सत्यमेव जयते

भारत सरकार Government of India
विद्युत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विद्युत समिति
North Eastern Regional Power Committee
एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

SPEED POST/FAX
Ph : 0364-2534039
Fax: 0364-2534040
email: nerpc@ymail.com
website: www.nerpc.gov.in

No.: No. NERPC/SE (O)/PCC/2024/ 602-643 May 31, 2024

To
As per list attached

Sub: Minutes of 67th Protection Coordination Sub-Committee (PCC) Meeting

Sir/Madam,

Please find enclosed herewith the minutes of the 67th PCC Meeting held at NERPC conference Hall, Shillong on 16th May 2024 for your kind information and necessary action. The minutes is also available on the website of NERPC: www.nerpc.gov.in.

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

भवदीय / Yours faithfully,

(अनिल कवरानी/ Anil Kawrani)
निदेशक / Director

Encl: As above

Distribution List:

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
4. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
5. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
6. Director (Transmission), MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Director (Generation), MePGCL, Lumjingshai, Short Round Road, Shillong – 793 001
8. Director (Distribution), MePDCL, Lumjingshai, Short Round Road, Shillong – 793 001
9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. GM (Transmission), TPTL, Banamalipur, Agartala -799 001.
12. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Chief Engineer (Commercial) -cum- CEI, DoP, Govt. of Arunachal Pradesh, Itanagar- 791111
15. Engineer-in-Chief, P&E Department, Govt. of Mizoram, Aizawl – 796 001
16. Engineer-in-Chief, Department of Power, Govt. of Nagaland, Kohima – 797 001
17. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
18. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
19. Group GM, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
20. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
21. ED, PGCIL/NERTS, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
22. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
23. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
24. Dy. COO, CTUIL, "Saudamini", 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
27. Head & VP, (R&C), ENICL, IndiGrid, Windsor Building, Kalina, Santacruz (East), Mumbai- 98
28. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
29. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
30. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
31. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
32. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
33. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
34. Head of SLDC, MSPCL, Imphal – 795001
35. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
36. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
37. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
38. Head of SLDC, TSECL, Agartala – 799001
39. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
40. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
41. AGM Regulatory & Commercial, NER II TL, 10th Floor, Berger Tower, Noida sector 16B-201301
42. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.

(अनिल कवरानी/ Anil Kawrani)
निदेशक / Director

सत्यमेव जयते

Minutes of 67th PCCM

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

North Eastern Regional Power Committee

Minutes of

67th Protection Coordination Sub-Committee Meeting

Date: 16/05/2024 (Thursday)

Time: 11:30 hrs.

Venue: NERPC conference Hall, Shillong

The list of participants is attached as **annexure I.**

A. CONFIRMATION OF MINUTES

1. CONFIRMATION OF MINUTES OF THE 66th PROTECTION SUB-COMMITTEE MEETING OF NERPC.

Minutes of the 66th PCC Meeting held on 23rd April, 2024 (Tuesday) at NERPC Conference Hall, Shillong was circulated vide letter No.: NERPC/SE (O)/PCC/2023/342-383 dated 8th May, 2024.

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

The Sub-committee confirmed the minutes of 66th PCCM accordingly.

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.

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.

Deliberation of the sub-committee

1. Forum requested Users to update the proposed date for Internal Audit & Third-party Audit in the spreadsheet shared by NERLDC as soon as possible before next PCSC.
2. AEGCL updated that they will start the third-party protection audit after 1st June'24 and will share the schedule shortly.
3. Mizoram stated that reports of internal audit will be shared to NERPC after obtaining approval of the reports by the head office. He also stated that external audit will be planned shortly.
4. TSECL updated that internal audit committee has been formed and the audit plan will be shared shortly to NERPC. Forum requested TSECL to plan for third party audit also.
5. Manipur updated that internal audit has been completed in April'24. Forum requested to share the report to NERPC and NERLDC and plan for external audit.
6. DoP Arunachal Pradesh updated that internal audit of two substations will be carried out by end of May'24.

7. OTPC informed that 3rd party audit will be conducted by CPRI by June 2024

Regarding audit of substations of Nagaland and adjoining substations of NERTS, MS, NERPC stated that the audit will be conducted in the last week of Jun.'2024.

Sub-committee noted as above

B.2 <u>Urgent requirement of Third-Party Protection Audit of substations of MePTCL and Assam</u>

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

AEGCL vide email dated 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 Jawaharnagar, KLHEP and Gauripur substations of Assam will tentatively be carried out in 1st week of May'24

<u>Deliberation of the sub-committee</u>

NERPC informed that audits of Jawaharnagar, Gauripur, KLHEP, Salakati and Misa SS were carried out from 8th and 9th May'24 by NERPC Team. The final reports will be shared within one month of audit.

Regarding audit of Meghalaya, MePTCL informed that six substations, viz; Killing, Mawphlang, Mawlai, NEHU, Khliehriat and Lumshnong have been shortlisted for carrying out urgent protection audit. NERPC informed that audit at these

substations will be carried out shortly. Also, NERTS requested to carry out 3rd party protection audit at Khlieriat (PG) along with Khlieriat (Meghalaya) substation.

Sub-committee noted as above

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.

In 66th PCCM, NERPC stated that the States may carry out the necessary studies by using the PSCT and PDMS software of M/s PRDC.

Assam stated that for training of the software is required to impart necessary skills to the personnel of the State.

PRDC representative assured that necessary training session will be conducted for all the States. He, further highlighted that before carrying out the studies Protection settings database of the software has to be updated.

MS, NERPC directed M/s PRDC to update the database in coordination with NERPC, NERLDC and concerned utilities.

NERLDC highlighted the need to update the database in PDMS software from time to time and also requested PRDC team to model the entire power system of NER in PSCT tool for setting calculation considering recent network changes.

States further requested that a user manual of the PSCT and PDMS software may be provided for easy reference during carrying out the studies. M/S PRDC assured to provide the same at the earliest.

Deliberation of the sub-committee

M/s PRDC intimated that the training has been scheduled on 20th and 21st June'24. Forum requested PRDC to take nominations from the States and to share the schedule to them and also take feedback from the trainees after the session.

PRDC agreed to Assam's request to carry out the case studies on some substations of AEGCL during the training. MS, NERPC asked M/s PRDC to update and verify the database in PDMS in coordination with NERLDC.

B.4 Analysis and Discussion on Grid Disturbances which occurred in NER grid in April'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 April 2024 based on the draft reports prepared by NERLDC.

Deliberation of the sub-committee

NERLDC stated that around 20 GDs have occurred due to radial network in some areas of NE region. Since such events are not caused by any issues in protection system, these may be exempted from reporting to CEA. After detailed deliberation the forum requested NERLDC to provide comments to CEA in this regard.

MS, NERPC advised that considering the large numbers of Grid events, a separate meeting shall be held to discuss the events and recommend the remedial measures.

Agenda items from NERLDC

B.5 Status of submission of FIR, DR & EL outputs for the Grid Events for the month of April'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 01-04-2024 to 30-04-2024 as on **09-05-2024** is given below:

Name of Utility	Total FIR/ DR/EL to be submitted	Total FIR to be submitted			Total FIR, DR & EL submitted			% Submission of		
		FIR	DR	EL	FIR	DR	EL	FIR	DR	EL
DoP, Arunachal Pradesh	20	20	20	20	20	17	19	100	100	100
DEPL	0	-	-	-	-	-	-	-	-	-
AEGCL	114	114	105	107	110	7	65	96	99	96
APGCL	3	3	3	3	0	0	0	0	0	0
MSPCL	66	66	64	64	64	23	26	**97**	**58**	**58**
MePTCL	61	61	59	57	60	56	56	98	98	98
MePGCL	27	27	27	27	19	20	16	70	74	59
P&ED, Mizoram	7	7	7	7	3	2	2	**43**	**29**	**29**
DoP, Nagaland	38	38	38	38	38	27	27	100	100	100
TSECL	38	38	38	38	34	32	34	89	89	89
TPGCL	7	7	7	7	0	0	0	0	0	0
POWERGRID	163	163	157	154	162	153	146	99	99	99
NEEPCO	52	52	48	50	37	33	32	71	69	64
NHPC	11	11	11	11	9	9	8	82	91	82
NTPC	0	0	0	0	0	0	0	-	-	-
ERTS	4	4	4	4	0	0	0	0	0	0
OTPC	8	8	8	3	8	8	2	100	100	67
NTL	15	15	13	13	15	13	13	100	100	100
MUML	-	-	-	-	-	-	-	-	-	-
KMTL	1	1	1	1	1	1	1	100	100	100

