

Agenda for
66th Protection Coordination Sub-Committee Meeting

Date: 23/04/2024 (Tuesday)

Time: 11:00 hrs

Venue: NERPC conference Hall, Shillong

A. CONFIRMATION OF MINUTES

1. CONFIRMATION OF MINUTES OF THE 65th PROTECTION SUB-COMMITTEE MEETING OF NERPC.

Minutes of the 65th PCC Meeting held on 14th March, 2024 (Thursday) at Hotel Royale De'casa, Beltola, Guwahati was circulated vide No.: NERPC/SE (O)/PCC/2023/3537-3578 dated 26th March, 2024.

No comment(s)/observation(s) were received from the constituents.

The Sub-committee may confirm the minutes of 65th PCCM of NERPC

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

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. NERLDC to submit a list of all 132 kV and above substations of the States to 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.

AEGCL requested for a uniform guideline for maintenance of bay elements. Member Secretary requested POWERGRID to share their maintenance guideline with the states so that Assam and other utilities may adopt it after customizing to suit local requirement.

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

In 65th PCCM, the following was decided -

NERPC updated that final audit report of Sarusajai, Kahilipara and BTPS substations of Assam will be finalized within one week.

Regarding audit of substations of Nagaland (Dimapur, Kohima, Sanis, Wokha, Mokokchung), Member Secretary, NERPC stated that the audit can be conducted between 25th to 29th April'24.

NERTS requested to the forum that whenever the audit team plans for audit of any station of any other utility, audit for the nearest station of NERTS may also be carried out. Forum agreed to the same.

Regarding schedules of internal and third-party protection audit –

1. AEGCL representative stated that internal audit of all 132 kV and above substations of Assam will be completed before 30th June'24 as per the direction of AERC. He further stated that third party audit will be planned thereafter. The forum requested Assam to share internal audit report to NERPC and also plan third party audit as early as possible and update the google spreadsheet with schedules of internal as well as third party audit

2. Mizoram stated that internal audit of all 132 kV and above substations have been completed one week ago and third-party audit will be planned shortly. Member Secretary, NERPC requested Mizoram to share the internal audit reports to NERPC and NERLDC at the earliest.
3. TSECL assured that internal audit plan will be shared soon. Forum requested TSECL to plan for third party audit also.
4. Manipur updated that a protection audit committee has been formed recently and the audit will be scheduled shortly keeping in mind the prevailing Law and Order situation of the State

Sub-committee may deliberate

B.2 Urgent requirement of Third-Party Protection Audit of substations of MePTCL and Assam

In 64th PCCM, MePTCL had informed that third party protection audit is urgently required at 21 substations (list provided).

AEGCL vide email dtd 4.03.2024 requested for urgent Planning of Protection Audit for the following AEGCL substations viz.

- i) 220kV Jawaharnagar GIS
- ii) 220kV KLHEP GSS
- iii) 132kV Gauripur GSS
- iv) 132kV Karimganj GSS

In 65th PCCM, MePTCL updated that a revised list of prioritized substations which includes 18 substations has been submitted to NERPC. Member Secretary, NERPC stated that conducting audit by NEPRC team at these 18 substations may not be feasible and advised MePTCL to send a list of 4-5 substations for which protection audit may be conducted by NERPC.

Also, in 65th PCCM, AEGCL requested NERPC to conduct audit at the substations as SCADA system and relay system are obsolete at the substations and PSDF funding is required for the renovation of the systems. NERLDC highlighted that the Karim Ganj GSS is less than 10 years old so it may not be eligible for PSDF funding. After detailed deliberation, NERPC decided that protection audit of Jawahar Nagar, KLHEP and Gauripur substations of Assam will tentatively be carried out in 1st week of May'24

Sub-committee may deliberate

B.3 Detailed system study to review the protection settings of NER grid as per IEGC 2023

As per regulation 14(1) of IEGC 2023, “RPCs shall undertake review of the protection settings, assess the requirement of revisions in protection settings and revise protection settings in consultation with the stakeholders of the respective region, from time to time and at least once in a year. The necessary studies in this regard shall be carried out by the respective RPCs. The data including base case (peak and off-peak cases) files for carrying out studies shall be provided by RLDC and CTU to the RPCs”

In this regard, each state has to carry out the detailed system of their grid, once a year, in order to holistically overview the protection settings in the state and present the study report to NERPC and NERLDC. States may use the PDMS and PSCT software platforms to carry out the studies.

Sub-committee may deliberate

B.4 Analysis and Discussion on Grid Disturbances which occurred in NER grid in March'24 in compliance with IEGC 2023:

TABLE 8 : REPORT SUBMISSION TIMELINE

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

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

The forum may deliberate upon the GD/GI/Near miss events that occurred in March 2024 based on the draft reports prepared by NERLDC. The list of events and draft report of NERLDC is attached as **Annexure B.3**

Sub-committee may deliberate

B.5 Agenda from OTPC

132 KV line 1 was in Shutdown from 10:32 hrs of 01.04.2024 as per OCC approved shutdown. After shutdown withdrawal of 132 KV line 1 and after getting clearance from NERLDC, during normalization it was observed that 132 KV Line 1 Voltage increased showing R-ph=70 KV, Y-ph =73.8, B-ph =16.4 KV in Breaker open condition at both Palatana and Banduar end at 16:40 Hrs.

Same was informed to SLDC Tripura control room and they confirmed to us that their side, breaker is still in open condition but we still observed uneven voltage at 132 KV Line-1. Same incident was conveyed to the NERLDC control room. After conversation with the SLDC engineer we requested to open the isolator from Banduar end. After opening the isolator from the Banduar end, immediately voltage becomes 0 KV at 16:57 Hrs. It seems that somehow voltage was induced from the Banduar end.

We requested SLDC Agartala to take immediate measure regarding the same. As confirmed by SLDC they had done some maintenance work at Banduar substation and after rectification they had charged the isolator. At that time no voltage was showing at Palatana end. Consequently, after getting code from NERLDC 132 KV line 1 was normalised at both ends.

Voltage without closing of any breaker is a serious threat to both man & machineries. As you are aware that same incident had happened earlier on 23.12.2023 during 132 KV line-1 shutdown and the matter was discussed in 63rd Protection Committee Meeting. Hence Forum is requested to investigate total incident so that this type of event doesn't reoccur in future.

For necessary discussion in PCC meeting.

Sub-committee may deliberate

Agenda items from NERLDC

B.6 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of March'2024

In line with regulation 12 (1) of CEA Grid Standards Regulations and IEGC-23 provision under clause 37.2 (c), FIR and DR & EL Outputs for each grid events are

required to be submitted by concerned utilities to NERLDC for detailed investigation and analysis.

Status of uploading of FIR, DR & EL outputs in Tripping Monitoring Portal for events from 01-03-2024 to 31-03-2024 as on 10-04-2024 is given below:

Name of Utility	Total FIR/ DR/EL to be submitted	Total FIR to be submitted			Total FIR, DR & EL submitted			Total FIR, DR & EL not submitted			% Submission of		
		FIR	DR	EL	FIR	DR	EL	FIR	DR	EL	FIR	DR	EL
DoP, Arunachal Pradesh	7	7	7	7	7	7	7	0	0	0	100	100	100
AEGCL	66	66	54	52	53	7	45	13	1	2	80	98	96
APGCL	13	13	9	9	0	0	0	13	9	9	0	0	0
MSPCL	16	16	10	10	16	4	5	0	2	2	100	80	80
MePTCL	27	27	25	26	20	20	20	7	4	5	74	84	81
MePGCL	10	10	10	10	9	8	6	1	1	3	90	90	70
P&ED, Mizoram	2	2	2	2	0	0	1	2	1	1	0	50	50
DoP, Nagaland	9	9	9	9	9	8	8	0	0	0	100	100	100
TSECL	20	20	20	20	17	14	18	3	2	2	85	90	90
TPGCL	3	3	3	3	0	0	0	3	3	3	0	0	0
POWERGRID	61	61	58	59	59	57	57	2	1	1	97	98	98
NEEPCO	38	38	29	34	35	24	28	3	3	5	92	90	85
NHPC	5	5	5	5	5	3	2	0	0	1	100	100	80
NTPC	1	1	1	1	0	0	0	1	1	1	0	0	0
ERTS	3	3	3	3	0	0	0	3	3	3	0	0	0
OTPC	4	4	4	4	4	4	4	0	0	0	100	100	100
MUML	3	3	3	3	1	1	1	2	2	2	33	33	33
IndiGrid	17	17	16	17	16	15	16	1	1	1	94	100	100

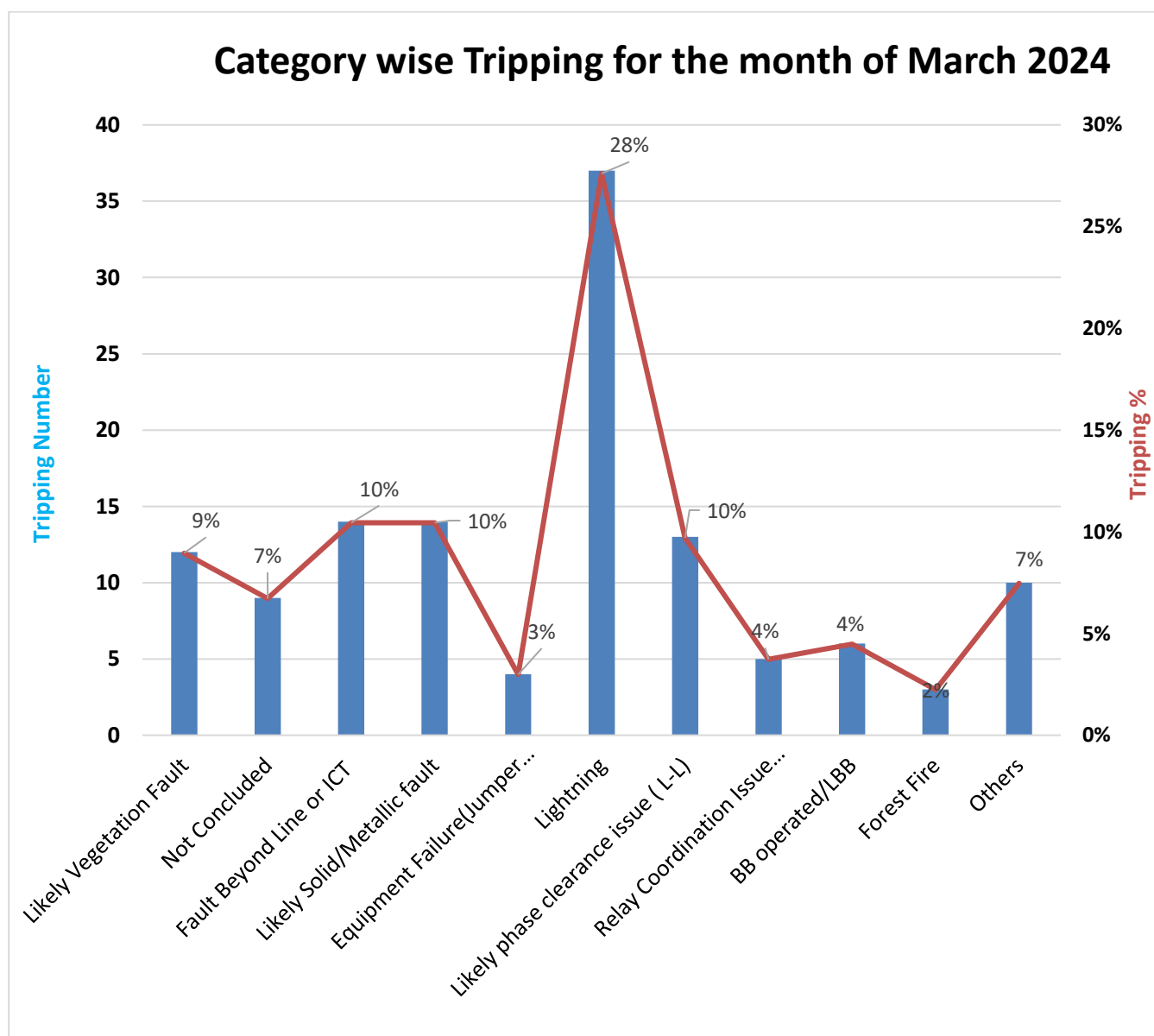
Concerned Utilities are requested to upload Disturbance Recorder (DR), Event Logger (EL) outputs for grid events along with a First Information Report (FIR) in Tripping Monitoring Portal (<https://tripping.nerldc.in/Default.aspx>) for analysis purpose. In light of the cybersecurity measures implemented 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.

Sub-committee may deliberate

B.7 Category wise Tripping for the month of February 2024:

There were a total 7 numbers of Successful Auto reclosure operation (both ends) and 127 numbers of Line (including 1 number HVDC tripping) & ICT tripping during the month of March'24.

A plot showing number and percentage of tripping in each category such as Likely Vegetation, Lightning, Solid/metallic fault and fault beyond the line etc. is shown below. It is observed that for around 28% of tripping were due to lightning the line and 10% of tripping were due to solid fault and Likely phase clearance (L-L) faults.



