विश्लेषण):



As per DR analysis of 132 kV Ningthoukhong-Churachandpur II Line, R-N fault (Ir-1.26 kA, In-1 kA) initiated at 13:42:32.292 Hrs which was cleared within 852 msec from Ningthoukhong end on operation of DP, ZIII.

At 13:42:20.911 Hrs, 132 kV Old Thoubal-Kakching Line tripped from Old Thoubal end (as per EL, DR file not opening). It is unclear which protection system operated and cleared the fault.

Suspected fault is beyond Churachandpur and Kakching Substations as fault distance of 67.38 Km from Ningthoukhong end.

8. Protection/Operational issues observed (सुरक्षा/परिचालन संबंधी समस्या):

- Exact location of fault could not be concluded as DR/EL not submitted by MSPCL.
- It is unclear which protection system operated and cleared the fault from Old Thoubal end for 132 kV Kakching Line.
- SOE not recorded for tripping of 132 kV Churachandpur-Kakching Line & 132 kV Old Thoubal-Kakching Line. The same needs attention from MSPCL/SLDC Manipur team.

9. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

10. Non-compliance observed (विनियमन का गैर-अनुपालन):

Sl. No.	Issues	Regulation Non-Compliance	Utilities
1.	**Flash Report received within 8hrs?**	IEGC section 37.2 (b)	**MSPCL**
2.	**Whether DR/EL provided within 24 Hours?**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**MSPCL**
3.	**Detailed Report received within 7 days?**	IEGC section 37.2 (e)	**MSPCL**
4.	**DR Time Synchronization Issues**	IEGC section 17.3	-
5.	**Any other non-compliance**		-

11. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

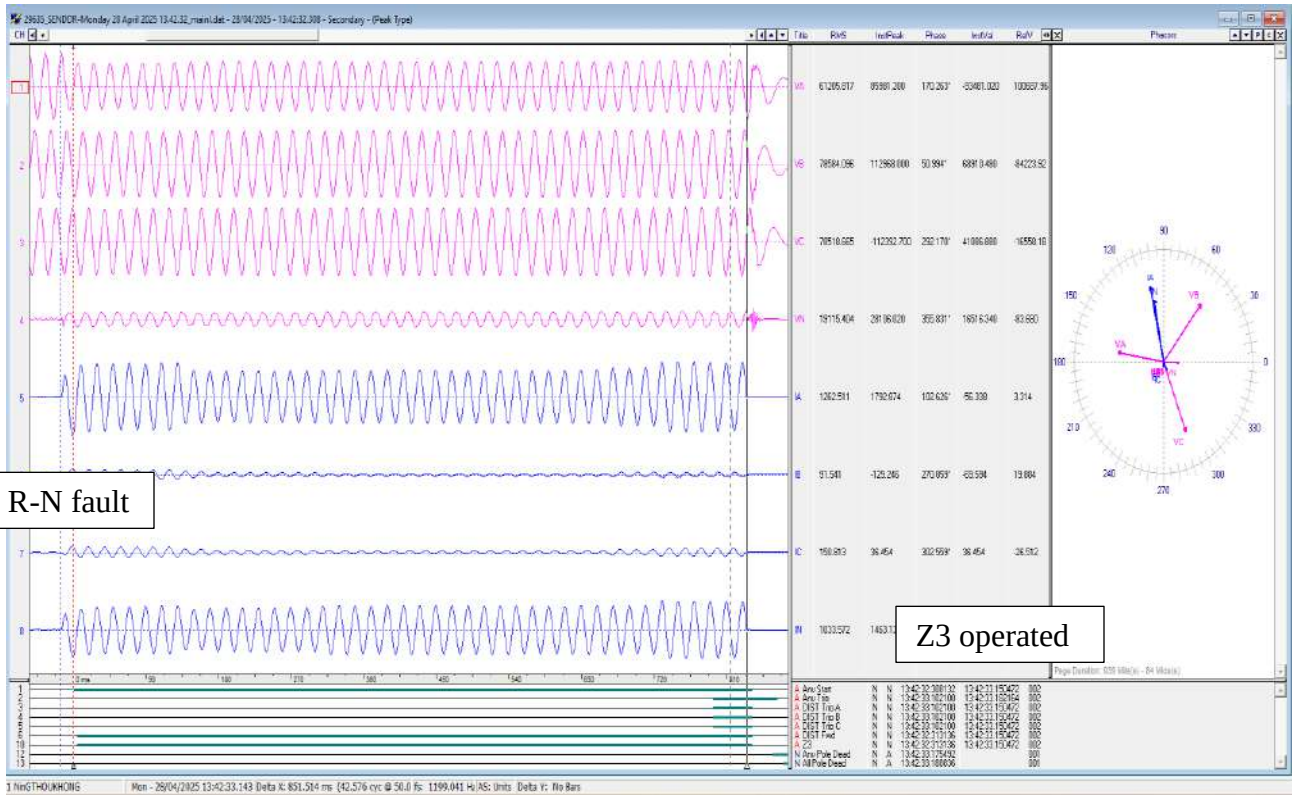
Proper patrolling and maintenance related activities needs to be undertaken as per CEA (Grid Standard) Regulation, 2010 on regular basis.