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

Deliberation of the sub-committee

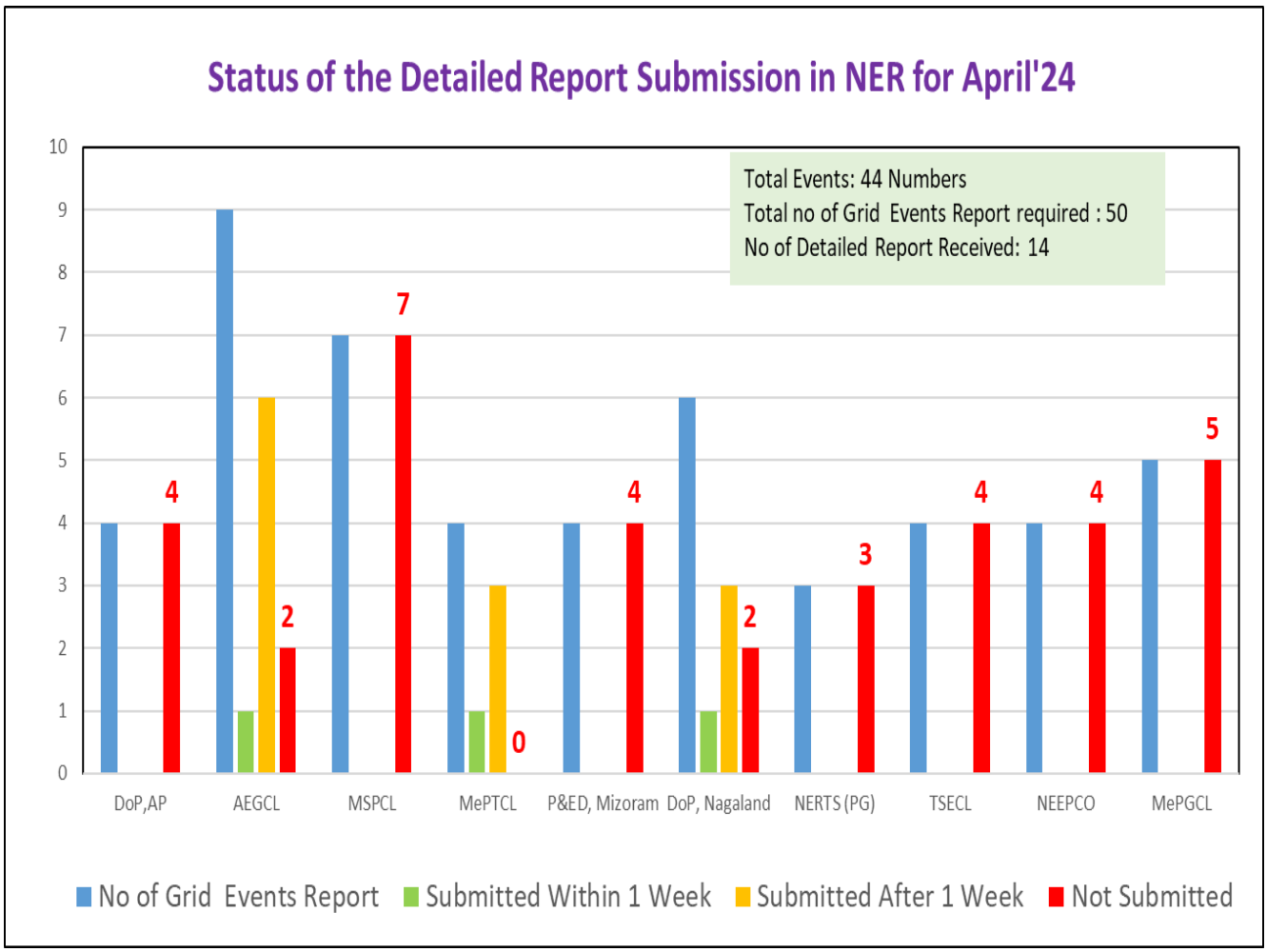
1. APGCL stated that pending DR and EL will be sent shortly and the same will shared timely in future. The forum opined that Third Party Protection audit by NERPC may be conducted at LRPP, NRPP and LTPS at the earliest.
2. MSPCL informed that the DR and EL could not be sent due to lack of computers at the concerned substations.
3. DoP Nagaland updated that multiple trippings have been observed in Kohima division due to storm and lightening. The forum suggested that TLSAs may be installed on vulnerable lines.
4. MePGCL stated that multiple trippings on the lines connected to Leshka station have been observed due to delayed clearance of faults in the link line (from GT to the SS, 550 meters) as there is no main protection in the line. He further stated that Line Differential Protection will be implemented on the link line shortly. The forum suggested that AR on the link line should also be implemented. MePGCL stated that the matter will be discussed in the internal OCC meeting.
5. AEGCL informed that multiple tripping of 132 kV Panchgram-Lumshnonong line has been observed due to delayed clearance of downstream fault in Lumshnong. MePTCL stated that there are multiple downstream 132 kV industrial feeders at Lumshnonng which are equipped with only B/U protection with uncoordinated settings. MePTCL further stated that the matter is being looked into and necessary coordination will be done shortly.

Sub-committee noted as above

B.6 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, 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.

Deliberation of the sub-committee

NERLDC updated that AEGCL, MePTCL and MePGCL also submitted the protection performance indices for the month of April, 2024.

The forum also noted the instances of non-submission or untimely submission of flash report and detailed report by the utilities.

After detailed deliberation Member Secretary, NERPC directed other utilities to provide the indices before 10th of every month for previous month grid element operation.

B.7 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 $D = Nc/\ Nc+Nf$
- The Security Index defined as $S = Nc\ /Nc+Nu$
- The Reliability Index defined as $R = Nc\ Nc+Ni$

Where,

Nc: number of correct operations at internal power system faults

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

Nu: Number of unwanted operations.

Ni: Number of incorrect operations and is the sum of Nf and Nu

NTL, ENICL, DoP, Nagaland, NETC & NERTS submitted the Protection Performance Indices for the month of **April,** 2024 as follows:

SN	**Name of Transmission Licensee**	**D= (Nc/Nc+ Nf)**	**S= (Nc/Nc+Nu)**	**R= (Nc/Nc+Ni)**	**Remarks**
1	NETC	-	-	-	No bays owned by NETC
2	ENICL	-	-	-	No Tripping during April'24
3	NTL	1	0.85	0.85	S & R value <1 due to 400/132kV 315 MVA ICT-01 at Surajmani Nagar tripped on 25-04-24, PRV operation & 132kV AGTPP(NEEPCO) - P.K. Bari Ckt-1&2 tripped on 20-04-2024, tripped from NEEPCO end only, during ongoing wiring work at the NEEPCO end, team mistakenly opened the B-phase CB at the NEEPCO end. This

					resulted in a pole discrepancy and the subsequent opening of the circuit breaker at the NEEPCO end.
4	DoP, Nagaland	1.000	0.941	0.970	S & R value <1 due to tripping of 132 kV Sanis – Wokha line on 17.04.24 & 18:20 Hrs. due to fault in 132kV Wokha-Chiephebozou T/L. **Remedial Measures:** Back-up OC & EF were enabled in Primary/Distance Protection (Alstom P442 series relay) on 18.04.2024. The same has been intimated to NERPC/NERLDC on 23.04.2024.
5	NERTS	1.000	0.981	0.981	S & R value <1 due to tripping of 50 MVAR, BUS REACTOR-2 at BONGAIGAON at 12:36 01-04-2024: Bus reactor tripped on LBB re-trip function due to mal operation (spurious distance protection trip) of main bay LBB Relay (GE P441) of BR#2. As re-trip configured to group relay operation instead Main Bay CB trip coils

					led to tripping of BR-2. The LBB relay replaced with P141 relay and re-trip configured to Main Bay CB trip coils.

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 regard to the tripping of elements to NERPC & NERLDC positively **by 10th of every month for previous month indices**.

Sub-committee noted as above.

B.8 Grid Disturbance in New Umtru of Meghalaya on 15-April-24:

New Umtru Generating Station of Meghalaya Power System was connected with rest of NER Grid through 132 kV Umtru – New Umtru and 132kV New Umtru – EPIP II lines.

At **14:52 Hrs. of 15-04-2024**, 132 kV Umtru – New Umtru line and 132 kV New Umtru – EPIP II line. Due to tripping of these elements blackout of New Umtru Generating Station of Meghalaya Power system occurred.

Sl. No.	Name	Trip time (hh:mm:ss)	Restoration time	Relay indication end 1	Relay indication end 2
1	132 kV Umtru – New Umtru line	14:52	15:05	LDP, Y-B	LDP, Y-B
2	132kV New Umtru – EPIP II line	14:52	15:03	LDP, Y-B	LDP, Y-B

Similar Event also occurred at 08:58 Hrs. of **16-April-2024**

MePTCL/MePGCL is requested to root cause and actual fault location.

Detailed Report may be shared covering the analysis and action taken.

Deliberation of the sub-committee

MePGCL informed that there was mismatch in the CT core connection of the 132 kV feeder at both ends wherein the CTs at Umtru and EPIP-II are connected in the 400/1A core, whereas the CTs at New Umtru are connected in the 250/1A. This may

have caused an imbalance in the secondary current of the CTs which have caused the Line Differential Protection (LDP) relay to operate. The problem is due to mismatch of CT multiplying factor in both sides of the LDP. The problem has been rectified on 2nd May 2024.

NERLDC highlighted that DR channel need to be standardized at Umtru end. CB Open/close Status need to be included. MePGCL agreed.

Sub-committee noted as above.

B.9 Frequent tripping of GT-III at AGTCCPP:

On 5th May'24:

From 19:34:23.460 Hrs. to 19:34:23.532 Hrs. of 05/05/2024, Voltage and current imbalance observed in A and C phase with Ia=3.3kA, Ic=4 kA and Vae=4.3 kV, Vce:4.2 kV for about 72 msec.

As per GT-3 DR signal, at 19:34:23. 656 Hrs, **L18 digital channel Protection** voltage balance signal high was observed with Vae=Vbe=Vce=6.1 kVand ia=ib=ic=1 kA and any trip command issued and trip the CB.

Observation:

- Which protection issued trip signal was not clear from the submitted DR data. Requested to share B/U protection DR and Event file for further needful.
- No voltage and current imbalance were observed at the time of tripping. It indicates there was no fault. Reason of tripping of Unit may be checked immediately to prevent repetition.
- From the start of DR, Rev power enable signal high was recorded even after CB open. The same may be checked.