The trippings due to Vegetation fault and solid/metallic fault and Lightning faults are listed below:

List of tripping due to Vegetation fault during March, 2024

Sl. No.	Element Name	Owner Name	Tripping Date and Time	Relay_A	Relay_B
1	132 kV Agia - Nangalbibra Line	MePTCL	03-03-2024 13:50	DP, ZI, R-N, FD: 26.13 Km	DP, ZI, B-N, FD: 50.35 Km
2	220 kV BALIPARA - SONABIL 2	POWERGRID & AEGCL	04-03-2024 13:06	DP, ZII, B-E, FD: 10 Km, DT received	DP, ZI, R-E, Carrier aid tripping (DEF pick up)
3	132 kV Roing - Pasighat Line	POWERGRID	07-03-2024 15:46	DEF Operated	No Tripping (Earth fault pickup)
4	132 kV Imphal (MSPCL) - Karong Line	MSPCL	11-03-2024 11:26	DP, ZI, R-E, FD: 28.98 Km	No tripping, ZIV pick up, Y-E
5	220 kV Mariani (PG) - Mokokchung (PG) 2 Line	POWERGRID	11-03-2024 15:53	DP, ZI, R-Y, FD: 5.347 Km	DP, ZII, R-Y, FD: 45.37 Km, carrier aid trip
6	132 kV Chiephobozou-Wokha Line	DoP, Nagaland	12-03-2024 10:30	DP, ZII, Y-B, FD: 33.62 Km	DP, ZI, Y-B, FD: 3.4 Km
7	400 kV Azara - Silchar Line	NETC & AEGCL	16-03-2024 14:31	DP,ZI, R-B	DP,ZI,R-B,FD: 155.94 KM
8	220 kV BTPS - Rangia 1 Line	AEGCL	17-03-2024 12:08	DP,ZII,B-E	DP,ZI,B-E
9	132 kV Baramura - Jirania Line	TSECL	23-03-2024 20:30	Tripped on EF and DP,ZII,Y-E initiated	DP,ZII,Y-E

10	132 kV Aizawl - Tipaimukh Line	POWERGRID & MSPCL	23-03-2024 22:00	EF, Y-E	EF, Y-E
11	400 kV Palatana - Silchar 2 Line	NETC	25-03-2024 23:50	DP,ZII, B-E, FD: 299KM	Z-1, 3ph to ground, 35.6km, 5.12kAmp
12	132 kV Pailapool - Srikona Line	AEGCL	31-03-2024 07:44	No Tripping	DP Z II, R-E,FD: 30.3 km

List of tripping due to Solid fault during March, 2024

SL No	Element Name	Owner Name	Tripping Date and Time	Relay_A	Relay_B
1	132 kV Imphal (MSPCL) - Yaingangpokpi 2 Line	MSPCL	06-03- 2024 17:54	DP, ZI, B-E, FD: 28.61 Km	No Tripping
2	132 kV Lekhi - Ranganadi Line	DoP, Arunachal Pradesh & POWERGRID	07-03- 2024 15:05	DP, ZI, R-E, FD: 1.4 Km	DP, ZII, R-E, FD: 22.23 Km
3	132 kV Dharmanagar - P K Bari Line	TSECL	10-03- 2024 10:15	No Tripping	DP, ZII, B-E, FD: 36.58 Km
4	220 kV Azara - Sarusajai 2 Line	AEGCL	16-03- 2024 05:58	DP,ZI,R-E,FD: 22.5 km	Z4 initiated
5	220 kV Sarusajai- Sonapur Line	AEGCL	16-03- 2024 05:58	DP,ZII,Y-E,FD: 49.2 km	Z4 initiated
6	220 kV Jawaharnagar - Sarusajai Line	AEGCL	16-03- 2024 05:58	DP,ZII,Y-E,FD: 12.2 km	Z4 initiated
7	132 kV Dharmanagar - P K Bari Line	TSECL	16-03- 2024 15:54	No Tripping. Only DP,ZI,Y- E,FD: 17.59 km	DP, ZI, B- E,FD: 17.48 km.

8	132 kV Dimapur (PG) - Kohima Line	POWERGRID & DoP, Nagaland	25-03-2024 15:38	DP,ZI, B-E, FD: 42.73 Kms	DP,ZI, B-E
9	132 kV Panchgram - Lumshnong Line	AEGCL & MePTCL	25-03-2024 23:35	DP,ZI,B-E,FD:5.2kM	DP, ZII, B-E, FD: 44.83 Km
10	132 kV Agia - Nangalbibra Line	MePTCL	26-03-2024 01:57	Not Furnished	DP,ZI,B-E,FD: 9.41 KM
11	132 kV Nirjuli-North Lakhimpur 1 Line	MUML	26-03-2024 04:18	DP, ZI, B-E, FD: 8.67 KM	DP, ZI, B-E, FD: 45 KM
12	132 kV Nirjuli - Pare Line	MUML	26-03-2024 04:18	DP,ZI,B-E, FD:8.35KM,FC: 2.0KA	DP,ZI,B-E,FD:16.88 KM
13	132 kV Agartala - Rokhia 1 Line	TSECL	31-03-2024 07:30	DP, ZI, Y-E ,FD: 7.2 km	DP, ZI, Y-E,FD: 3.2km
14	132 kV Aizawl - Kolasib Line	POWERGRID	31-03-2024 09:08	LDP,Y-E, FD:3.79KM	LDP Operated, Y-E

List of tripping due to L-L fault likely due to phase clearance Issue during March, 2024

SL No	Element Name	Owner Name	Tripping Date and Time	Relay_A	Relay_B
1	220 kV Karbi Langpi - Sarusajai 1 Line	AEGCL	15-03-2024 15:33	Not Furnished	DP, ZI, Y-B, FD: 31.5 Km
2	132 kV Depota - Ghoramari	AEGCL	22-03-2024 05:03	DP, ZI, Y-B, FD: 5.7 km	No tripping

3	132 kV Depota-Dhekiajuli	AEGCL	22-03-2024 05:03	DP, ZI, Y-B, FD: 2 km	No Tripping
4	132 kV Bodhjannagar - Jirania Line	TSECL	23-03-2024 22:25	DP, ZII, R-Y	No Tripping
5	132 kV Umiam St III - Umtru 1 Line	MePTCL	25-03-2024 09:38	DP,ZI,R-Y,FD: 12.73 KM	DP, ZI,R-Y
6	132 kV Jiribam - Pailapool Line	AEGCL	26-03-2024 01:29	R-Y-PH, Z-1, 8.84KM,Ir- 2.729KA, Iy- 2.747KA	DP, ZI, R-Y, FD: 4.2km
7	132 kV P K Bari (Sterlite Power) - P K Bari (TSECL) Line	TSECL	26-03-2024 03:08	LDP, R-B, FD: 8.646 Km	DP, ZIII, R-B, FD: 1.84 Km
8	132 kV Sarusajai - Umtru 1 Line	MePTCL	26-03-2024 03:39	Line kept ideally charged from Umtru	DP, ZI, Y-B
9	132 kV Sanis - Wokha Line	DoP, Nagaland	26-03-2024 07:42	DP, ZI, Y-B, FD: 21.35 Km	DP,ZI,Y-B
10	132 kV Dimapur - Doyang 2 Line	POWERGRID	29-03-2024 13:10	DP, Z1,R-Y,FD: 72.6km	DP,Z1, R-Y
11	132 kV Ambasa - P K Bari Line	TSECL	31-03-2024 08:22	DP,ZII,R-Y	Not Furnished
12	220 kV Agia - BTPS 2 Line	AEGCL	31-03-2024 20:19	DP,ZI,Y-B,FD: 40.2 km	DP,ZI,Y-B,FD: 24.5 km

List of tripping due to Lightning fault during March, 2024

SL No	Element Name	Owner Name	Tripping Date and Time	Relay_A	Relay_B
1	132 kV Dimapur - Doyang 1 Line	POWERGRID	16-03-2024 13:38	DP,ZI,B-E,FD:58.49 Kms	DP,ZII,R-E,FD:60.074 KM
2	132 kV Badarpur - Khliehriat Line	POWERGRID	17-03-2024 04:15	DP,ZI,Y-E,FD: 23.71KM	DP,ZI,Y-E,FD: 52.0KM
3	220 kV BTPS - Rangia 1 Line	AEGCL	20-03-2024 05:33	DP,ZI,R-Y-E,FD: 19km	DP,ZII,R-Y-E,FD: 19km (Carrier aided)
4	220 kV BTPS - Rangia 2 Line	AEGCL	20-03-2024 05:33	R-Yphase, Z-1,21.3km	DT received
5	132 kV Badarpur - Khliehriat Line	POWERGRID	20-03-2024 18:53	DP,ZI,R-E,FD: 37.48 KM	DP,ZI, B-E,FD: 38.77KM
6	132 kV Agia - Nangalbibra Line	MePTCL	22-03-2024 00:43	DP, ZI, R-E, 48.5 km	DP, ZI,R-E,FD:34.41kms
7	132 kV Dimapur - Doyang 2 Line	POWERGRID	22-03-2024 02:25	DP, ZI,B-E, FD: 6.945 KMS	DP, ZI,B-E
8	132 kV Dimapur - Doyang 1 Line	POWERGRID	22-03-2024 02:25	DP, ZI,B-E, FD: 6.945 Km	DP, ZI,B-E, FD:63.3km
9	400 kV Byrnihat - Silchar Line	NETC & MePTCL	23-03-2024 16:06	DP,ZI, Y-E,FD: 39 KM	DP,ZI,Y-E, FD:170 KM
10	132 kV Hailakandi - Silchar 2 Line	POWERGRID	23-03-2024 21:13	DP, ZI, Y-E,FD:8.3 KM	DP, ZI, Y-E,FD: 24.69 KM
11	132 kV AGTCCPP - PK Bari (TSECL) 1 Line	NTL	24-03-2024 06:19	DP, ZI, R-Y-B-E, FD: 5.4 km	DP, ZII, R-Y-B-E,FD: 77.3 km
12	132 kV AGTCCPP - PK Bari (TSECL) 2 Line	NTL	24-03-2024 06:19	DP, ZI, R-Y-B-E, FD: 5.4 km	DP, ZII, R-Y-B-E,FD: 79.3 km
13	220 kV Jawaharnagar - Samaguri Line	AEGCL	25-03-2024 10:30	B phase, Z1, 4.8 km	DP, ZII, R-E, FD: 107.2 km, Carrier aided tripping

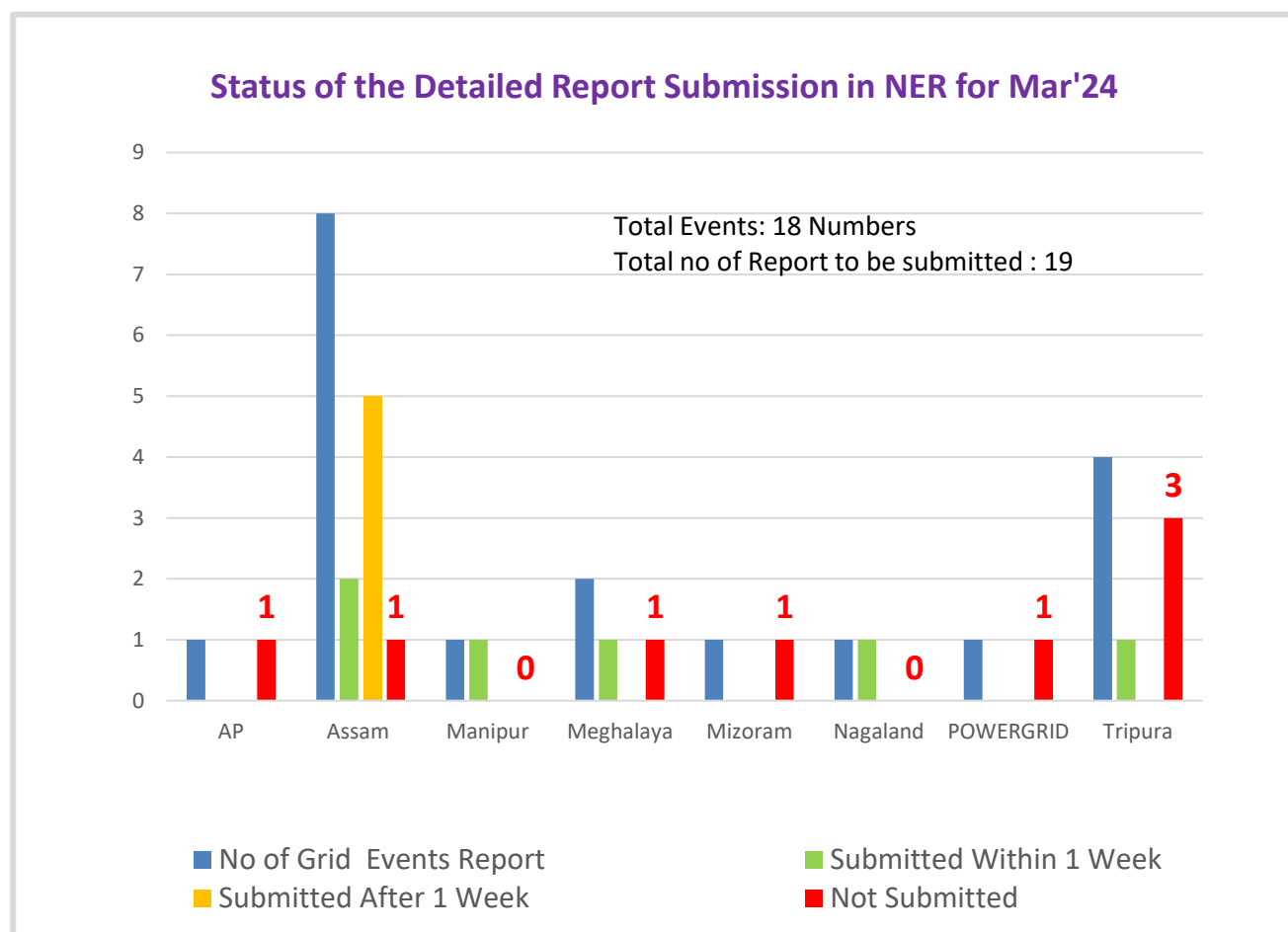
14	132 kV Gohpur - Nirjuli Line	POWERGRID	25-03-2024 12:31	DP, ZI, R-Y	Directional O/C R-Y Phase, Ir=2.65 kA, Iy=2.43 kA
15	132 kV Haflong - Jiribam Line	POWERGRID	26-03-2024 01:26	DP, ZI, R-E, FD: 71.554KM	DP, ZI, R-E, FD: 5.95KM
16	132 kV Agia - Nangalbibra Line	MePTCL	26-03-2024 04:15	Not Furnished	DP,ZI,B-E,FD: 18.6 Km
17	132 kV Gohpur - North Lakhimpur 1 Line	AEGCL	26-03-2024 05:55	DP,ZI,R-E, FD: 4.1km	DP,ZI,R-E
18	132 kV Roing - Pasighat Line	POWERGRID	26-03-2024 06:26	DP, Z II,R-B,FD: 119.4KM	DP, Z II,R-B-E
19	132 kV Tenga - Khupi Line	DoP, Arunachal Pradesh	26-03-2024 07:35	DP,ZI, R-B-E, FD: 30km	DP,ZI, R-B-E,FD:4.9km
20	220 kV Agia - BTPS 1 Line	AEGCL	26-03-2024 08:17	DP,ZI, Y-E, FD:17.2 Km	DP,ZI, Y-E
21	220 kV Mawngap - New Shillong 1 Line	MePTCL	26-03-2024 12:22	DP,ZI, Y-E, FD: 27.82 Km	DP,ZI, Y-E
22	400 kV Surajmani Nagar (Sterlite Power) - P K Bari (Sterlite Power) 2 Line	NTL	30-03-2024 17:07	DP,ZI, Y-E,FD: 20.9 Kms	DP,ZI, Y-E,FD: 58.53 Kms
23	400 kV Palatana - Silchar 2 Line	NETC	30-03-2024 18:18	DP,ZI, Y-E,FD:65.67 km	DP,ZI, Y-E,FD:185.5 Km
24	220 kV Byrnihat - Misa 2 Line	MePTCL	31-03-2024 05:21	DP,ZI,R-E, FD: 50.38km	R-E , ZI. 2.445 KA, 68.508 KMS
25	132 kV Surajmani Nagar (TSECL) - Surajmani Nagar (Sterlite Power) Line	TSECL	31-03-2024 07:29	DP,Z-I, FD: 6.7 KM	DP, ZI, R-E