Annexure 1: Sequence of Events as per SCADA-

AREA	CATEGORY	LOCATION	TEXT	SYSTEM_TIME	FIELD_TIME	MS
AEGCL	1C	SAMAG_AS	SAMAGURI CB 220Kv LINE TO MARIA CLOSED	28 Apr 2025 18:14:34:000	28 Apr 2009 13:42:29:000	3.04E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) CLOSED	28 Apr 2025 13:46:20:000	28 Apr 2009 13:45:40:000	5.12E+08
MSPCL	1C	THOBL_MA	THOUBAL NEW CB 132Kv LINE-1 TO KAKCH CLOSED	28 Apr 2025 14:05:34:000	28 Apr 2009 14:05:12:000	7.04E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132 KV COUPLER (02) BETWEEN	28 Apr 2025 14:21:01:000	28 Apr 2009 14:20:39:000	1.96E+08
NAGALD	1C	KOHIM_NA	KOHIMA CB 132 KV COUPLER (02) CLOSED	28 Apr 2025 14:24:00:000	28 Apr 2009 14:23:17:000	7.96E+08
MIZORM	1C	ZUANG_MI	ZUANGTUI CB 132Kv LINE TO SERCH OPEN	28 Apr 2025 13:39:58:000	28 Apr 2025 13:39:44:000	6.21E+08
MIZORM	1C	ZUANG_MI	ZUANGTUI CB 132Kv LINE TO SAITU CLOSED	28 Apr 2025 13:41:52:000	28 Apr 2025 13:41:16:000	4.61E+08
MSPCL	1C	NINGT_MA	NINGTHOUKHONG CB 132Kv LINE-2 TO CHURA OPEN	28 Apr 2025 13:42:57:000	28 Apr 2025 13:42:20:000	6.14E+08
MSPCL	1C	KAKCH_MA	KAKCHING CB 132/33 T2 (PRIM) OPEN	28 Apr 2025 13:42:57:000	28 Apr 2025 13:42:21:000	4.17E+08
MSPCL	1C	LOKTA_NH	LOKTAK CB 132/11 T1 (PRIM) OPEN	28 Apr 2025 13:42:23:000	28 Apr 2025 13:42:22:000	9.64E+08
MSPCL	1C	THOBL_MA	THOUBAL NEW CB 132Kv LINE-1 TO KAKCH OPEN	28 Apr 2025 13:42:57:000	28 Apr 2025 13:42:29:000	4.77E+08
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD NANGL OPEN	28 Apr 2025 13:42:57:000	28 Apr 2025 13:42:46:000	4.58E+08
MEECL	1C	NANGA_ME	NANGALBIBRA CB 33Kv LOAD NANGL CLOSED	28 Apr 2025 13:47:37:000	28 Apr 2025 13:46:47:000	2.31E+08
TSECL	1C	SURAJ_ST	SURAJNAGAR(ST) CB 132 KV COUPLER (04) BETWEEN	28 Apr 2025 14:51:55:000	28 Apr 2025 14:51:53:000	8.71E+08
TSECL	1C	SURAJ_ST	SURAJNAGAR(ST) CB 400/132 T2 (SEC) BETWEEN	28 Apr 2025 14:51:55:000	28 Apr 2025 14:51:53:000	8.71E+08
MSPCL	1C	NINGT_MA	NINGTHOUKHONG CB 132Kv LINE-2 TO CHURA CLOSED	28 Apr 2025 14:56:18:000	28 Apr 2025 14:55:34:000	45000000
AEGCL	1C	LAKHI_AS	NORTH LAKHIMPUR CB 132Kv LINE TO DHEMA CLOSED	28 Apr 2025 14:58:58:000	28 Apr 2025 14:58:38:000	7.9E+08
AEGCL	1C	DHEMA_AS	DHEMAJI CB 132/33 T3 (SEC) CLOSED	28 Apr 2025 15:06:49:000	28 Apr 2025 14:58:59:000	8.08E+08
NAGALD	1C	DOYAN_NO	DOYANG CB 11 KV UNIT (H03) OPEN	28 Apr 2025 20:17:35:000	28 Apr 2025 20:17:30:000	9.59E+08
MSPCL	1C	KAKCH_MA	KAKCHING CB 132Kv LINE TO CHAND CLOSED	28 Apr 2025 20:21:43:000	28 Apr 2025 20:21:17:000	3.15E+08
MIZORM	1C	TURIL_NO	TURIAL CB 132 KV UNIT (H02) OPEN	28 Apr 2025 19:16:47:000	28 Apr 2025 20:27:57:000	3.06E+08