Similar incident also occurred on 6th May'24.

NEEPCO may share the root cause for the repeated unit tripping.

Deliberation of the sub-committee

NEEPCO stated that a timer has to be installed in GT-3 relay to cause delay (1.2 sec) in operation of protection system in case of transient voltage imbalance. He further stated that the work would be completed by June'24.

Sub-committee noted as above

B.10 Frequent Grid disturbances in Myndtu Leshka HEP of Meghalaya Power System:

132kV Myntdu Leshka - Khlieriat D/C lines play a crucial role in power evacuation from Leshka Generation. In the recent past it has been observed that 132 kV Myntdu

Leshka-Khleihriat 1 & 2 lines has tripped **four** times in a short interval of time i.e. from April 15th to April 29th, 2024 (*informed vide letter* ***NERLDC/SOII/14/6166 Date:01/05/24)***

Also, 3 more GDs on May'24 *(05-May-2024 16:06 Hrs., 02-May-2024 04:10 Hrs. and 02-May-2024 00:45 Hrs.)*

Frequent tripping of the above lines is a matter of serious concern, and it signals that there is the requirement of proper and regular maintenance of these transmission elements. Moreover, it impacts the lifespan of machine in long run and reduces the reliability of evacuation path of Leshka HEP of Meghalaya Power System. Therefore, 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 minimize tripping of these lines. A copy of measures taken in this regard may be shared to NERPC & NERLDC.

Further, following observations needs early redressal

1. There was no Auto reclose attempt observed. The auto-reclose (A/R) scheme should be inspected and activated to ensure the safe evacuation of Leshka generation by reclosing the line in case of single-phase fault.
2. DR channels needs to be standardized both ends:
    - DR time duration of 500 msec appears to be insufficient at Khliehriat. It should be extended to 3 seconds, with a pre-fault time of 500 milliseconds and a post-fault time of 2.5 seconds.
    - DR time not synchronized, exhibiting a time drift issue of 39 minutes at Leshka and 1 minute at Khlieriat.
    - CB status is currently not allocated in the DR digital channel. It's essential for MePTCL and MePGCL to include CB ON/OFF status in DR channels at both ends for fruitful analysis of events

MePTCL may update the root cause and remedial measures taken.

Deliberation of the sub-committee

MePGCL updated that most of the trippings occurred due to lightening faults. Forum urged that single phase auto-recloser need to be implemented in 132 kV Leshka-Khleihriat D/C lines to avoid loss of evacuation path of Leshka generation. MePGCL stated that the matter will be discussed internally first.

MePGCL also assured to standardize DR at both ends with GPS time synchronization shortly.

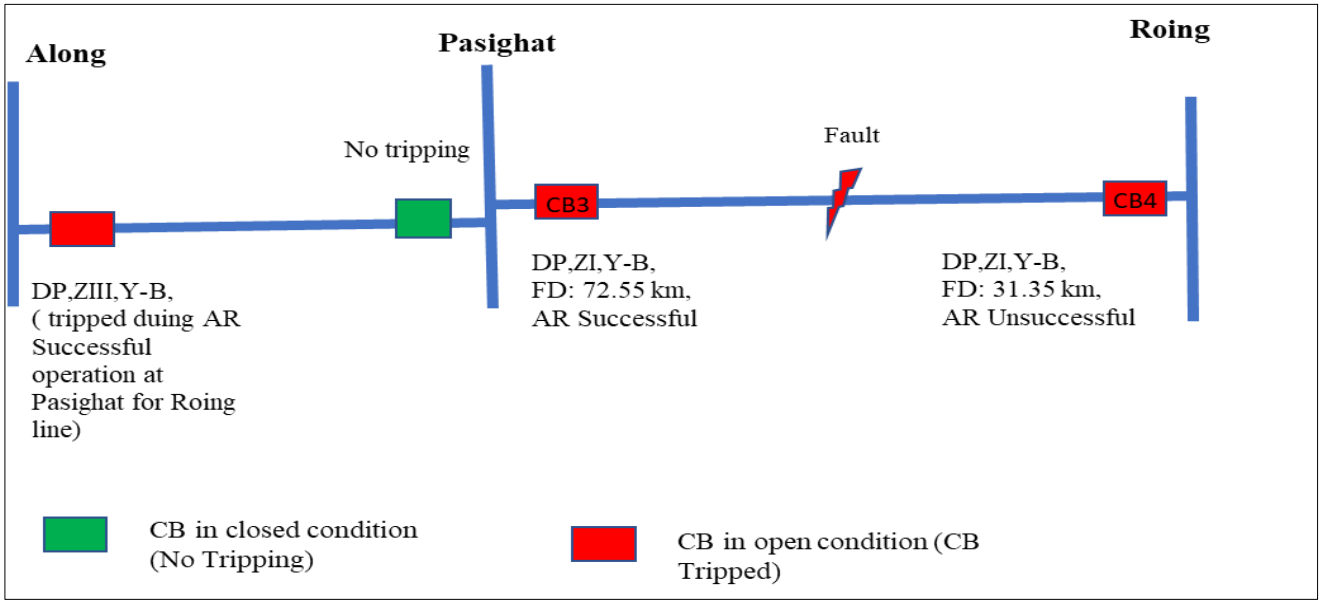
Sub-committee noted as above.

B.11 Grid Disturbance in Pasighat area of Arunachal Pradesh on 02-April-24:

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

At 21:55 Hrs. of 02-04-2024, 132 kV Pasighat- Roing line & 132 kV Along - Pasighat line tripped.

Power was extended to Pasighat area of Arunachal Pradesh Power System, by charging 132 kV Pasighat- Roing line at 22:57 Hrs. of 02-04-2024.



As per DR analysis, Y-B phase fault initiated at 21:55:22.428 Hrs. in 132 kV Pasighat- Roing line which was cleared on operation of DP, ZI within 65 msecs & 75 msecs from Pasighat and Roing end.

At Roing end, AR attempted after the dead time of 1500 msecs and the CB tripped immediately due to persistent fault.

At Pasighat end, AR attempted after the dead time of 2000 msecs and the CB remained closed (i.e. Successful AR operation at Pasighat).

However, fault current of 400 A still persistent in the Y&B phases which not detected by the DP relay at Pasighat and the fault persistent for next 884 msecs until the fault is cleared by opening of 132 kV Along- Pasighat line at Along end on operation of DP, ZIII after 884 msecs.

NERTS may update the reason for such AR during persistent fault.

Deliberation of the sub-committee

NERTS stated that fault was in 132 kV Roing-Pasighat line. Due to persistent fault, AR unsuccessful at Roing end. However, at Pasighat end, AR attempted and Power Swing Blocking (PSB) function got activated erroneously and blocked the distance protection of the line for 2 secs. NERTS further stated that this issue has been informed to OEM M/S GE and testing of relay will be done shortly to rectify the issue.

Subcommittee noted as above.

B.12 Backup Relay Coordination Related Issue observed at Rupai SS on 07-04-2024:

At 19:45 Hrs. of 07-04-2024, 132 kV Chapakowa-Rupai tripped.

Sl. No.	नाम	Trip time (hh:mm:ss)	Restoration time	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत
1	132 kV Chapakowa-Rupai line	19:45	22:12	DT received	EF operated, DP, ZII initiated

132 kV Chapakowa-Rupai line sensed B-E fault at 19:43:14.845 hrs. from Rupai end and cleared the fault on operation Backup in 220 msecs which seems backup setting coordination issue.

AEGCL may update the root cause and remedial measures.

Deliberation of the sub-committee

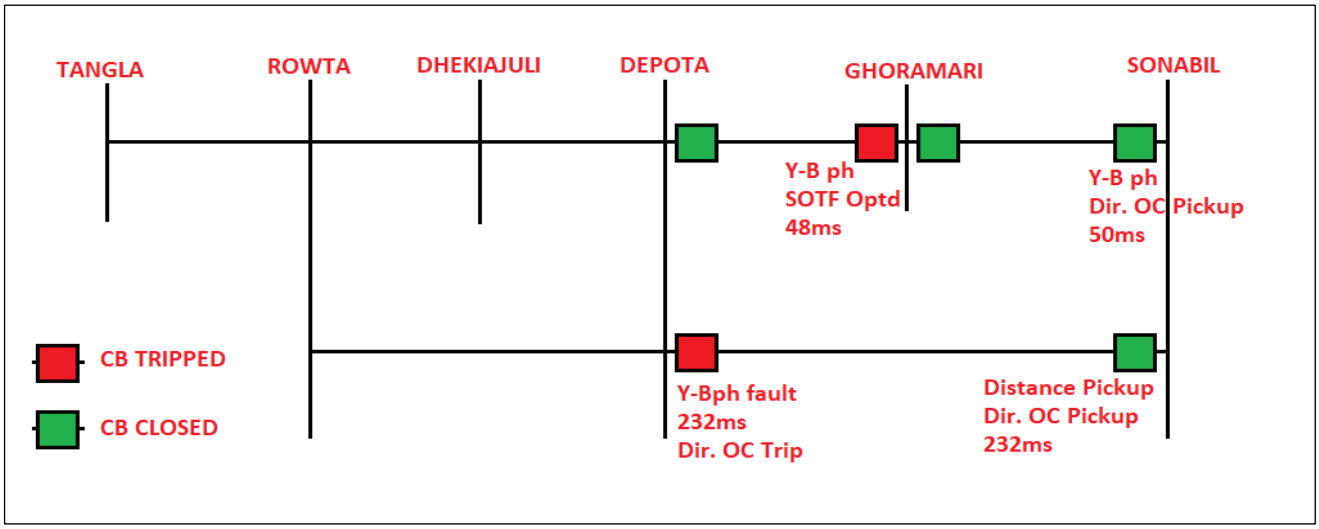
AEGCL stated that DEF was ON in Main protection which cleared the fault in the line from Rupai end and consequently DT was sent to Chapakhowa end. The same will be rectified and B/U relay setting will be reviewed shortly.