26	400 kV Surajmani Nagar (Sterlite Power) - Palatana 1 Line	POWERGRID	31-03-2024 07:30	LDP operated , FD:14 km	LDP Operated
27	132 kV AGTCCPP - PK Bari (TSECL) 1 Line	NTL	31-03-2024 08:15	DP, ZII, Y-E , FD: 97.4 KM	DP, ZI, Y-E
28	132 kV AGTCCPP - PK Bari (TSECL) 2 Line	NTL	31-03-2024 08:17	DP, ZII,Y-B,FD: 70.77KM	DP, ZI,Y-E,FD: 30 KM
29	132 kV Aizawl - Kumarghat Line	POWERGRID	31-03-2024 08:40	DP,ZI,R-E,FD: 59.37 KM	DP, ZI, R-E,FD: 46.95km
30	400 kV Alipurduar - Bongaigaon 2 Line	ENICL	31-03-2024 15:48	M1: RN, Z1, 12.38KA, 0.7KM M2: RN, Z1, 13.51KA, 1.22KM	DP,ZII, R-B- E,FD: 80.20KM , Carrier Aided tripping
31	132 kV Umtru - Umiam St IV 1 Line	MePTCL	31-03-2024 15:48	DP,ZII, R- Y,FD:26.6Kms	86A,86
32	220 kV Sarusajai- Sonapur Line	AEGCL	31-03-2024 16:25	DP,ZI,R-E, FD: 7.1km	DP,ZI,Y-E,FD: 32.4Kms
33	220KV- MAWNGAP- BYRNIHAT (KILLING)-1	MePTCL	31-03-2024 16:31	DP, ZII, Y-E, FD: 70.65Km(Carrier Aided Tripping)	DP, ZI, B-E, FD: 14.4 Km
34	132 kV Umiam St III - Umtru 1 Line	MePTCL	31-03-2024 16:42	ZII, FD: 36 KM	ZI, 6.9 KM
35	220 kV Agia - BTPS 1 Line	AEGCL	31-03-2024 16:51	Z1, Y-N, overcurrent, M1: 17.4 KM, M2: 15.2 KM	Z1, Y-N, 46.7 KM
36	220 kV Agia - BTPS 1 Line	AEGCL	31-03-2024 20:22	Z1,17.26km, Y phase	DP,ZI,Y- E,FD:44.5km
37	400 kV Byrnihat - Silchar Line	NETC & MePTCL	31-03-2024 20:51	DP,ZI, Y-E, FD: 68.7 km	DP,ZI, Y-E,FD: 175.11KM

Sub-committee may deliberate

B.8 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. Status of submission of the same for the month of March, 2024 is shown below:



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

Also, the complied Monthly Event Report of March 2024 attached in **Annexure B.3** and Various Non-compliance of CEA Grid standard -2010 & Grid Code -2023 are listed in the **Annexure B.7**.

Sub-committee may deliberate

B.9 Submission of Protection Performance Indices by Transmission Utilities:

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

- The Dependability Index defined as $D = N_c / (N_c + N_f)$
- The Security Index defined as $S = N_c / (N_c + N_u)$
- The Reliability Index defined as $R = N_c / (N_c + N_i)$

Where,

N_c : number of correct operations at internal power system faults

N_f : Number of failures to operate at internal power system faults.

N_u : Number of unwanted operations.

N_i : Number of incorrect operations and is the sum of N_f and N_u

NTL, NETC & AEGCL submitted the Protection Performance Indices for the month of **March**, 2024 as follows:

SN	Name of Transmission Licencee	D= ($N_c / (N_c + N_f)$)	S= ($N_c / (N_c + N_u)$)	R= ($N_c / (N_c + N_i)$)	Remakrs
1	NETC	-	-	-	No bays owned by NETC
2	DoP, Nagaland	1.00	0.89	0.89	132 kV Wokha-Sanis line tripped at Wokha end due to fault 132 kV Chiempobozou – Wokha seems unwanted.
3	MePGCL	1	0.91	0.91	High Set tripping observed at Stage 4 end of 132 kV Umtru - Umiam Stage IV (Line 1)- Disabled after the tripping

It has been observed that Protection Performance Indices are not being submitted by all the users. Therefore, all Users are requested to furnish performance indices (Dependability-D, Security-S, Reliability-R) with regards to the tripping of elements to NERPC & NERLDC positively by 10th of every month for previous month indices.

Sub-committee may deliberate

B.10 Non-operation of auto recloser in Important Grid Elements for transient faults in March 2024:

SL No	Element Name	Tripping Date and Time	Restoration Date and Time	Relay _A	Relay _B	Auto-Recloser not Operated	Remarks
1	220 kV BALIPARA - SONABIL 2	POWERGRID & AEGCL	04-03-2024 13:06	04-03-2024 15:13	02:07:00	Sonabil	
2	220 kV BTPS - Rangia 1	17-03-2024 12:08	17-03-2024 12:44	DP,ZII,B-E	DP,ZI,B-E	Rangia	
3	400 kV Byrnihat - Silchar	23-03-2024 16:06	23-03-2024 17:11	DP,ZI, Y-E,FD: 39 KM	DP,ZI,Y-E, FD:170 KM	Both ends	
4	132 kV Hailakandi - Silchar 2	23-03-2024 21:13	23-03-2024 22:00	DP, ZI, Y-E,FD:8.3 KM	DP, ZI, Y-E,FD: 24.69 KM	Hailakandi	
5	132 kV Dimapur (PG) - Kohima	25-03-2024 15:38	25-03-2024 17:02	DP,ZI, B-E, FD: 42.73 Kms	DP,ZI, B-E	Kohima	
6	132 kV Haflong - Jiribam	26-03-2024 01:26	26-03-2024 01:51	DP, ZI, R-E, FD: 71.554KM	DP, ZI, R-E, FD: 5.95KM	Haflong	

7	132 kV Jiribam - Pailapool	26-03-2024 01:29	26-03-2024 01:55	DP,ZI, R-Y, FD:8.84K M	DP, ZI, R- Y, FD: 4.2km	Both ends	
8	132 kV Nirjuli- North Lakhimpur 1	26-03-2024 04:18	26-03-2024 05:11	DP, ZI, B- E, FD: 18.67 KM	DP, ZI, B-E, FD: 45 KM	Both ends	
9	132 kV Nirjuli - Pare	26-03-2024 04:18	26-03-2024 05:11	DP,ZI,B-E, FD:8.35K M,FC: 2.0KA	DP,ZI,B- E,FD:16. 88 KM	Both ends	
10	132 kV Gohpur - North Lakhimpur 1	26-03-2024 05:55	26-03-2024 06:12	DP,ZI,R-E, FD: 4.1km	DP,ZI,R- E	Both ends	
11	132 kV Tenga - Khupi	26-03-2024 07:35	26-03-2024 12:25	DP,ZI, R- B-E, FD: 30km	DP,ZI, R- B- E,FD:4.9 km	Khupi	
12	220 kV Agia - BTPS 1	26-03-2024 08:17	26-03-2024 08:54	DP,ZI, Y-E, FD:17.2 Km	DP,ZI, Y- E	BTPS	
13	220 kV Mawngap - New Shillong 1	26-03-2024 12:22	26-03-2024 19:31	DP,ZI, Y-E, FD: 27.82 Km	DP,ZI, Y- E	Mawng ap	
14	132 kV Gohpur - North Lakhimpur 2	28-03-2024 09:19		DP,ZI, B-E (B-ph LA Blast)	R-Y-B- ph, Z-2, 96.1 km	Both Ends	
15	132 kV Dimapur - Doyang 2	29-03-2024 13:10	29-03-2024 13:31	DP, Z1,R- Y,FD: 72.6km	DP,Z1, R- Y	Doyan g	

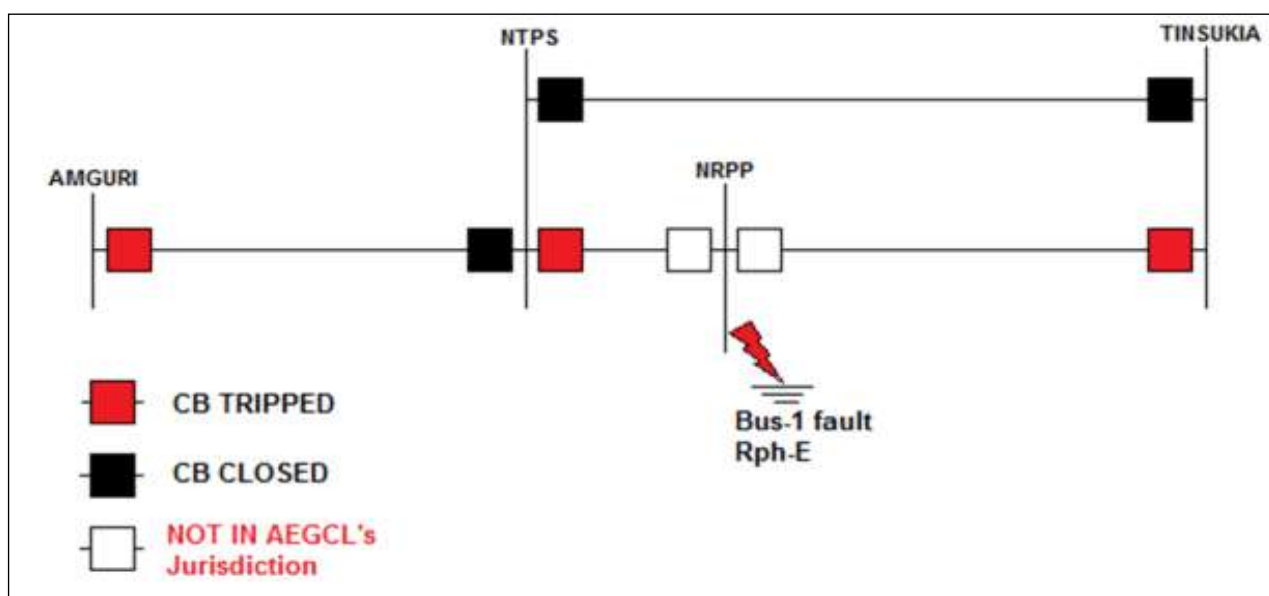
16	220 kV Byrnihat - Misa 2	31-03-2024 05:21	31-03-2024 06:12	DP,ZI,R-E, FD: 50.38km	R-G , Z1. 2.445 KA, 68.508 KMS	Byrnihat	
17	220KV- MAWNGAP- BYRNIHAT (KILLING)-1	31-03-2024 16:31	31-03-2024 17:35	DP, ZII, Y- E, FD: 70.65Km(Carrier Aided Tripping)	DP, ZI, B-E, FD: 14.4 Km	Both Ends	
18	400 kV Byrnihat - Silchar	31-03-2024 20:51	31-03-2024 22:29	DP,ZI, Y-E, FD: 68.7 km	DP,ZI, Y- E,FD: 175.11K M	Both Ends	

Sub-committee may deliberate

B.11 Grid disturbance in NRPP generating station of Assam power system on 08th March, 2024 due to non-operation of Bus Bar protection:

NRPP generating station of Assam Power system has installed capacity of 98 MW and the power gets evacuated through 220 kV NRPP-Tinsukia and 220 kV NRPP-NTPS lines.