Annexure 2: Disturbance recorder snips showing faults and digital signals

2.1 DR snapshot of Ningthoukhong end for 132 kV Ningthoukhong-Churachandpur II Line



2.2 EL snapshot of Ningthoukhong end for 132 kV Ningthoukhong-Churachandpur II Line

Monday 28 April 2025 13:42:33.555	Fault Recorded
Description	CcPUR2
Plant reference	NinGTHOUKHONG
Model number	P442916B6M0720M
Address	001 Column:01 Row:00
Event type	Fault record
Event Value	0
Active Group	1
Faulted Phase	1111001
Start Elements	00000000010000000000000000001
Tripped Elts	00000000000001000000000000000
Time Stamp Monday 28 April 2025	13:42:32.308
Fault Alarms	00000100000000
System Frequency	49.95 Hz
Fault Duration	842.6ms
Relay Trip Time	80.09ms
Fault Location	67.38km
IA	1206 A
IB	180.7 A
IC	199.2 A
VAN	54.74kV
VBN	75.31kV
VCN	76.34kV
Fault Resistance 2.427	Ohm
Fault in Zone Zone	3
Tripped Elts 2	0000000000000000
Start Elements 2	000000000000
Evt Unique Id	8266

2.3 DR snapshot of Old Thoubal end for 132 kV Kakching-Old Thoubal Line

00591	Single pole open detected in Phase A	ON	28.04.2025 13:42:20.955	Spontaneous Com.Issued=AutoLocal
	M-CBYPH OP	ON	28.04.2025 13:42:20.911	Spontaneous
	M-CBRPH OP	ON	28.04.2025 13:42:20.910	Spontaneous
	M-CBBPH OP	ON	28.04.2025 13:42:20.909	Spontaneous
00590	Line closure detected	OFF	28.04.2025 13:42:20.215	Spontaneous Com.Issued=AutoLocal
00301	Power System fault	294 - ON	28.04.2025 13:42:20.186	Spontaneous Com.Issued=AutoLocal
00590	Line closure detected	ON	28.04.2025 13:42:20.166	Spontaneous Com.Issued=AutoLocal
00590	Line closure detected	OFF	28.04.2025 13:29:42.345	Spontaneous Com.Issued=AutoLocal
00590	Line closure detected	ON	28.04.2025 13:29:42.261	Spontaneous Com.Issued=AutoLocal