Regarding ROT of the B/U protection at Rupai end, AEGCL stated that necessary coordination will be done shortly.

Sub-committee noted as above.

B.13 Grid Disturbance in Depota, Rowta, Dhekiajuli, and Tangla areas of Assam on 07-04-2024:

At 13:29 Hrs of 07-04-2024, 132kV Depota – Sonabil and 132kV Depota – Ghoramari line tripped resulted into the GD.



Y-B fault was in the 132kV Depota – Ghoramari Line.

The relay at Depota end of Depota – Sonabil line had sensed the backward fault in forward direction. This was due to phase sequence error between Y and B phases of current with respective voltages in the Backup OC and EF relay and the same has been rectified by AEGCL.

Spurious SOTF operation at Ghoramari for 132kV Depota – Ghoramari Line need to rectified by AEGCL as soon as possible to avoid unwanted operation as similar SOTF operation also observed at **02:14 Hrs** of **17-04-2024.**

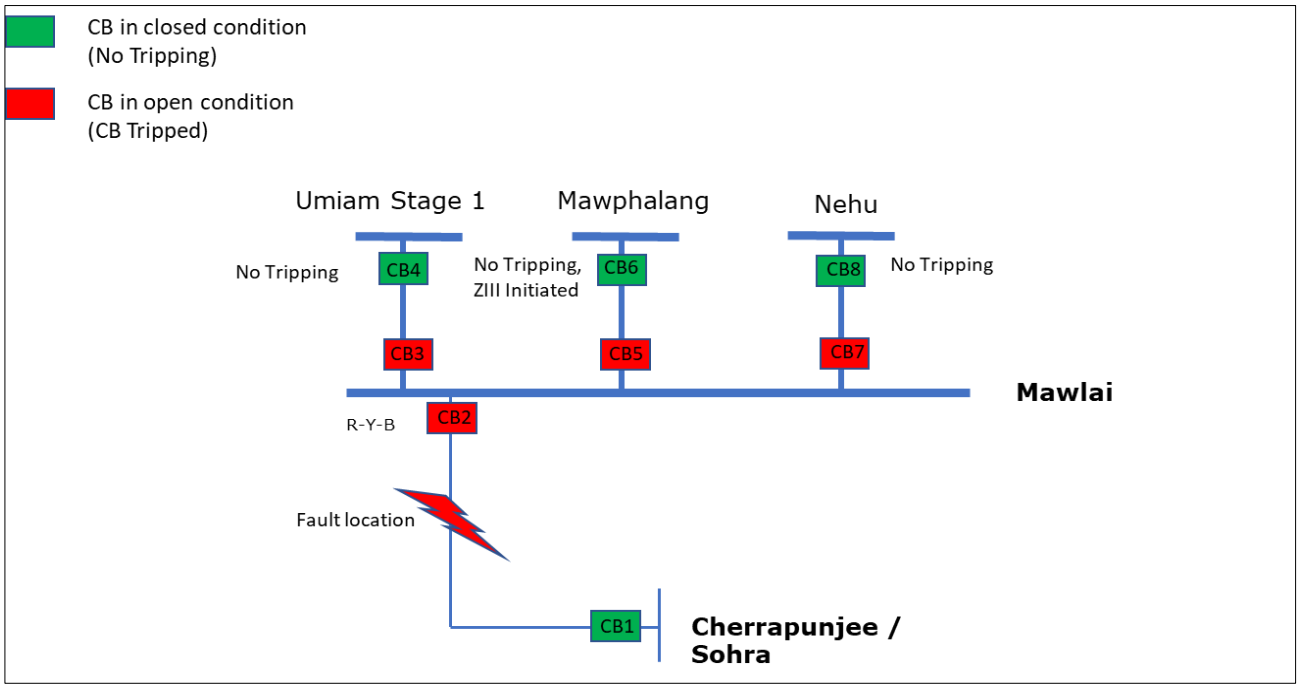
Deliberation of the sub-committee

AEGCL informed that phase sequence issue at Depota for Sonabil line and SOTF issues at Ghoramari end for Depota line have been rectified.

Sub-committee noted as above.

B.14 LBB operation at Mawlai SS of Meghalaya on 14-04-2024:

Mawlai & Cherapunji areas of Meghalaya Power System were connected with rest of NER Grid through 132 kV Mawlai - Mawngap line, 132 kV Mawlai - NEHU line & 132 kV Mawlai -UMIAM 1 line



As per DR analysis, R-Y-B phase fault (Ir=Iy=Ib=1.4 kA) initiated at 17:13:24.164 Hrs in 132 kV Mawali- Cherapunji Line which was cleared on operation of DP, ZI within 64 msecs from Mawlai end by opening the CB at Mawlai.

However, after 564 msecs, Y-E fault (Iy=0.8 kA, In=0.4 kA) appears in the system and the same is being cleared at Mawlai end on operation of LBB which resulted into the tripping of rest of the 3 feeders from Mawlai end.

LBB relay time delay is found to be more than 300 msecs which need to be changed to 200 msecs as per NER protection Philosophy.

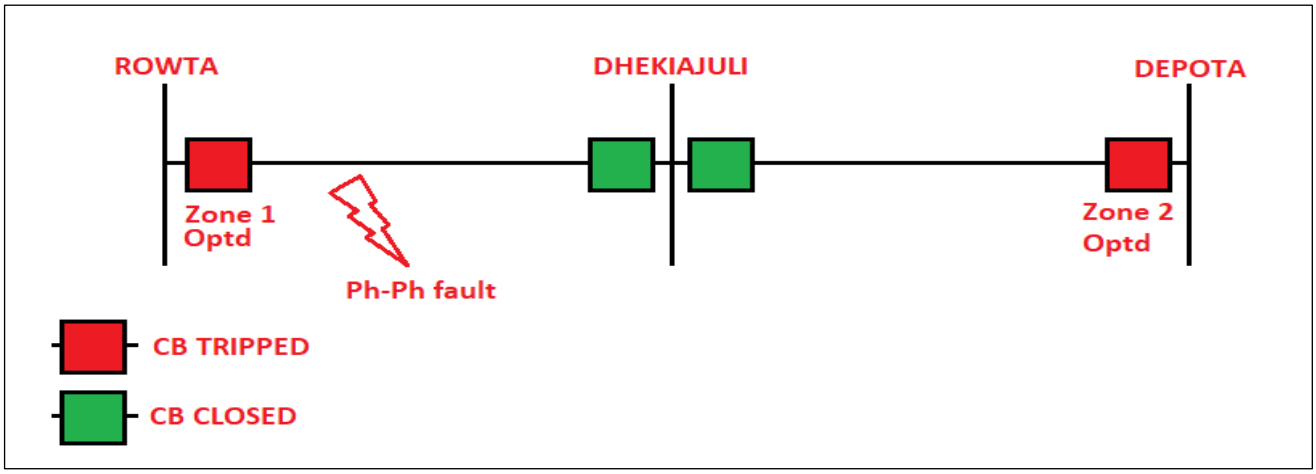
Deliberation of the sub-committee

MePTCL informed that fault current jumped externally from lower contact to the jumper of Upper contact of the Y phase interrupter pole of CB due to moist air and less creepage distance due to which LBB operated. Further he stated that LBB time delay will be set to 200 msec shortly.

Sub-committee noted as above.

B.15 Grid Disturbance in Dekhiajuli area of Assam on 17-April-24:

At 01:16 Hrs. of 17-04-2024, 132 kV Depota - Dhekiajuli and 132 kV Rowta - Dhekiajuli Line tripped. Due to tripping of this element Dhekiajuli area of Assam Power System was isolated from NER Grid.



Reason for non-operation of the protection system at Dhekiajuli need to be updated by AEGCL.