On 08.03.2024, at 14:56 Hrs both 220kV Tinsukia-NRPP and 220 kV NTPS-NRPP lines tripped leading to blackout at NRPP generating station. Due to the above incident, running units of LRPP also tripped which resulted in total generation loss of 157 MW.



As per the detailed report received from AEGCL, R-phase conductor of 220 kV Bus-I at NRPP snapped. Also, Bus Bar protection at NRPP did not operate leading to tripping of all connected lines at NRPP generating station.

Non-operation of Bus Bar protection at NRPP is the serious concern from system stability point of view. *Same is highlighted to APGCL vide letter from NERLDC dated 04-April-2024. However, response is still awaited from the APGCL end.*

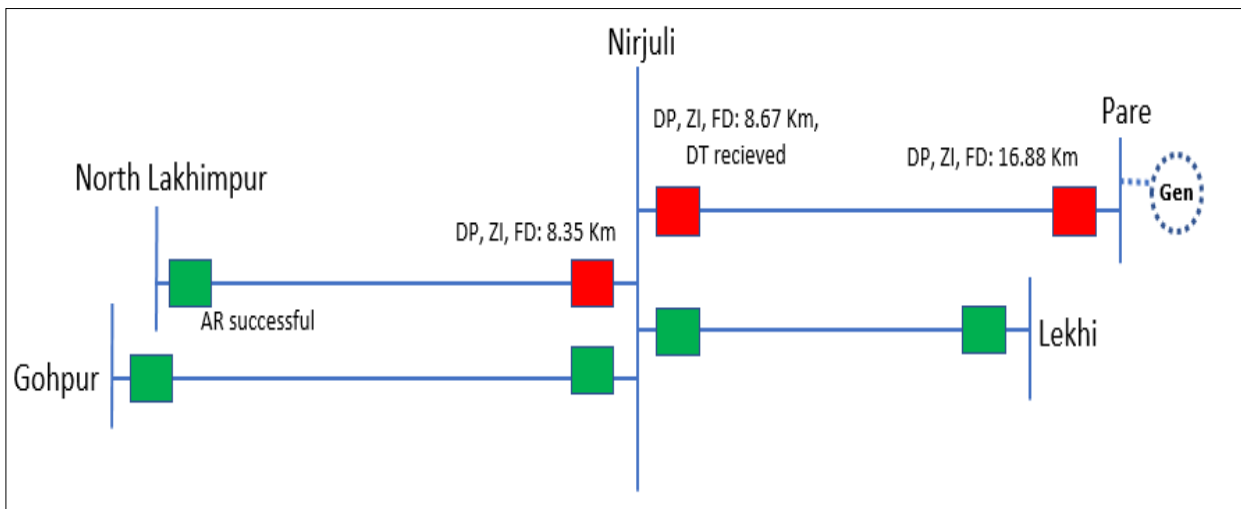
Therefore, APGCL is requested to ensure the following points:

1. Reason of non-operation of Bus Bar protection and take necessary corrective measures to avoid any unwarranted tripping in future.
2. As switching scheme of 220 kV NRPP bus is double main and transfer configuration, Uniform segregation of elements on different 220 kV buses need to be ensured to improve reliability and security of the grid.

Sub-committee may deliberate

B.12 Tripping of 132 kV Pare-Nirjuli and 132 kV Nirjuli-North Lakhimpur lines on 26th March, 2024

At 04:18 Hrs of 26.03.2024, 132 kV Pare-Nirjuli and 132 kV Nirjuli-North Lakhimpur Lines tripped.



The lines tripped due to ***solid fault which may be due to lightning.***

As per DR of Nirjuli end for 132 kV Pare-Nirjuli line, distance protection detected the fault in Z-1, B-E fault with a distance of 8.4 Kms from Nirjuli. A/R not operated due to DT received at Nirjuli from Pare end.

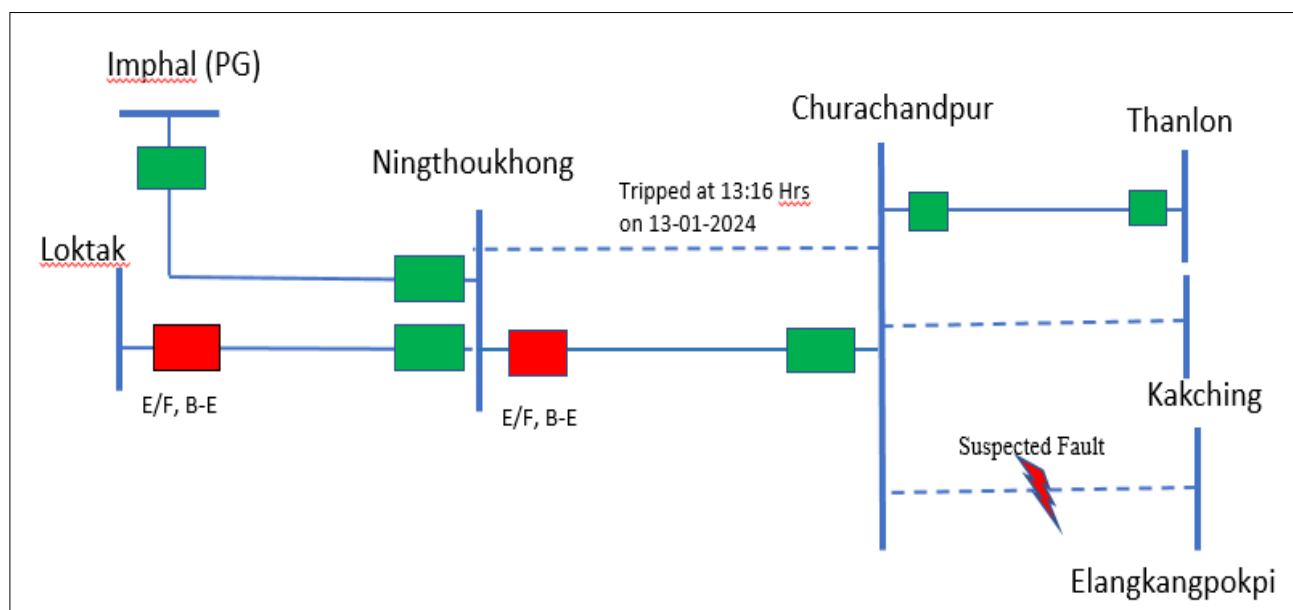
Similar type of DT signal received has been observed on 06.03.2024 at Nirjuli from 132 kV Pare end. This issue was communicated to NEEPCO vide email dated 11.03.2024 for resolving the issue. However, the issue is still persisting which is the matter of serious concern.

NEEPCO is requested to properly investigate the unwanted DT sent issue by thorough checking of PLCC end to end testing and protection scheme in coordination with PGCIL (Nirjuli) to avoid further unnecessary tripping of the line.

Sub-committee may deliberate

B.13 Blackout of Churachandpur and Thanlon areas of Manipur on 05-Mar-2024:

At 13:25 Hrs of 05.03.2024, 132 kV Ningthoukhong-Churachandpur II and 132 kV Loktak-Ningthoukhong lines tripped. Due to tripping of this element, Churachandpur and Thanlon areas of Manipur Power System were isolated from the grid. Load loss of 8 MW was observed.



As per DR analysis of Loktak end for 132 kV Loktak-Ningthoukhong line, B-E fault initiated at 13:25:34.259 Hrs and cleared within 1 sec on operation of backup Earth fault. Fault current of around 400 A appears in B phase.

As per information gathered from Manipur, B-phase fault was in 132 kV Churachandpur-Elangkangkpokpi line which was not cleared leading to tripping of 132 kV Loktak-Ningthoukhong and 132 kV Ningthoukhong-Churachandpur II lines. Following observations:

1. Non operation of protection system/clearing of fault from Churachandpur for 132 kV Elangkangkpokpi line.
2. Non operation of Backup protection at Ningthoukhong for 132 kV Churachandpur-II line which led to tripping of 132 kV Ningthoukhong Line from Loktak.

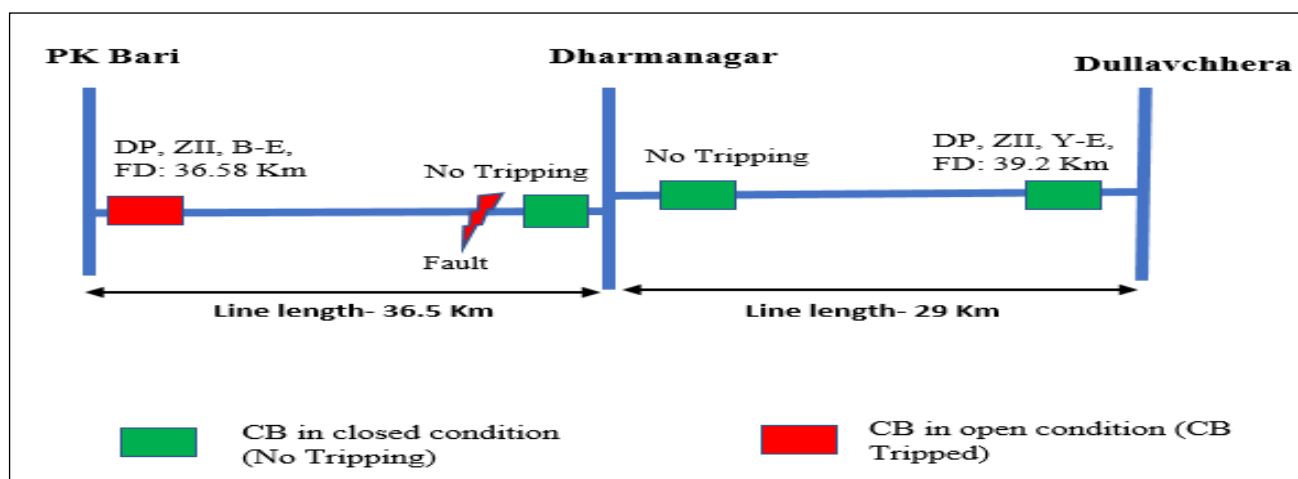
Therefore, MSPCL is requested to share the action taken at Ningthoukhong and Churachandpur to avoid such event in future.

Sub-committee may deliberate

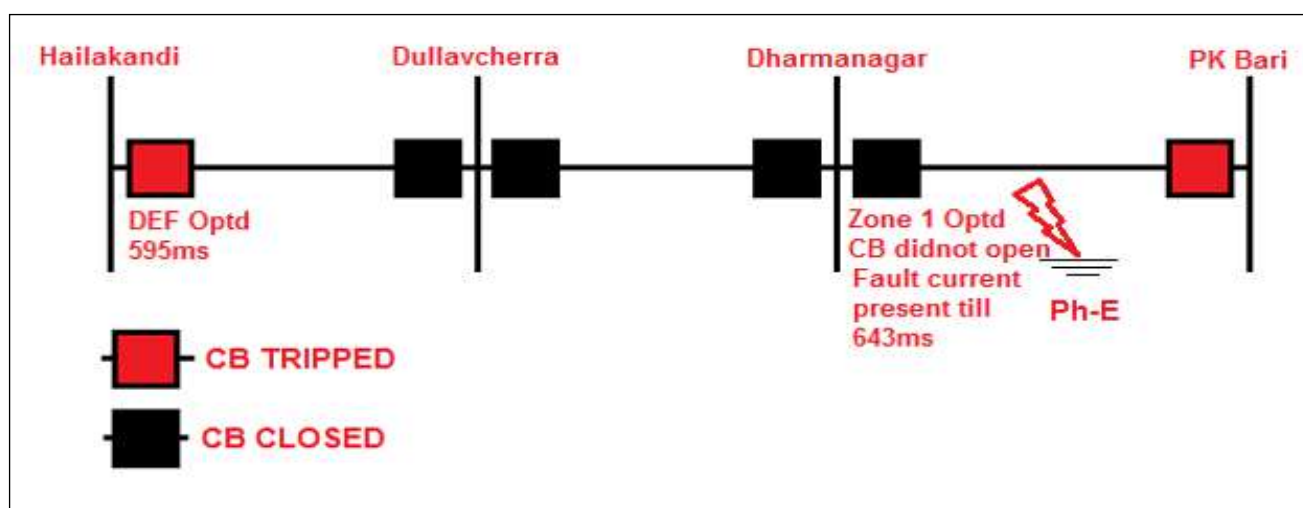
B.14 Repeated issue of the Circuit Breaker observed at Dharmanagar substation of Tripura power system on 10th and 16th March 2024:

Dharmanagar area of the Tripura power system connected with rest of the grid through 132 kV Dharmanagar - P K Bari Line & 132 kV Dharmanagar - Dullavcherra Line.

Event I on 10th Mar'24: B-E fault in 132 kV PK Bari-Dharmanagar line cleared from PK Bari end within 412 msec on operation of DP, ZII. The fault did not clear from the system due to non-opening of CB at Dharmanagar which led to clearing of fault by tripping of 132 kV Dharmnagar-Dullavchhera line from Dullavchhera end on operation of DP, ZII.



Event II on 16th Mar'24: B-phase fault in 132 kV PK Bari-Dharmanagar line and it was cleared from PK Bari end within 60 msec on operation of DP, ZI. The fault did not clear from system due to non-opening of CB at Dharmanagar (fault current persisting up to 643 msec as per DR data) even after issuance of Z-1 trip, which led to clearing of fault by tripping of 132 kV Hailakandi-Dullavchhera line from Hailakandi on DEF operation.



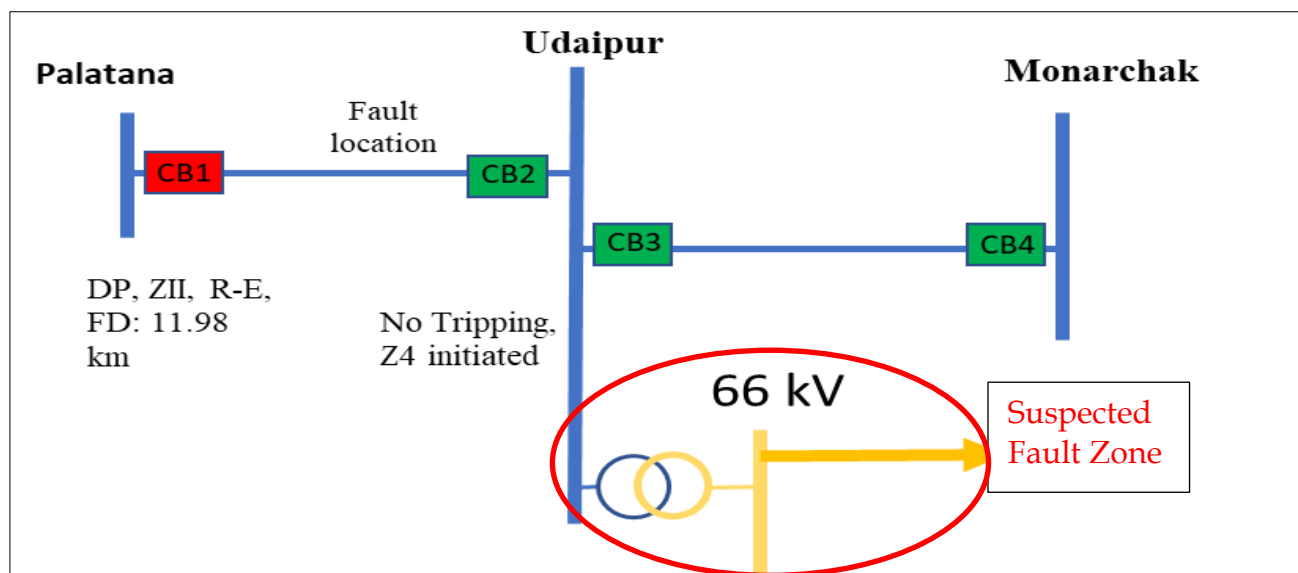
Repeated Issue of the non-opening of CB indicates the poor maintenance of the switchgear equipment and protection at the Dharmanagar SS of the Tripura power system.

TPTL/TSECL is requested to update the corrective action taken.

Sub-committee may deliberate

B.15 Fault in downstream system of Udaipur area of Tripura power system on 31-Mar-2024:

132 kV Udaipur SS is connected through 132 kV Palatana-Udaipur & 132 kV Monarchak- Udaipur Line.



At 07:37 Hrs on 31-03-2024, 132 kV Palatana – Udaipur line tripped at Palatana end on operation of DP, ZII, R-E, FD: 11.98 Km.

However, no tripping & DP, Z4 initiation (reverse fault) at the Udaipur end indicates the fault was in the downstream of the Udaipur SS.

Therefore, TPTL/TSECL is requested to inform the root cause and remedial measures that has been taken to prevent reoccurrence of the event.

Sub-committee may deliberate

B.16 Multiple tripping at Loktak(NHPC) on 23-Mar-2024:

At 22:44 Hrs on 23-03-2024, 132 kV Loktak - Ningthoukhong Line and 132 kV Loktak - Rengpang Line.

Element Name	Relay End A	Relay End B	Analysis/Remakrs

132 kV Loktak - Ningthoukhong	Earth Fault, R-Y-B-ph	No Tripping	Tripped at Lokatk end on Backup Overcurrent (I>1 trip) after 364 msecs. Fault Current 1.3 kA & 1.2 kA observed in Y & B phases.
132 kV Loktak - Rengpang	Earth Fault	No Tripping	Loktak: As per FIR, Lline tripped due to operation of 67CX (Electromechanical Relay). Weather was windy & rainy.

Loktak & MSPCL is requested to share the root cause for the above trippings.

Sub-committee may deliberate

C. FOLLOW - UP AGENDA ITEMS

C.1 Submission of monthly and Quarterly progress report by respondents of NERLDC's Petition:

As per the Direction of Hon'ble commission related to the Petition No 198/MP/2020, 259/MP/2020, 535/MP/2020, 539/MP/2020 and 540/MP/2020, respective respondents has 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

All the respondents are requested to share the monthly/Quarterly progress report for the month of Dec'23.

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 strongly urged the concerned States to appoint a nodal officer at SE and above level who shall submit a monthly progress report on the implementation of the protection system to NERPC and NERLDC. The monthly progress report will be monitored at PCC forum. He requested the states to send monthly progress report and action plan accordingly.

All the respondents are requested to provide the progress report for Dec'23 and Jan'24.

In 64th PCCM, DoP Nagaland stated that the progress report for Jan'24 has been recently sent to NERPC and NERLDC.

Member Secretary, NERPC requested NERLDC and concerned states to provide following details and month wise report to NERPC so as quarterly report can be submitted to Commission –

State/Utility	Nomination of Nodal officers (at the level of SE & above)	Whether List of substations identified by NERLDC/State?	Whether Action plan with timeline for implementation submitted?	Monthly Work progress report submitted?
DoP Arunachal Pradesh	No	Yes	Yes	December 2023 1. DR/EL-100% 2. AR status-2024-25
DoP Nagaland	No	Yes	Not available	Not available
DoP Mizoram	No	Yes	Not available	Not available
TPTL/TSECL	No	Yes	Not available	Not available
MSPCL	No	Yes	Not available	Not available

In 65th PCCM, NERLDC updated as follow –

State/Utility	Nomination of Nodal officers (at the level of SE & above)	Whether List of substations identified by NERLDC/State?	Whether Action plan with timeline for implementation submitted?	Monthly Work progress report submitted?
DoP Arunachal Pradesh	No	Yes	Yes	Not submitted
DoP Nagaland	yes	Yes	Yes	Feb'24
DoP Mizoram	Yes (SE, MSLDC)	Yes	Yes	Not submitted
TPTL/TSECL	Yes (AGM, TPTL)	Yes	Yes	Not submitted

Forum noted above and directed the concerned state utilities to provide the nominations (if not provided) and monthly work progress report from December 2023 to February 2024 to NERPC within 15 days. The quarterly report will be submitted by NERPC to CERC as compliance to above petition. Forum also requested NERLDC to provide the Action plan report and monthly progress report (from December 2023 to February 2024 received from state) to NERPC.

States may update

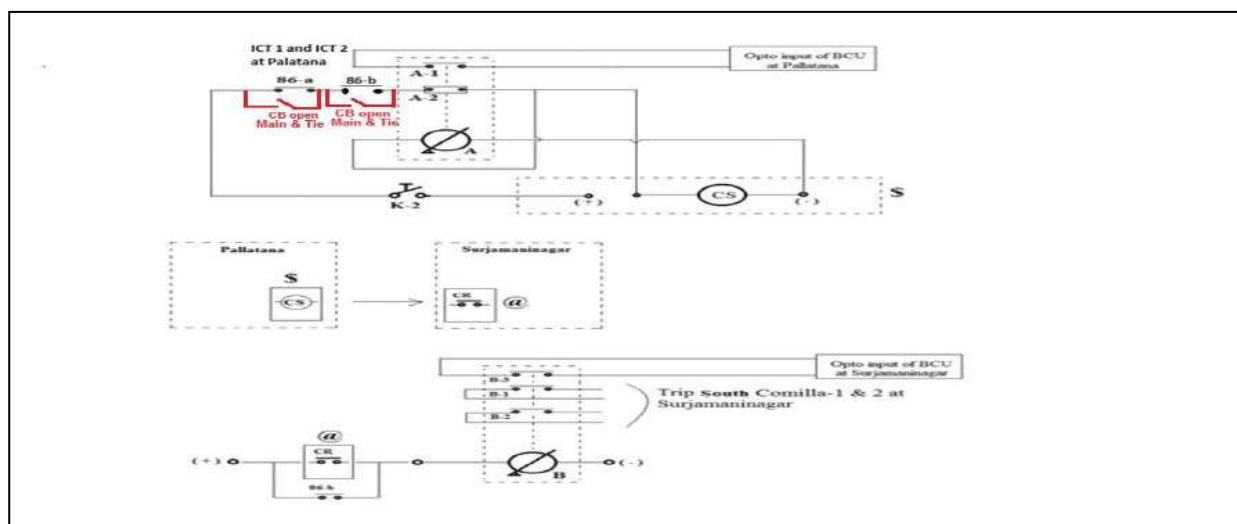
C.2 Modification of SPS at Palatana due to outage of both the ICT's:

SPS related to Reliable Power Supply to Bangladesh operates during the outage of both the ICT's at Palatana. On successful operation, entire load disconnection of South Comilla by way of tripping of 132kV SM Nagar-South Comilla D/C.

Present tripping logic included the operation of 86 relay status of both the ICT's.

However, the SPS will not work during the Shutdown (86 operate status-OFF) of any one ICT & tripping (86 Operate Status-ON) of other ICT.

Modification: Main CB & Tie CB status need to be included in the tripping logic for reliable SPS operation as highlighted in red colour below.



In 65th PCCM, the forum noted the modification in SPS as suggested by NERLDC. NERTS stated that for CB status BCU output contacts may be used. OTPC stated that they will study the modifications as suggested by NERLDC and NERTS and will implement the same accordingly.

OTPC may update

C.3 Modification required in the logic of the SPS Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS) and 400 kV P K Bari (ISTS):

SPS: Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS)

Tripping of both circuits of 400 kV SM Nagar-PK Bari D/C will trip 2 x 125 MVAR Bus Reactors at SM Nagar (ISTS) to prevent under voltage situation at S M Nagar (ISTS) and nearby areas of Tripura Power system. Logic will also operate in case of the outage of any one circuit and tripping of the other circuit.

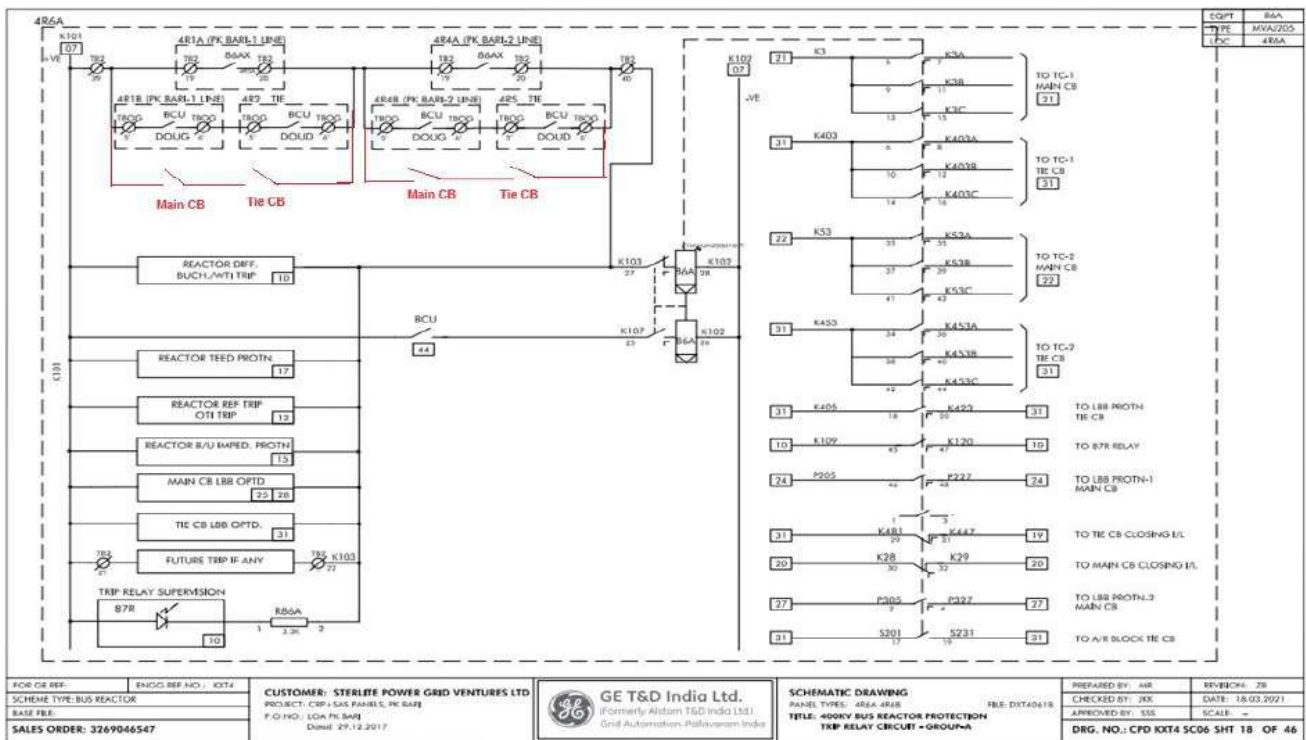
SPS: Related to the tripping of Bus Reactors at 400 kV P K Bari (ISTS)

Tripping of both circuits of 400kV PK Bari (ISTS) – Silchar (PG) D/C will trip 2 x 125 MVAR Bus Reactors at P K Bari (ISTS) to prevent under voltage situation at P K Bari (ISTS) and nearby areas of Tripura system. Logic will also operate in case of the outage of any one circuit and tripping of the other circuit.