Deliberation of the sub-committee

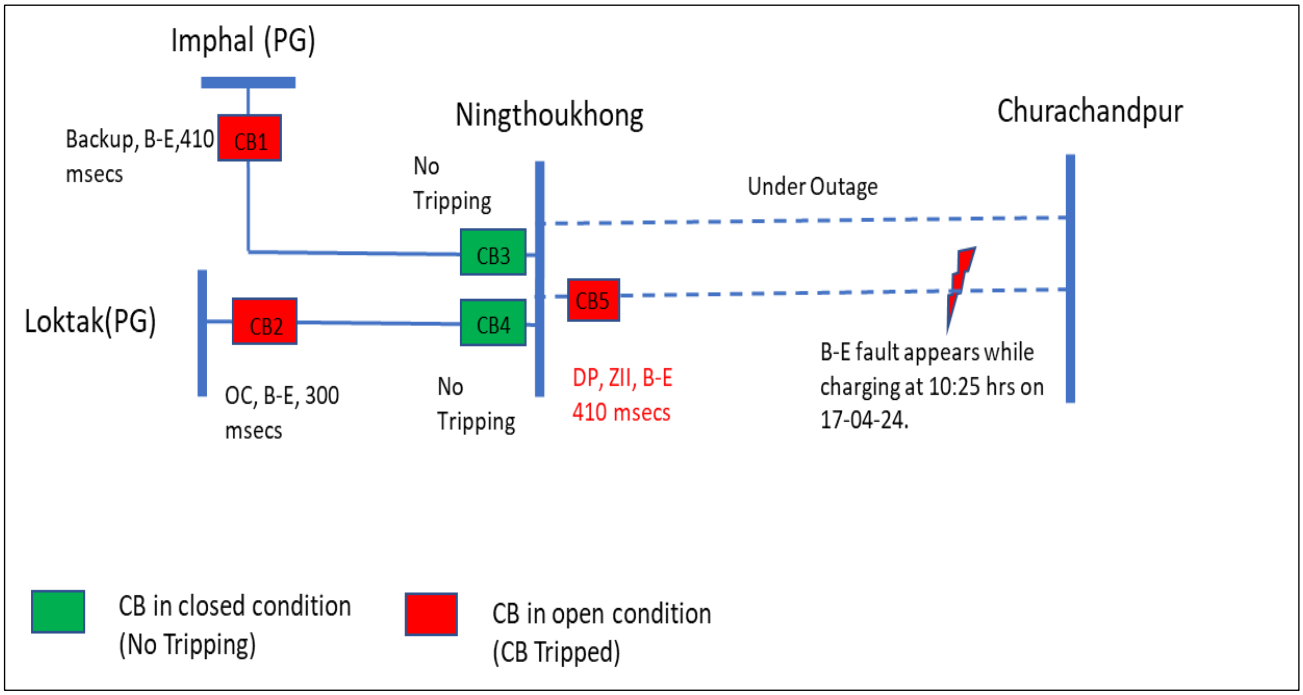
AEGCL informed that the fault was not cleared from Dekhiajuli end due to phase sequence issue in the relay which had been rectified.

Sub-committee noted as above.

B.16 Grid Disturbance in Ningthoukhong area of Manipur on 17-April-24:

Ningthoukhong area of Manipur Power System were connected with rest of NER Grid through 132 kV Loktak- Ningthoukhong and 132kV Imphal (PG)- Ningthoukhong lines. 132 kV Ningthoukhong - Churachandpur 1 Line was under tripped condition from 15:21 Hrs. of 26.03.2024 and 132 kV Ningthoukhong - Churachandpur 2 Line was under tripped condition from 09:25 Hrs of 17.04.2024

At 10:25 Hrs of 17-04-2024, GD occurred at Ningthoukhong while charging while charging **132 kV Ningthoukhong - Churachandpur 2** Line as shown below:



As per DR signal from Ningthoukong, B-E (with Ib:2.5 kA, Vbe:38 kV) solid fault start in 132 kV Ningthoukong-CCpur-2 Line and fault was cleared with Z-II from the system in 410 msecs.

At the same time, as per DR signal from Imphal for Ningthoukong line, B-E fault (Ib:1.34 kA, Vbe:66 kV) detected by the relay and fault was cleared from the system within 410 msec.

Observation:

MSPCL is requested to check the PSL logic and also incorporate CB OPEN/CLOSE status in the DR digital channel for fruitful analysis purpose.

Also, do necessary maintenance activities on the line to prevent repeated tripping in future course of time.

NERTS:

- From the start of DR signal, any start/Trip/Dist. Trip A signal high was observed;
- DEF channel received/DEF start C high was also recorded;
- CB Open status may be included in the DR digital channel for fruitful analysis purpose.
- B/U OC EF setting may be checked and it is to be coordinated in line with NERPC protection philosophy

Loktak (NHPC):

- Overcurrent tripping at Loktak in 300 msecs seems incorrect. Settings need to be coordinated to avoid maloperation.

Deliberation of the sub-committee

MSPCL informed that PSL logic and CB OPEN/CLOSE in DR digital channel will be implemented by May'24.

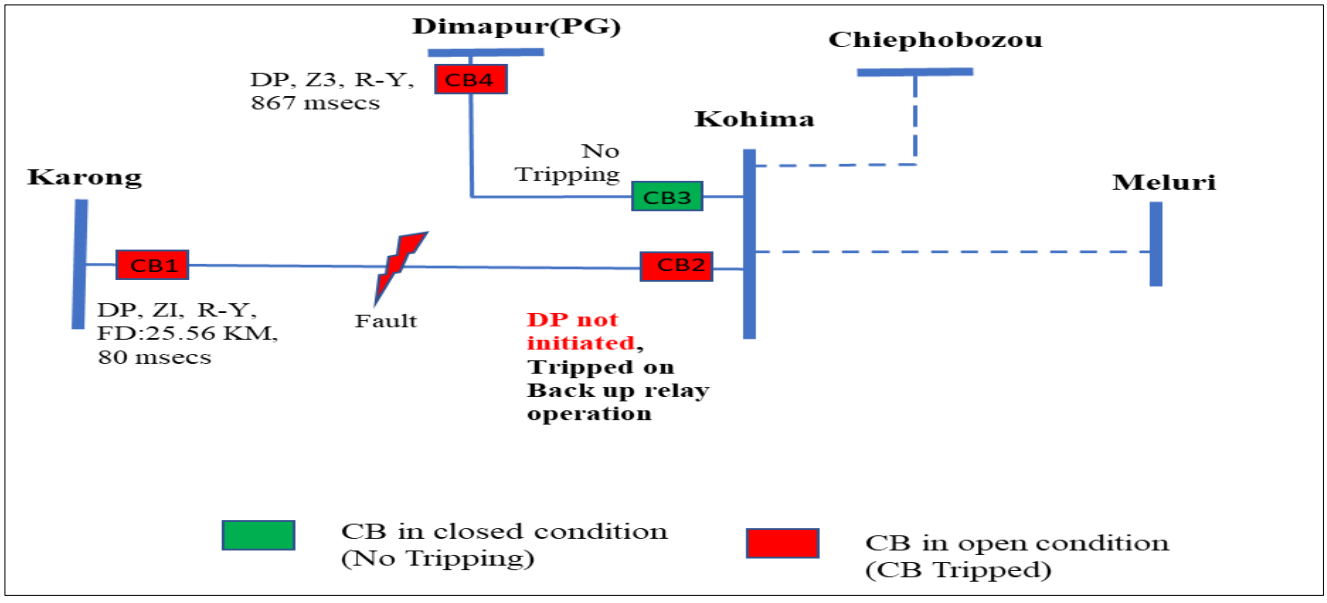
Regarding B/U protection coordination issues at Loktak and Imphal (PG), NERPC stated that the coordination has been done.

Sub-committee noted as above.

B.17 Grid Disturbance in Kohima area of Nagaland on 21-April-24:

At 12:11 Hrs. of 21-04-2024, 132 kV Kohima - Dimapur & 132 kV Kohima - Karong line tripped. Due to tripping of these element, as 132 kV Kohima - Meluri line and 132 kV Kohima - Chiephobozou line were already under outage prior to tripping of the above lines, Kohima area of Nagaland Power System was isolated from NER Grid and collapsed due to no source available in this area.

Sl. No.	नाम	Trip time (hh:mm:ss)	Restoration time	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत
1	132 kV Kohima - Dimapur line	12:11	12:56	No Tripping	RY-ph., Z3, 1.5kA
2	132 kV Kohima – Karong line	12:11	-	Over Current, R-B	DP, ZI, R-Y, FD:25.56 KM, 80 msecs



Tripping at Kohima (CB2) & Dimapur (CB4) occurred almost at the same time. DP not operated at Kohima for Karong line during R-Y fault seems unwanted.

Similar incident also occurred on 29-04-2024.

Distance & Backup setting calculated based on CTR 600/1 at Kohima for 132 kV Karong Line and shared with DoP, Nagaland for implementation.

DoP, Nagaland may update the status for implementation.

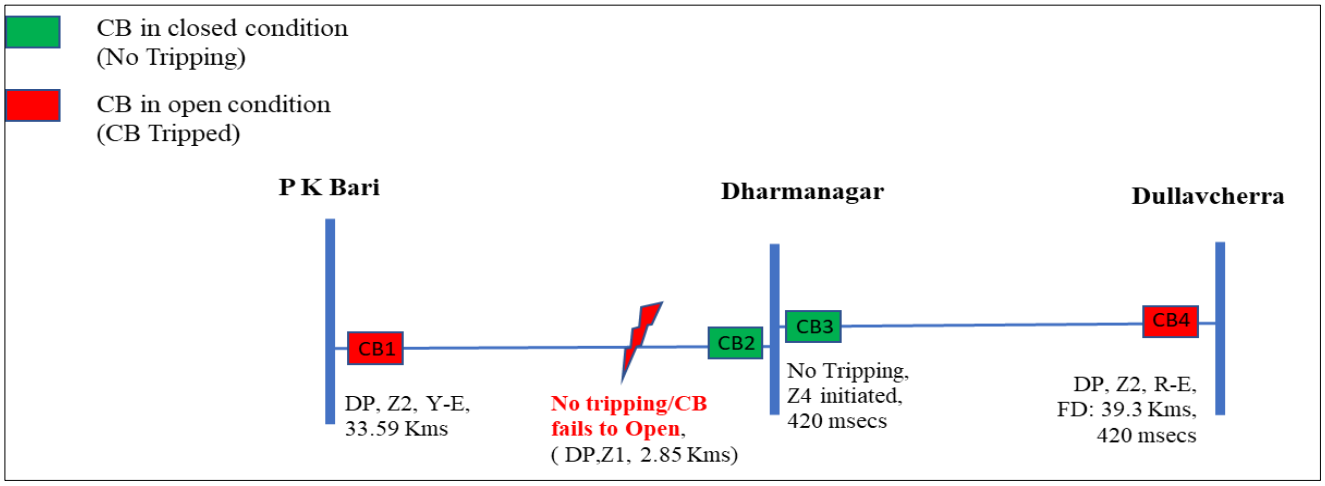
Deliberation of the sub-committee

DoP, Nagaland updated that the proposed settings had been implemented at Kohima SS.