Present tripping logic included the operation of 86/86 LO relay status of both the Lines.

However, the SPS will not work during the Shutdown (86 operate status-OFF) of any one line & tripping (86 operate Status-ON) of other line.

Modification Required: Main CB & Tie CB status need to be included in the tripping logic for reliable SPS operation.



In 65th PCCM, the forum noted the modification in SPS as suggested by NERLDC and requested NERLDC to coordinate with NTL and modify the SPS accordingly.

NERLDC and NTL may update

C.4 Requirement of SPS for generation evacuation from Leshka HEP (MePGCL)

Reporting Party: MePGCL

Classification: SPS related to safe evacuation of Generation

Operation: Generation Rejection

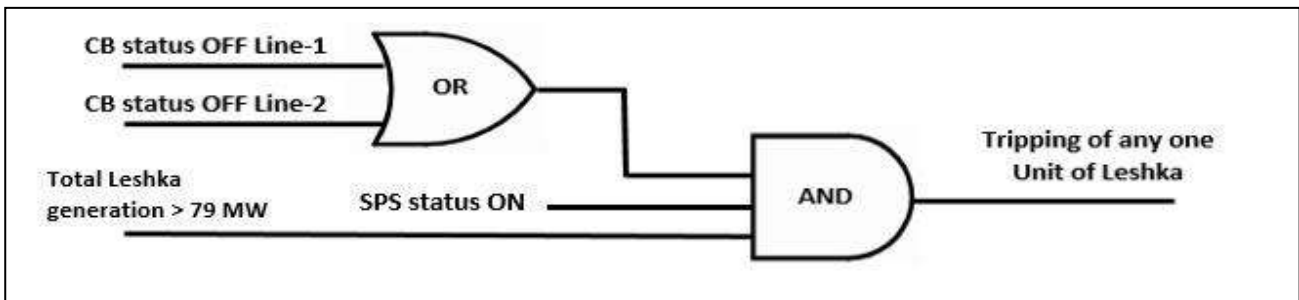
Scheme-

1. Right now Leshka with an installed capacity of $42 \times 3 = 126$ MW connected with rest of Grid via 132 kV Leshka-Khlieriat (MePTCL) D/C Line. If one circuit of 132 kV Leshka – Khliehriat (MePTCL) D/C trips/goes under outage, the full generation could not be evacuated via a single line of 132 kV Leshka – Khliehriat (MePTCL) line.

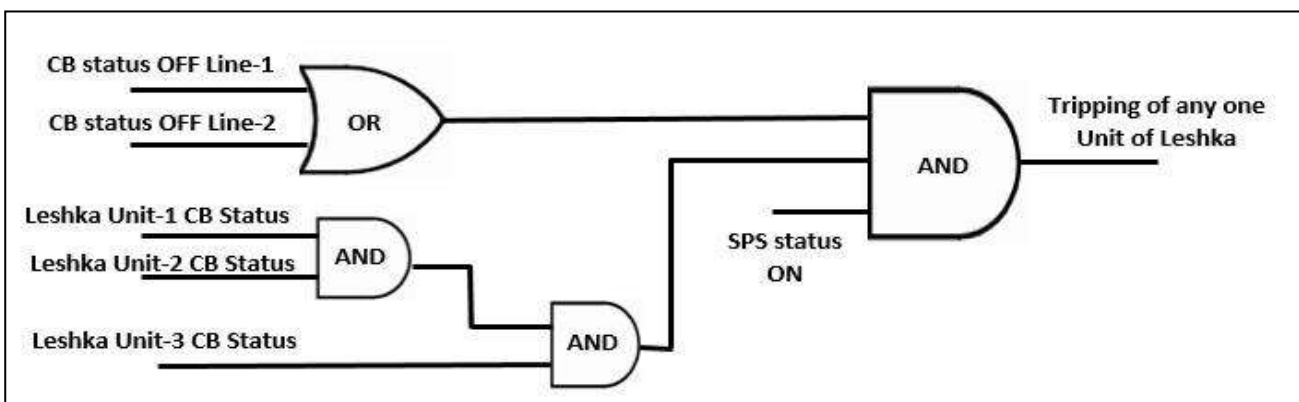
- As per the scheme logic, when sum of Leshka generation is more than 79 MW, outage of any one circuit of 132 kV Leshka-Khlieriat (MePTCL) line should result in tripping of any one unit of Leshka for safe evacuation of power from Leshka HEP. Hence, reliability of Leshka generation shall increase.
- OR
- When all the units running, outage of any one circuit of 132 kV Leshka-Khlieriat (MePTCL) line should result in tripping of any one unit of Leshka for safe

evacuation of power from Leshka HEP. Hence, reliability of Leshka generation shall increase.

The schematics of the SPS is attached for reference.



OR



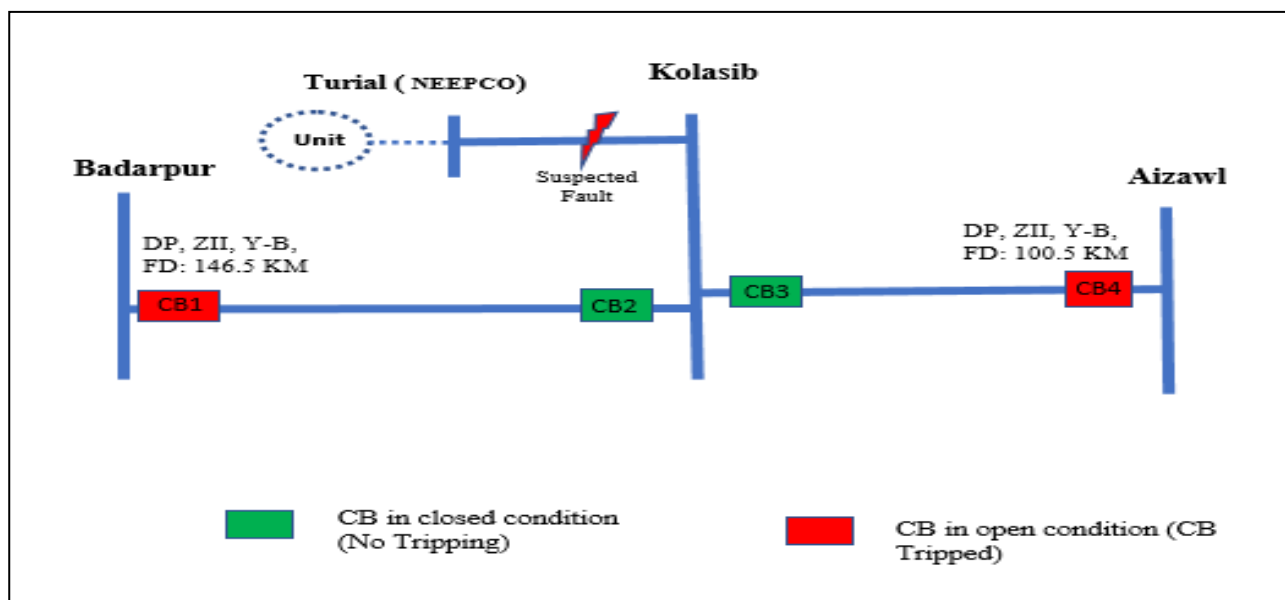
MePGCL is requested to implement any of the SPS logic at the earliest.

In 65th PCCM, MePGCL noted the SPS scheme as suggested by NERLDC and stated that the same will be put up for approval of higher authority.

MePGCL may update

C.5 Grid Disturbance at Kolasib area of Mizoram power system on 22-02-2024:

At 13:47 Hrs of 22.02.2024, 132 kV Aizawl-Kolasib and 132 kV Badarpur-Kolasib lines tripped, which led to blackout at Kolasib Substation of Mizoram Power system.



As per DR analysis, Y-B fault detected from Aizawl and Badarpur end which was cleared on operation of DP, ZIII within 850 msec. There was no tripping from Kolasib end for both the lines. Fault is suspected in 132 kV Kolasib-Tuirial line which was not cleared resulting in tripping of healthy 132 kV Aizawl-Kolasib and 132 kV Badarpur-Kolasib lines from remote end on operation of DP, ZIII which impacts the ISTS node

P&ED, Mizoram may share the root cause of the events and corrective action that has been taken to forum.

In 65th PCCM, Mizoram stated that root cause of tripping has not been ascertained yet and assured that complete analysis of the event will be done soon. The forum strongly urged Mizoram to do necessary analysis and send the report to NERPC and NERLDC at the earliest.

Mizoram may update

C.6 Regarding usage of dark fiber for Line Differential Function:

POWERGRID has successfully commissioned LDR for numerous 132kV lines in NER. For the following feeders, even though the LDR has been commissioned, due to non-availability of dedicated dark fibers Differential function has not been activated:

- a. 132kV Kumarghat – PKBari – Fibre is owned by Tripura.
- b. 132kV Kumarghat – Karimganj - ULDC owned 24 pair fibre is being installed & shall be commissioned by march 2024 upto LILO point. Beyond LILO point, fibre is owned by AEGCL.

Forum may approve usage of 01 pair of available fibre for Line Diff function of above feeders.

In 65th PCCM, the forum agreed in-principle for provision of one pair of fiber for line differential protection. Further the forum requested NERTS and concerned States to work out the modalities and bring the same in next PCC meeting.

NERTS may update

C.7 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)	

At present, there are 18 numbers of SPS under operation and 2 numbers of SPS under implementation as listed tabulated below:

Sl. No.	SPS under operation	Long term measures	SPS mapping status in SCADA (YES/No)

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

7	Outage of 220 kV BTPS (Salakati) – Rangia I & II - load shedding	Commissioning of 400 kV Rangia SS and LILO of 400 kV Bongaigaon-Balipara 1 & 2 Line at Rangia.	
8	<u>Related to the tripping of Bus Reactors at 400 kV S M Nagar (ISTS)</u> - Tripping of both circuits of 400 kV SM Nagar-PK Bari D/C will trip 2 x 125 MVAR Bus Reactors at SM Nagar (ISTS) to prevent under voltage situation	-	
9	<u>Related to the tripping of Bus Reactors at 400 kV P K Bari (ISTS)</u> - Tripping of both circuits of 400kV PK Bari (ISTS) – Silchar(PG) D/C will trip 2 x 125 MVAR Bus Reactors at P K Bari(ISTS) to prevent under voltage situation	-	
10	<u>Related to the tripping of Bus Reactors at 400 kV Imphal (PG)</u> - Tripping of 400 kV New Kohima – Imphal D/C during outage of 400 kV Silchar – Imphal D/C will lead to the tripping of 125 MVAR and 80 MVAR Bus Reactor at Imphal(PG)	-	
11	<u>Related to Outage of any one of the 400/132kV 2x360MVA ICTs at Panyor Lower Hydro Power Station</u> - Disconnection of One Unit of Panyor (135 MW) and One Unit of Pare (55 MW)	After restoration of 132 kV Panyor -Itanagar & 132 kV Panyor -Pare line (expected by 31st Mar'24)	

12	<p><u>SPS related to outage of 220 kV Azara-Sarusajai DC/220 kV Misa-Samaguri DC -</u></p> <p>1) On tripping of 220 kV Azara-Sarusajai D/C: 140-150 MW load disconnection is to be done at Sarusajai and Kahilipara areas</p> <p>2) On tripping of 220 kV Misa-Samaguri DC: Load reduction of 50-60 MW at Samaguri area</p>	Commissioning of 400 kV Sonapur Substation. LILO of 400 kV Bongaigaon-Byrnihat Line at Sonapur.	
13	<p><u>SPS related to the outage of 132 kV Panyor HEP-Ziro Line -</u></p> <p>Tripping of 132 kV Panyor-Ziro will cause disconnection of 33kV Load at Ziro</p>	Commissioning of 132 kV Khupi - Along Link/220 kV AGBPS-Namsai D/C	
14	Related to outage of any one circuit of 132 kV Dimapur(PG)- Dimapur(NA) D/C	Reconductoring of 132 kV Dimapur(PG)- Dimapur(NA) D/C	Yes
15	Related to outage of any one circuit of 220 kV Balipara-Sonabil D/C	Reconductoring of 220 kV Balipara-Sonabil D/C lines with higher ampacity and Utilisation of 2 X 160 MVA ICTs at Balipara	
16	<p><u>Related to Outage of 400 kV Palatana – Surajmani Nagar line (charged at 132 kV) -</u> Tripping of 400 kV SM Nagar – Comilla D/C (charged at 132 kV) during outage of 400 kV Palatana – SM Nagar(TSECL) line (charged at 132 kV)</p>	Upgradation of 132 kV Surajmaninagar(TSECL) to 400 kV	
17	<p><u>Related to Outage of both 400/132 kV, 2x125 MVA ICTs at Palatana -</u></p> <p>Entire load disconnection of South Comilla by way of tripping of 132kV SM Nagar-South Comilla D/C</p>	Upgradation of 132 kV Surajmaninagar(TSECL) to 400 kV	

18	Related to the outage of any one circuit of the 132 KV Khliehriat (PG)-Khliehriat D/C line	Reconductoring of 132 KV Khliehriat (PG)-Khliehriat D/C line	
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Sl. No.	SPS under implementation	Long term measures
1	Related to outage of any one circuit of 132 kV Leshka – Khliehriat D/C	Reconductoring of 132 kV Khliehriat – Leshka D/C
2	Related to Outage of one circuit of 400 kV Surajmani Nagar (TSECL)-South Comilla line (Charged at 132 kV)	Upgradation of Comilla SS to 400 kV level

In 65th PCCM, NERLDC gave a ppt presentation on the guideline on interfacing requirement as approved by CERC. Forum noted the guidelines and requested the concerned stakeholders to take necessary measures to ensure mapping of SPS signals in SCADA for real time monitoring.

Utilities may update

C.8 Mock testing of the System Protection Scheme (SPS) of the NER:

New IEGC highlighted the need for mock testing of the SPS for reviewing SPS parameters & functions, at least once in a year under the regulation 16 (2) of IEGC 2023.

As per the discussion in the 63rd PCCM, NERLDC has prepared draft procedure for testing of SPS at Samaguri substation at Assam.

All the utilities are requested to share Suggestions/comments on the draft procedure.

In 64th PCCM, NERLDC and AEGCL stated that mock SPS testing at Samaguri will be conducted on Sunday and shutdown of identified loads will be required for half an hour.

In 65th PCCM, AEGCL updated that required shutdown has been planned on 7th April to carry out the SPS testing

AEGCL may update

C.9 Status on remedial measures actions on Non-operation of auto recloser in Important Grid Elements for transient faults occurred in last few four months:

As updated in 65th PCCM

Sl No	Element Name	Time	Relay End1	Relay End2	A/R not Operated	Remarks from Utility(65 th PCCM)
1	220 kV NTPS - Tinsukia 1 Line	26-10-2023 16:37	DP,Z1,Earth fault,39km	B-Eph, Z-1, LA burst	No details provided	Planning completed, Implementation by May'24.
3	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	Surajmani nagar	Will be implemented by May'24.
4	220 kV Mariani (AEGCL) - Samaguri Line	29-11-2023 15:10	DP, ZI, B-E	DP, ZI, B-E, FD: 16 km	Samaguri	Panel retrofitting at Mariani under PSDF. AR will be enabled within 3 months.

Sl No	Element Name	Time	Relay End1	Relay End2	A/R not Operated	Remarks from Utility
6	132 kV Along-Pasighat Line	01-01-2024 04:48	DP, ZI, R-E, FD: 47.52 Km	DP, ZI, R-E, FD: 19.57 Km	Both ends	CB spring charging motor issue at Along SS, to be rectified by March'24
7	220 kV Karbi Langpi - Sarusajai 2 Line	01-01-2024 11:41	DP, ZI, B-E, FD: 36.33 Km, No DR submitted	DP, ZI, B-E, FD: 21.3 Km	Both ends	AR not configure at Karbi langpi. Will visit shortly and configure the same.

8	132 kV Balipara - Tenga Line	04-01- 2024 22:51	DP, ZI, R-Y, FD: 40.36 Km	DP, ZI, R-Y, FD: 37.30 Km	Both ends	Single phase AR enabled, but 3 phase fault occurred. Three phase AR to enabled by March'24
9	220 kV AGBPP- Mariani(PG) Line	12-12- 2023 12:29	DP,ZI,B- E,FD: 44.9 Km, <i>(No DR submitted)</i>	DP,ZI,B- E,FD: 110.9 KM, A/R successful	AGBPP	Insulator flashover. Burnt BPR was observed Will look into the issue of non- operation of AR

SL No	Element Name	Tripping Date and Time	Relay Details_A	Relay Details_B	AR not Operated	Remarks from utility (65 th PCCM)
1	220 kV Amguri - NTPS Line	02-02- 2024 09:51	DP, ZI, B- E,FD: 81.89km	DP, ZI, B-E	Amguri & NTPS	AR not configured at NTPS end, so kept off at Amguri end. To be configured within 2 months.
2	132 kV Dimapur - Imphal Line	06-02- 2024 21:01	DP, ZI, Y-E, FD:17.02k m (AR Unsuccess ful)	DP, ZII, Y-E, FD: 149.5km (Carrier Aided tripping)	Imphal	Issue in DC output contacts resolved.

3	220 kV Samaguri - Sonabil 2 Line	08-02- 2024 05:37	DP, ZI, Y-E, FD: 10.4 Kms	DP, ZI, Y-E, FD:45.8km	Both ends	AR configuration not yet done. To be completed within 2 months.
4	132 kV Roing - Pasighat Line	21-02- 2024 21:44	DP, ZI, Y-B, AR Sucessful	DP, ZII, Y- B,FD:95KM	Pasighat (out of service)	Arunachal Pradesh was absent.
5	220 kV Byrnihat - Misa 2 Line	23-02- 2024 04:39	DP,ZI, Y-E, FD: 59.54 Km	DP,ZI, Y-E, FD: 81.019km (AR Successful)	Byrnihat	OEM to arrive this month to resolve the issue.
6	220 kV Byrnihat - Misa 1 Line	26-02- 2024 06:41	DP, ZI, R-E, FD: 55.27 Kms	DP,ZI, R-E, FD: 61.69 km	Both Ends	OEM, ABB to arrive this month (18/03/2024) to resolve the issue.
7	220 kV Kopili - Misa 1 Line	27-02- 2024 12:09	DP,ZI,B-E , AR not operated	DP,ZII,B- E,FD: 53.14KM (Carrier Aided Tripping), (AR Unsuccessf ul)	Kopili	NEEPCO updated that CB opening status not coming so AR was not attempted.

Utilities may further update

C.10 132 kV Kumarghat - P.K. Bari issue

POWERGRID has commissioned Line Diff Relay for 132kV Kumarghat PK Bari feeder. During commissioning, following issues have been noted at PK Bari end: -

1. AR kept OFF at PK Bari end by Tripura, however, the same is in ON Position at Kumarghat end.
2. Due to previous experience of multiple tripping at Kumarghat because of fault in P.K. Bari-Dharmanagar feeder & non isolation of the fault by P.K. Bari end CB, previously it was decided that Zone Timer for 132kV Kumarghat-P.K. Bari feeder (at Kumarghat end) shall be kept as under: -
 - a. Z1 = 0 msec
 - b. Z2 = 200 msec
 - c. Z3 = 300 msec

Tripura may please confirm the healthiness of the CBs (PK Bari end CB for Kumarghat PK Bari & P.K. Bari end CB for P.K. Bari-Dharmanagar feeder) otherwise forum may allow continuing the above Time delay setting for respective Zones of Distance Protection in 132kV Kumarghat-P K Bari Line at Kumarghat end.

In 62nd PCCM, Forum approved above stated time delay setting till TSECL checks and confirms the healthiness of the CBs (PK Bari end CB for Kumarghat PK Bari & P.K. Bari end CB for P.K. Bari-Dharmanagar feeder).

TSECL assured the forum to check the healthiness at the earliest.

In 63rd PCCM, TSECL informed that there is some issue with CB at PK Bari for Dharmanagar. Testing equipment has been received and test will be done soon.

Forum requested TSECL to confirm CB healthiness status after testing within Feb24.

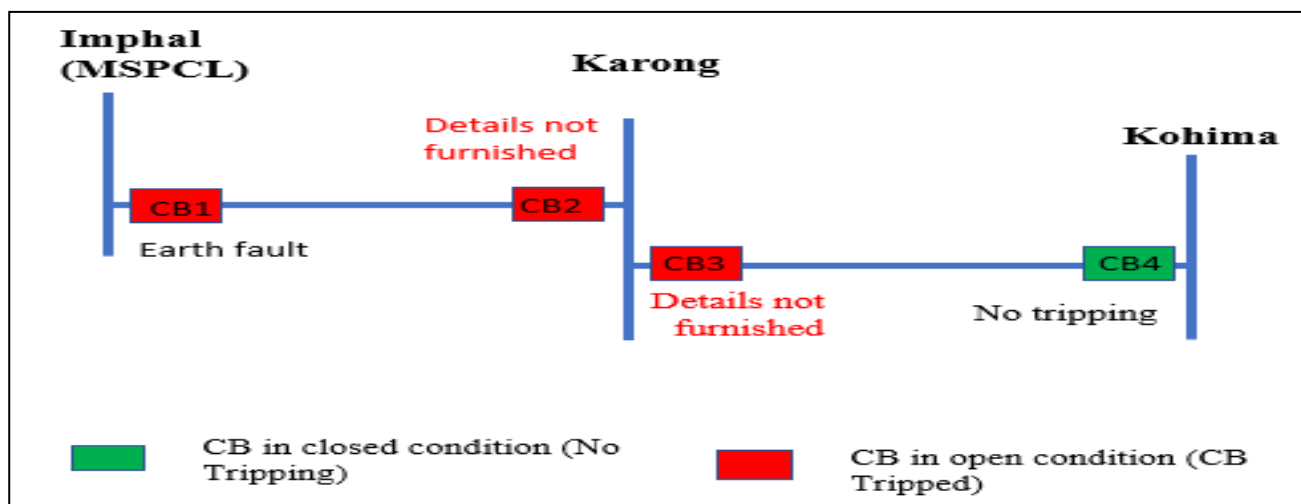
In 64th PCCM, TSECL stated that protection team will visit P K Bari substation in Feb'24 to inspect and rectify the issue.

In 65th PCCM, TSECL updated that shutdown of the PK Bari-Dharmanagar line is scheduled in March'24, required work will be carried out during the shutdown.

TSECL may update

C.11 Grid Disturbance at Karong area of Manipur power system on 28-02-2024:

At 20:34 Hrs on 28-02-2024, 132 kV Imphal – Karong & 132 kV Karong – Kohima tripped resulting into the Grid Disturbance at the Karong area of Manipur power system.



As per the PMU snap of the Imphal SS, Y phase fault with Fault current of 414 A appears in the Y phase and cleared in 80 msec.

As per information from Manipur, Y- phase CT blast at 132 kV Imphal (Yurembam) S/S.

Tripping of 132 kV Karong- Kohima line from Karong end is unwanted resulting in blackout of Karong Substation which is the serious concern.

MSPCL may share the root cause of the event, reason of tripping of healthy 132 kV Kohima Line and remedial measures that has been taken to forum.

In 65th PCCM, MSPCL stated that root cause of the problem is blasting of CT at Imphal substation. Further he stated that maloperation of CB3 (as shown in the picture above) could not be analyzed as Karong substation lies in the buffer zone and reachability to the substation is severely hampered.

Forum noted the above points and urged MSPCL to undertake complete analysis at the earliest and share the report to NERPC/NERLDC.

MSPCL may update

C.12 Pending Line Diff Relay issues in 132kV feeder:

- As discussed in 62nd PCCM, CT & PT wiring check is pending at Luangmual end for 132kV Aizwal - Luangmual feeder due to which Diff function cannot be activated at both ends.
- For 132kV Haflong - Haflong feeder, at Haflong AEGCL end CT wiring needs to be checked & rectified as Diff function cannot be activated until the wiring mismatch is rectified.

Status as per 65th PCCM -

Sl. No	feeder	Remedial measures	Last update (64 th PCCM)	Latest update (65 th PCCM)
1	132kV Aizwal - Luangmual	CT PT wiring need to be checked at Lunagmual end	Mizoram stated that CT PT wiring was checked but no problem was identified. He requested NERTS for assistance in next round of inspection	Shutdown is scheduled next Saturday to carry out the necessary work. Mizoram to coordinate with NERTS to carry out the work.
2	132 kV Haflong - Haflong feeder	CT wiring needs to be checked and modified	AEGCL stated that shutdown has been planned for next week for required checking and rectification work	Shutdown planned on 28 th March'24

Mizoram and Assam may update

C.13 PLCC issues follow up:

a. PLCC/DTPC needs to be implemented in below stated lines –

1. 132 kV Dimapur Kohima
2. 132 kV Nirjuli Lekhi
3. 132 kV Melriat - Zemabwk

b. 400 kV Mariani Kohima Ckt #2 - For 400 kV Mariani-Kohima Ckt-2, ABB make PLCC Model no-ETL41 is installed at both ends. PLCC panels at both ends are owned by KMTL. At Mariani end, for PLCC Ch#1, alarm is persisting in P4LA card. KMTL had previously deputed service engineer for rectification of the issue in Oct 2022. The issue was resolved in Oct 2022. However, the same issue had resurfaced again from 24th August 2023. Repeated communication has been sent to KMTL to resolve the issue. However, rectification action is still pending.

c. 132 kV Roing - Pasighat – PLCC panels for 132kV Roing -Pasighat feeder are installed at both ends. Panels are in healthy condition at both ends. However, due to non-availability of healthy 48V dc supply at Pasighat end, PLCC panels at Pasighat are in OFF state. DoP AP is requested to arrange healthy 48V dc supply at Pasighat end.