Sub-committee noted as above.

B.18 Grid Disturbance in Dharmanagar area of Tripura on 22-04-2024:

At 01:14 Hrs. of 22.04.2024,132kV PK Bari – Dharmanagar and 132kV Dharmanagar –Dullavcherra lines tripped.



As per DR analysis, R-E fault appears in 132 kV PK Bari – Dharmanagar cleared from P K Bari end only. CB at Dharmanagar, detected in ZI & issued trip command immediately. However, CB fail to open till 420 msecs resulted into ZII tripping at Dullavcherra end.

Similar issue is also observed on 10th and 16th March 2024.

Tripura may update the remedial measures taken.

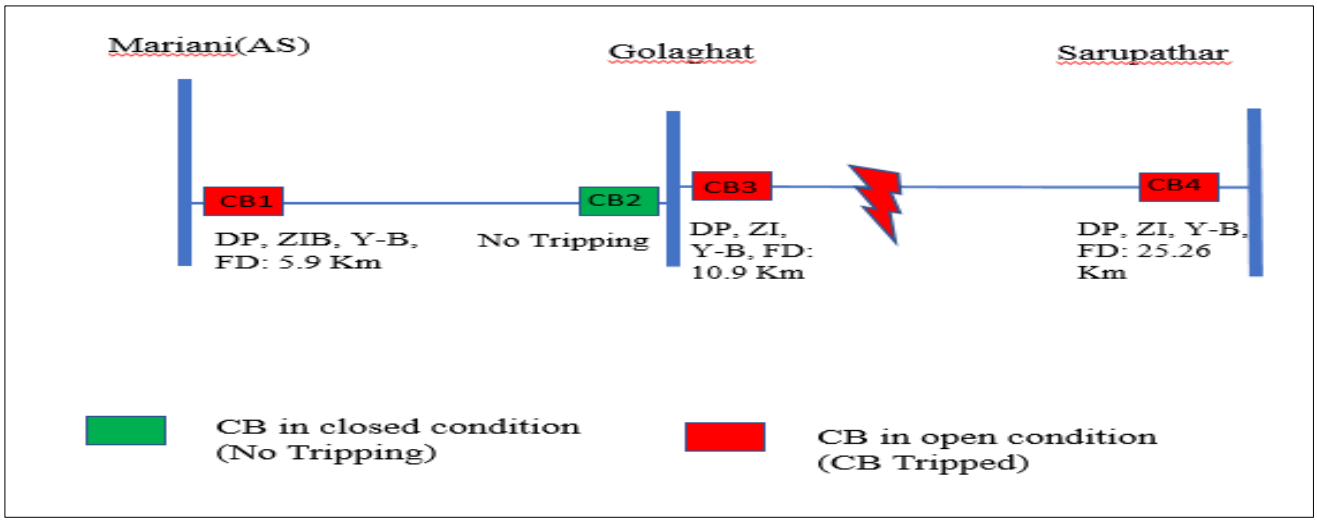
Deliberation of the sub-committee

Tripura informed that replacement of R-Ph Pole & Y-Ph Pole of AREVA make SF6 Circuit Breaker at Dharmanagar end has been done on 24-04-2024.

Sub-committee noted as above

B.19 Grid Disturbance in Golaghat area of Assam on 28-04-2024:

At 12:44 Hrs of 28-04-2024, 132 kV Golaghat – Sarupathar line and 132 kV Golaghat-Mariani (AS) tripped



Tripping of 132 kV Golaghat-Mariani (AS) Line from Mariani end on ZI (extended zone) seems unwanted. AEGCL needs to incorporate time delay in ZI (extended zone) protection to avoid unwanted tripping of elements.

AEGCL may update root cause and remedial measures taken.

Deliberation of the sub-committee

NERLDC informed that ZI extended on reception of carrier from remote end, however no carrier was sent during the incident.

AEGCL updated that issue would be checked during the shutdown of the line planned in May'24.

Sub-committee noted as above.

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

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.

Deliberation of the sub-committee

AEGCL updated that Nodal officer for submission of work progress report has been nominated. Forum requested DoP Arunachal Pradesh to submit the nomination of Nodal officers to NERPC.

DoP Nagaland stated that work progress for the months of March'24 and April'24 have been submitted to NERPC.

NERPC stated that the quarterly work progress report has been prepared and will be sent to CERC shortly.

Sub-committee noted as above.

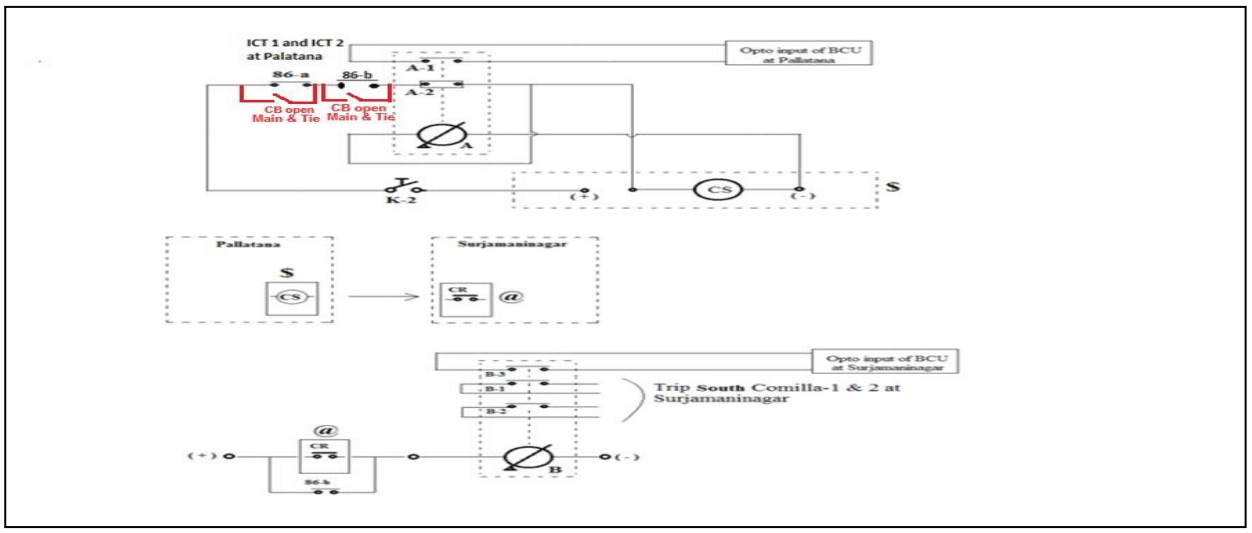
C.2 Modification of SPS at Palatana due to outage of both the ICT's:

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.

In 66th PCCM, following points were discussed -

OTPC stated that it is being considered internally to continue with the existing system wherein 86 relay status is bypassed manually before taking any ICT under shutdown.

NERLDC stated that with the scheme as proposed by them manual intervention will not be required and SPS failure due to manual error will be alleviated.

NERTS suggested that zero power flow signal may be configured in BCU which may be taken as input signal in the SPS.

After detailed deliberations the forum request OTPC to finalize a solution in coordination with NERLDC and NERTS.

Deliberation of the sub-committee

OTPC stated that it had been decided to continue with the existing SPS scheme.

Sub-committee noted as above.

C.3 Requirement of SPS for generation evacuation from Leshka HEP (MePGCL)