In 65th PCCM following points were discussed

Sl. No	Line	Utility	Update
1	132 kV Dimapur-Kohima	DoP Nagaland	DPR, for DTPC installation, to be prepared by March'24
2	132 kV Nirhuli-Lekhi	DoP Ar. Pradesh	NERTS stated that one spare PLCC is available. Availability of WT and CVT to be confirmed with DoP Arunachal Pradesh.
3	132 kV Melriat-Zemabawk	Mizoram	NERTS updated that PLCC is available, Mizoram stated that WT and CVT are under procurement.
4	400 kV Mariani-Kohima ckt 2		KMTL was not present for update.
5	132 kV Roing-Pashighat	DoP Ar. Pradesh	DoP Ar. Pradesh not present in the meeting.

Utilities may update

D. ITEMS FOR STATUS UPDATE

D.1. Status of auto-reclosure on z-1 operation for important lines:

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

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

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

Status as updated in 65th PCCM

Sl no	State	Important Transmission lines where AR has to be enabled at the earliest	Status (65 th PCCM)	Latest status
1.	Arunachal Pradesh	132kV Balipara-Tenga, 132kV Ziro-Daporijo-Along-Pashighat link	PLCC implementation under PSDF underway. SPAR have been enabled on the lines without PLCC 3-Ph AR will be enabled by March'24.	
2.	Assam	All 220kV and 132kV lines	220 kV bays Work to be completed except for some bays at Kathalguri 132 kV bays All work to be completed by June'24	

3.	Manipur	132kV Imphal-Ningthoungkong	DPR preparation underway, to be prepared by March'24	
4.	Meghalaya	Annexure (D.1)	August'24. Forum requested Meghalaya to provide monthly work progress report(around 25 number of 132kV line)	
5.	Tripura	132kV Agartala-S M Nagar (TSECL), 132kV Agartal-Rokhia DC, 132kV, 132kV Agartala-Budhjungnagar	To be done during internal audit.	

Utilities may update.

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

As per sub-regulation3 of Regulation 48 of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022-

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

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

Status as updated in 65th PCCM

Name of utility	Last updated status (65th PCCM)	Latest status
AEGCL	DPR sent. AEGCL requested NEPRC to take up with MoP regarding expediting PSDF funding for LDP.	
MSPCL	DPR under preparation, to be submitted within one month.	
MePTCL	LDP operation for 9 feeders. For Neighrims-NEHU line, waiting for dark fiber.	

	<p>For other lines, OPGW not available commissioned after OPGW link is established. (annexure D.2)</p> <p>7 Feeder operational for rest OPGW work is pending</p> <p>OPGW to be installed on 16 lines.</p> <p>LDP will be enabled after that.</p>	
P&ED Mizoram	<p>Lines identified 132kV Khamzawl - Khawiva. DPR being revised.</p> <p>Mizoram requested for assistance in preparation of DPR. Forum requested Assam to provide assistance to Mizoram in this regard.</p>	
DoP Nagaland	<p>LDP Doyang-Sanis line, LDR to be installed by NEEPCO.</p> <p>NEEPCO updated that LDR has been collected, commissioning target is April'24. However, testing has to be done to ensure healthiness of the line.</p>	
TSECL	<p>132kV 79 Tilla-Budhjungnagar. DPR to be prepared. Cost estimate submitted to TIDC to arrange for ADB funding.</p> <p>TIDC approval is still awaited for fund.</p>	

Utilities may update

D.3. Status against remedial actions for important grid events:

Status as updated in the 65th PCCM:

Sl No	Details of the events(outage)	Remedial action suggested	Name of the utility & previous update	Latest status
1.	132 kV Balipara-Tenga line in May and June	Carrier aided inter-tripping to be implemented for 132kV Balipara-	DoP, Arunachal Pradesh. PLCC panels received.	

		Tenga-Khupi at the earliest (PLCC has to be installed on the link. Under consideration of the higher authorities)	For further work PSDF payment issue. Matter to be taken up with PSDF	
2.	132 kV DoyangMokokchung line 132 kV Mokokchung - Mokokchung (DoP, Nagaland) D/C lines on 30th July	Carrier inter-trip for 132kV DHEP-Mokokchung to be implemented by DoP Nagaland (NO PLCC on the line. Matter under consideration of Higher authorities)	DoP Nagaland (DPR is under preparation for PLCC, by March'24	
3.	Leshka-Khleihriat DC multiple tripping in April to September	TLSA installation along the line to be done by MePTCL	MePTCL (DPR submitted, Approval pending.)	
4.	132 kV Loktak-Jiribam line, 132 kV Loktak-Imphalline, 132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Units 1,2 and 3 on 3rdAug	> 5MVA TRAFO (Aux. Transformer) to be repaired ->5MVA Auxiliary TRAFO panel to be repaired by NHPC	NHPC Tender awarded, Order placed, manufacturing underway.	
5.	Grid Disturbance at Loktak HEP on 03rd Aug'22	NHPC-Loktak informed that LBB has been included under R&U scheme and the same shall be commissioned by Mar'23	NHPC (LBB to be commissioned under R&U project and by the end of Jan'24) Renovation would start in Nov.'24 and to be completed by Oct.'25. Forum stressed to take LBB on priority.	
8.	Outage of 220 KV Bus Bar Protection Scheme at 400/220/132 KV Killing SS	Bus-Bar protection of 220kV bus at Killing SS	MePTCL Order given to ABB. Visit of OEM next week. To be completed by April'24	

10.	Non-operation of AR for various lines at Byrnihaat end on 25 th and 26 th June'23	Rectification of PLCC issues by MePTCL Consultation with OEM underway for resolution	MePTCL Visit of OEM next week. To be completed by April'24	
11.	Tripping of 132kV Kahilipara- Sarusajai 1, 2 and 3 line, 132kV Kahilipara Main bus 1, 132kV Kahilipara transfer Bus 1 and 132kV Kahilipara-Kamalpur line on 2.08.2021	BB protection to be implemented at Kahilipara with procurement of 5 core CTs	AEGCL DPR is under preparation for PSDF. CT under procurement, to be completed by end of this year	.
13.	AR issue at Gohpur end for 132kV Nirjuli-Gohpur line	Panel replacement underway	AEGCL - By April'24	
14.	Non-operation of AR at Doyang HEP	Pneumatic CBs to be replaced	NEEPCO- August 2024	

Utilities may update

DATE AND VENUE OF NEXT PROTECTION SUB- COMMITTEE MEETING

The next Protection Sub-Committee meeting will be held in the month of May, 2024.
The date and venue will be intimated separately.

Annexure B.7

Annexure II

Sl. No.	GD/GI/Near Miss	Affected Areas	Date & Time	Flash/Detailed report to be submitted by User/SLDC	Flash Report By User { IEGC section 37.2 (b)}	Detailed report by User within 7 Days { IEGC section 37.2 (e)}	Root Cause	Non Compliance observed
1	GD-I	Blackout of Sonabil, Rowta, Depota, Ghoramari, Dhekiajuli, Tangla and Sipajhar areas	13:07 Hrs on 04-03-2024	Assam	Yes	No (submitted on 13.03.2024)	R-phase fault in 220 kV Balipara-Sonabil II line. SPS triggering criteria II operated.	Detailed Report submitted after 1 week. DR/EL received after 24 hrs.
2	GD-I	Blackout of Churachandpur & Thanlon areas	13:25 Hrs on 05-03-2024	Manipur	Yes	Yes	B-phase fault was in 132 kV Churachandpur-Elangkankpokpi line which was not cleared leading to tripping of 132 kV Loktak -Ningthoukhong and 132 kV Ningthoukhong-Churachandpur II lines	DR/EL received after 24 hrs.
3	GD-I	Blackout of Pasighat areas	15:46 Hrs on 07-03-2024	Arunachal Pradesh	No	No	High resistive B-E fault in 132 kV Roing-Pasighat line. (Tripping of 132 kV Along-Pasighat line occurred due to relay coordination issue)	No Flash & Detailed report submitted by DoP, Arunachal. DR/EL received after 24 hrs.
4	GD-I	Blackout of NRPP and LRPP generation	14:56 Hrs on 08-03-2024	Assam	Yes	Yes	R-phase bus conductor snapped in NRPP Bus-1	DR/EL submitted after 24 hrs.
5	GD-I	Blackout of Dharmanagar area	10:15 Hrs on 10-03-2024	Tripura	No	No	B-phase fault in 132 kV PK Bari - Dhramanagar line which was not cleared from Dharmanagar end leading to tripping of 132 kV Dullavchhera-Dharmanagar line on DP, ZII	No Flash Report & Detailed Report Submitted. DR/EL submitted after 24 hrs.
6	GD-I	Blackout of Wokha area	10:30 Hrs on 12-03-2024	Nagaland	Yes	Yes	Fault was due to a tree branch coming in contact with the 132 kV Wokha-Chiephebozou line at Longsa village.	DR/EL submitted after 24 hrs.
7	GD-I	Blackout of Dharmanagar and Dullavchhera areas	15:53 Hrs on 16-03-2024	Tripura, Assam	Yes	No(submitted by AEGCL on 24.03.2024 & by TSECL on 29.03.2024)	B-phase fault in 132 kV PK Bari-Dharmanagar line. (The fault did not clear from system due to non-opening of CB at Dharmanagar even after issuance of Z-1 trip which led to clearing of fault by tripping of 132 kV Hailakandi-Dullavchhera line from Hailakandi on DEF operation)	Detailed Report after 1 week. DR/EL submitted after 24 hrs (AEGCL, TSECL)
8	GD-I	Blackout of Sarusajai, Kahelipara, AIIMS, Kamakhya and Dispur areas	05:57 Hrs on 16-03-2024	Assam	Yes	No (Submitted on 24.03.2024)	Due to wind or slip of the knot, the safety rope was partly loosened from the structure pillar and one end of the rope fell off creating a flashover near the live part of the Bus-1 isolator of 220 kV Sarusajai – Mirza-II feeder.	Detailed Report submitted after 1 week. DR/EL submitted after 24 hrs.
9	GD-I	Blackout of Rangia, Kamalpur, Amingaon, Sishugram, Nalbari, Kamakhya and Natkuchi areas	05:33 Hrs on 20-03-2024	Assam	Yes	Yes	Lightning fault in 220 kV BTPS-Rangia D/C lines cleared within 54 msec on operation of DP, ZI. SPS at Rangia operated successfully.	No violation

Sl. No.	GD/GI/Near Miss	Affected Areas	Date & Time	Flash/Detailed report to be submitted by User/SLDC	Flash Report By User { IEGC section 37.2 (b)}	Detailed report by User within 7 Days { IEGC section 37.2 (e)}	Root Cause	Non Compliance observed
10	GD-I	Blackout of Depota, Rowta, Dhekiajuli, Siphajhar and Tangla areas	05:03 Hrs on 22-03-2024	Assam	No (Submitted on 28-03-2024)	No (Submitted on 06.04.2024)	Y-B phase fault in 132 kV Depota – Dhekiajuli & 132 kV Depota – Ghoramari lines.	Flash Report submitted after 8 Hrs and detailed report submitted after 1week. DR/EL submitted after 24 hrs.
11	GD-I	Blackout of North Lakhimpur, Dhemaji, Silpathar and Majuli areas	12:29 Hrs on 22-03-2024	Assam	No (Submitted on 08-04-2024)	No (Submitted on 08.04.2024)	Maloperation of LBB protection at North Lakhimpur	Flash Report submitted after 8 Hrs and detailed report submitted after 1week. DR/EL submitted after 24 hrs.
12	GD-I	Blackout of Jirania area	22:25 Hrs on 23-03-2024	Tripura	No	No	R-Y phase solid fault in 132 kV Budhjungnagar-Jirania line	No Flash & Detailed Report Submitted - MSPCL DR/EL submitted after 24 hrs.
13	GD-I	Blackout of Lumshnong areas	00:32 Hrs on 26-03-2024	Meghalaya	No	No	Suspected downstream fault in Lumshnong which was cleared from Khleihriat end on DP, ZIII	No Flash & Detailed Report Submitted - MePTCL
14	GD-I	Blackout of Nangalbibra, Rongkhon, Ampati and Phulbari areas	01:56 Hrs on 26-03-2024	Meghalaya	No	YES	Lightning fault in 132 kV Agia-Nangalbibra line	No Flash & Detailed Report Submitted - MePTCL & CEA grid Standard 15.3- DR/EL provided within 24 Hours? IEGC section 17.3 DR time sync issue - Time drift of 2 min in Nangalbibra end
15	GD-I	Blackout of Monarchak, Udaipur and Rabindranagar areas	07:36 Hrs on 31-03-2024	Tripura	No	No	Y-B phase fault in 132 kV Monarchak-Rokhia line	No Flash & Detailed Report Submitted - TPTL
16	GD-I	Blackout of Serchhip area	09:18 Hrs on 31-03-2024	Mizoram	No	No	Not concluded due to non-submission of FIR, DR & EL	No Flash & Detailed Report Submitted - P&ED,Mizoram & CEA grid Standard 15.3- DR/EL provided within 24 Hours?
17	GD-I	Blackout of Tezu and Namsai area	23:59 Hrs on 31-03-2024	POWERGRID	No	No	Tower collapse occurred at location number. 72 of 132 kV Roing-Tezu line	Detailed report not submitted -POWERGRID DR & EL submitted after 24 hrs - POWERGRID
18	GD-I	Blackout of Hatsingimari area	23:59 Hrs on 31-03-2024	Assam	No (submitted after 8 hours)	No	Y-phase fault in 132 kV Agia-Hatsingimari line	Flash Report Received after 8 hrs. Detailed report not submitted- Assam

Annexure D.1
Annexure C.1

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

MePTCL

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