Reporting Party: MePGCL

Classification: SPS related to safe evacuation of Generation

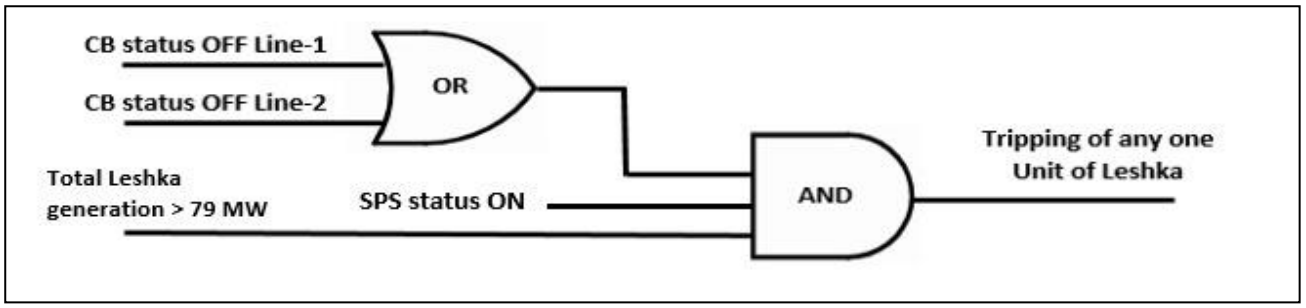
Operation: Generation Rejection

Scheme-

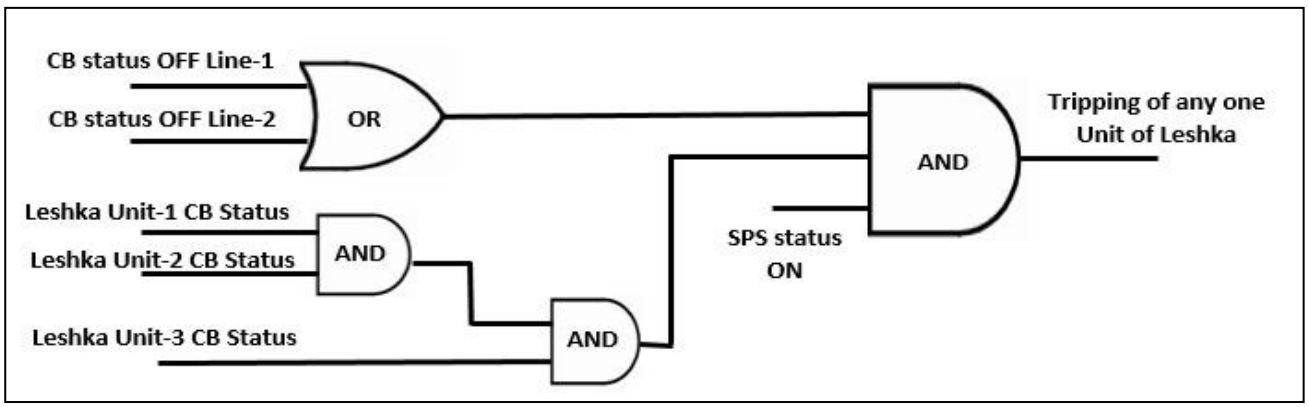
1. Right now, Leshka with an installed capacity of 42 X 3=126 MW connected with rest of Grid via 132 kV Leshka-Khlieriat (MePTCL) D/C Line. If one circuit of 132 kV Leshka – Khliehriat (MePTCL) D/C trips/goes under outage, the full generation could not be evacuated via a single line of 132 kV Leshka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

In 66th PCCM, MePGCL updated that approval will be obtained by May'24.

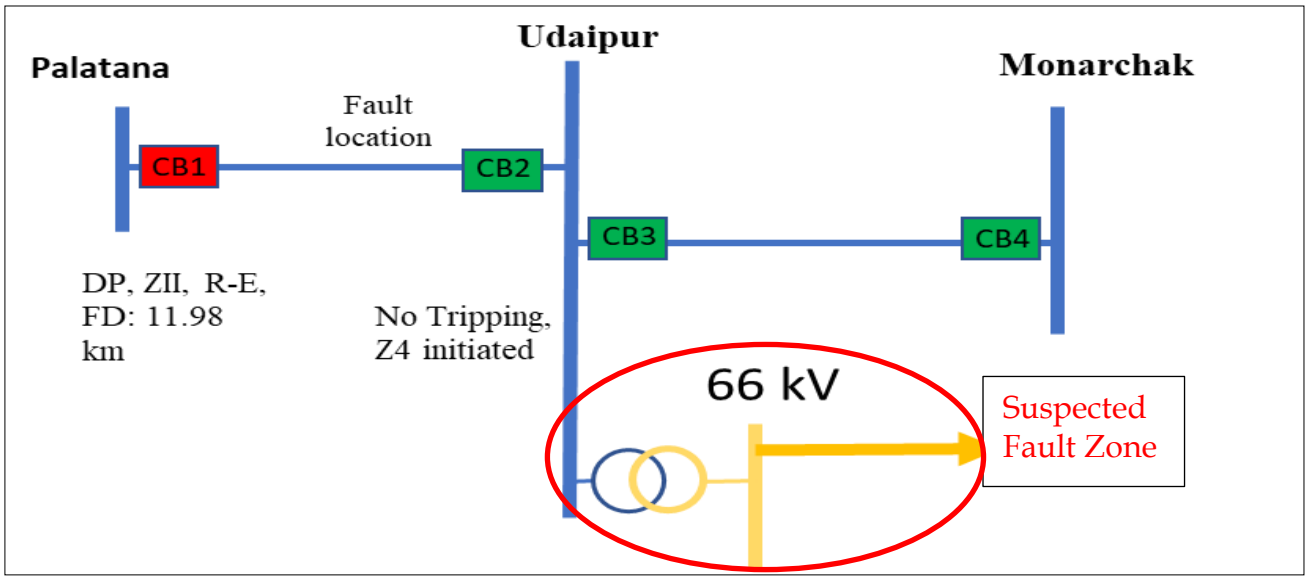
Deliberation of the sub-committee

MePGCL updated that the proposed SPS had been approved and would be implemented by May'24.

Sub-committee noted as above.

C.4 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.

In 66th PCCM, NERPC highlighted that for downstream fault at Udaipur, CB3 should also show ZIV. Matter could not be further discussed as TSECL was not present in the meeting. MS, NERPC exhorted TSECL to provide detailed report and action taken report on the matter at the earliest to NERPC and NERLDC.

Deliberation of the sub-committee

TSECL informed that fault occurred in downstream 66 kV lines due to heavy wind. Regarding protection system of 66 kV system and 132/66 kV transformer, the forum exhorted TSECL to provide the details of protection system to NERPC and NERLDC. TSECL assured to provide the same shortly.

Forum also noted that non-clearance or delayed clearance of downstream faults at Udaipur SS had caused unwanted tripping at Monarchak and Palatana generator ends which have had detrimental effects on the generators. Forum strongly urged TSECL to take urgent actions to strengthen the downstream protection system.

Sub-committee noted as above.

C.5 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

SPS mapping status as update by utilities in 67th PCCM

Sl. No.	SPS under operation	Long term measures	SPS mapping status in SCADA (YES/No)
1	**<u>Tripping of 400kV Palatana-Silchar D/C-</u>** when both modules of Palatana are in service causes tripping of HV side breaker of 2x125 MVA, 400/132 kV ICT at Palatana	After commissioning of 400 kV Palatana - Surajmaninagar line-1, there is no requirement of this SPS and hence, it is to be kept OFF. However, the SPS at Palatana is to be kept ON during shut down of 400 kV Palatana-Surajmaninagar (ISTS) line-1	OTPC to do next week
2	Reverse power flow more than 60 MW from LV to HV side of 2 X 315 MVA, 400/220 kV Azara ICTs causes tripping of 400/220 kV, 2x315 MVA ICTs at Azara (AEGCL)	After upgradation of 220 kV BTPS-Salakati D/C lines. (Need to disable after system study of the present condition)	Coordination with GE is required. To be completed within 2 months
3	Tripping of 132 kV Umiam Stg-I to Umiam Stg-III D/C lines causes instantaneous load shedding near Mawphlang area	After commissioning of 220 kV Killing-Mawngap D/C lines and re-conductoring of 132kV Lumshnong-Panchgram line, SPS is kept OFF	No DI points available. Additional cards required, will take around 3 months
4	SPS related to overloading of 220kV BTPS- Salakati D/C- Tripping of 220kV Agia – Boko and 220kV Agia – Mirza	After upgradation of 220 kV BTPS-Salakati D/C lines, this SPS is kept OFF	Coordination with GE is required. To be completed within 2 months

5	**Related to the safe evacuation of power from BgTPP(NTPC) generation -** BGTPP generation reduction to 600 MW	-	Done
6	**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	NEEPCO- 1 month
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.	Coordination with GE is required. To be completed within 2 months
8	**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	-	NTL assured to do by 15th May'24. (absent in the meeting)
9	**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	-	NTL assured to do by 15th May'24. (absent in the meeting)
10	**Related to the tripping of Bus Reactors at 400 kV Imphal (PG)** - Tripping of 400 kV New Kohima – Imphal D/C during outage of 400 kV Silchar – Imphal D/C will lead to the	-	NERTS assured to do within 1 month

	tripping of 125 MVAR and 80 MVAR Bus Reactor at Imphal(PG)		
11	**Related to Outage of any one of the 400/132kV 2x360MVA ICTs at Panyor Lower Hydro Power Station** - 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)	Will be checked whether to disable or not
12	**SPS related to outage of 220 kV Azara-Sarusajai DC/220 kV Misa-Samaguri DC** - **1) On tripping of 220 kV Azara-Sarusajai D/C:** 140-150 MW load disconnection is to be done at Sarusajai and Kahilipara areas **2) 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.	2 months
13	**SPS related to the outage of 132 kV Panyor HEP-Ziro Line** - Tripping of 132 kV Panyor-Ziro will cause disconnection of 33kV Load at Ziro	Commissioning of 132 kV Khupi - Along Link/220 kV AGBPS-Namsai D/C	1 month
14	Related to outage of any one circuit of 132 kV Dimapur(PG)- Dimapur(NA) D/C	Reconductoring of 132 kV Dimapur(PG)-Dimapur(NA) D/C	Done
15	Related to outage of any one circuit of 220 kV Balipara-Sonabil D/C	Reconductoring of 220 kV Balipara-Sonabil D/C lines with higher ampacity and Utilisation of 2 X 160 MVA ICTs at Balipara	2 months

16	**Related to Outage of 400 kV Palatana – Surajmani Nagar line (charged at 132 kV)** - Tripping of 400 kV SM Nagar – Comilla D/C (charged at 132 kV) during outage of 400 kV Palatana – SM Nagar (TSECL) line (charged at 132 kV)	Upgradation of 132 kV Surajmaninagar (TSECL) to 400 kV	1 month
17	**Related to Outage of both 400/132 kV, 2x125 MVA ICTs at Palatana** - Entire load disconnection of South Comilla by way of tripping of 132kV SM Nagar-South Comilla D/C	Upgradation of 132 kV Surajmaninagar (TSECL) to 400 kV	1 month
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	No DI points available. Additional cards required, will take around 3 months

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.

Sub-committee noted as above.

C.6 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

In 66th PCCM, AEGCL stated that APDCL will give the consent for shutdown only after 7th May. The mock testing will be done accordingly.

Deliberation of the sub-committee

AEGCL stated that APDCL is allowing shutdown in June'24. The mock testing will be done accordingly.

Sub-committee noted as above.

C.7 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 67th PCCM

Sl No	Element Name	Time	Relay End1	Relay End2	A/R not Operated	Remarks from Utility (67th 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	Issue in Main II relay at Tinsukia end. Can't configure the AR in Main II. Also, to enable AR in Main I, Zone I in

						Main II has to be disabled which is not feasible. Forum requested to replace the Main II relay
2	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	PLCC and funding issue. Proposal to be prepared shortly
3	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. Siemens visiting in 2 months. AR will be enabled accordingly.

Sl No	**Element Name**	**Time**	**Relay End1**	**Relay End2**	**A/R not Operated**	**Remarks from Utility**
4	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 this week.
5	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	3 ph AR Enabled
6	220 kV AGBPP-Mariani(PG) Line	12-12-2023 12:29	DP,ZI,B-E,FD: 44.9 Km, *(No DR submitted)*	DP,ZI,B-E,FD: 110.9 KM, A/R successful	AGBPP	AR is functional.

SL No	Element Name	Tripping Date and Time	Relay Details_A	Relay Details_B	AR not Operated	Remarks from utility (67th PCCM)
7	220 kV Amguri - NTPS Line	02-02-2024 09:51	DP, ZI, B-E,FD: 81.89km	DP, ZI, B-E	Amguri & NTPS	Done
8	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. Shutdown required. To be done by next PCCM.
9	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 in 1st week of June'24 to resolve the issue.
10	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	Same as 9

SL No	Element Name	Tripping Date and Time	Restoration Date and Time	Relay _A	Relay _B	Auto-Recloser not Operated	Remarks as per 67th PCCM
11	220 kV BALIPARA - SONABIL 2	POWERGRID & AEGCL	04-03-2024 13:06	04-03-2024 15:13	02:07:00	**Sonabil**	DT logic modified in compliance with NER protection Philosophy. Further, AEGCL informed the forum that

							end-to-end testing with AR testing shall be carried out in next opportunity outage.
12	220 kV BTPS - Rangia 1	17-03-2024 12:08	17-03-2024 12:44	DP,ZII,B-E	DP,ZI, B-E	Rangia	AR functional
13	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:17 0 KM	Both ends	MePTCL updated that AR was checked during shutdown, hydraulic pressure was found stable. Further pole discrepancy relay was malfunctioning which has been replaced. Issue resolved
14	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	AR failed due to CB unhealthy issue. The same has been resolved
15	132 kV Dimapur	25-03-2024 15:38	25-03-2024 17:02	DP,ZI, B-E, FD:	DP,ZI, B-E	Kohima	AR enabled without Carrier

	(PG) - Kohima			42.73 Kms			
16	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	AR attempted but line tripped for fault in reclaim time which is as per standard logic.
17	132 kV Jiribam - Pailapool	26-03-2024 01:29	26-03-2024 01:55	DP,ZI, R-Y, FD:8.84 KM	DP, ZI, R-Y, FD: 4.2km	Both ends	TPAR implemented.
18	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	AR failed due to Check Sync fail at Nirjuli. Initial voltage was beyond sync level.
19	132 kV Nirjuli - Pare	26-03-2024 04:18	26-03-2024 05:11	DP,ZI,B-E, FD:8.35 KM,FC: 2.0KA	DP,ZI, B-E,FD:16.88 KM	Both ends	Done
20	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	AR implemented at N. Lakhimpur. And AR to be configured at Gohpur
21	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:4.9km	Khupi	B/U highest pickup. Master trip actuated.

							Replacement within 1 month
22	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	Fault in reclaim time, so no AR
23	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	Mawngap	
24	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	Refer to 20
25	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	Doyang	CB procurement underway. By March'25
26	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	Same as 9
27	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	

28	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: 175.11 KM	Both Ends	AR failed due to DT receipt at Silchar end

Utilities may update

C.8 132 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.

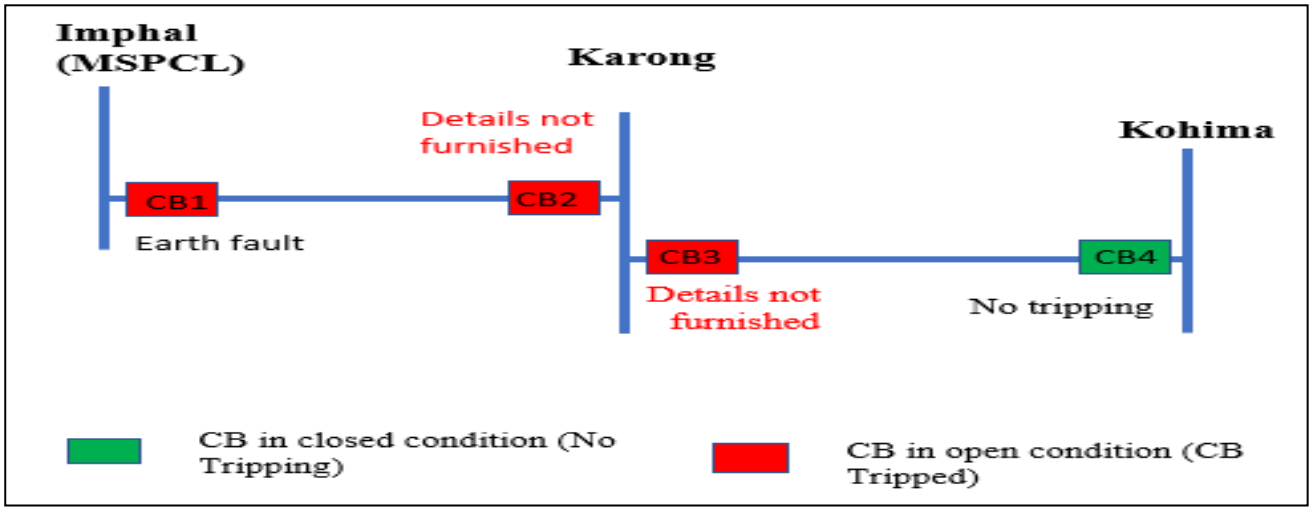
Deliberation of the sub-committee

TSECL updated that the matter to be resolved by next PCCM.

Sub-committee noted as above.

C.9 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.

Deliberation of the sub-committee

MSPCL stated that Karong SS is still unreachable due to Law-and-Order situation in the area.

Sub-committee noted as above.

C.10 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.

Update as provided by utilities in 67th PCCM

Sl. No	Line	Utility	Update
1	132 kV Dimapur-Kohima	DoP Nagaland	DPR is complete except for budgetary offer which will be Hitachi energies during their visit by end of May'24.
2	132 kV Nirhuli-Lekhi	DoP Ar. Pradesh	DoP Aruanchal Prdaesh stated that WT and CVT are available. NERTS updated

			that PLC panel has been installed and work to be completed in next shutdown.
3	132 kV Melriat-Zemabawk	Mizoram	NERTS updated that PLCC is available, Mizoram stated that CVT is available and for WT, order will be placed in June'24
4	400 kV Mariani-Kohima ckt 2		KMTL stated that there is alarm issue in the PLCC panel. Forum exhorted KMTL to resolve the issue, in coordination with the OEM, by next week.
5	132 kV Roing-Pashighat	DoP Ar. Pradesh	DoP Ar. Pradesh updated that there was issue with 48 V battery which would be replaced by July'24.

Sub-committee noted as above.

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 67th PCCM

Sl no	**State**	**Important Transmission lines where AR has to be enabled at the earliest**	**Status (66th/65th PCCM)**	**status as per 67th PCCM**
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.	3 Ph AR enabled on the lines
2.	Assam	All 220kV and 132kV lines	For 220kV Some bays at Tinsukia, NTPS and Kathalguri remaining, to be done soon For 132kV bays Testing and enabling of AR is being done	Process underway. To be completed by June'24

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

Sub-committee noted as above.

D.2. <u>Installation of line differential protection for short lines:</u>

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 66th PCCM

Name of utility	**Last updated status (66th/65th PCCM)**	**status as per 67th 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	MS, NERPC stated that a letter will be written to NPC/PSDF to the funding for the LDP considering the special case of NER.

	same considering the special case of NER	
MSPCL	DPR under preparation, to be submitted within one month.	DP under preparation, to be completed shortly
MePTCL	LDP operation for 9 feeders. For Neighrims-NEHU line, waiting for dark fiber. For other lines, OPGW not available commissioned after OPGW link is established. (**Annexure D.2**) 7 Feeder operational for rest OPGW work is pending OPGW to be installed on 16 lines. LDP will be enabled after that.	Regarding OPGW installation, MePTCL updated that DPR is being prepared for inclusion in reliable communication scheme. For NEHU-NEighrims line, fiber has to be laid by PowerGrid NERPSIP.
P&ED Mizoram	Lines identified 132kV Khamzawl - Khawiva. DPR being revised. Mizoram requested for assistance in preparation of DPR. Forum requested Assam to provide assistance to Mizoram in this regard.	Mizoram stated that DPR has been prepared (except for Cost estimate) with assistance of Assam. Cost estimate will be prepared shortly and DPR will DPR to be completed by June'24
DoP Nagaland	LDP Doyang-Sanis line, LDR to be installed by NEEPCO. NEEPCO stated that LDR is available with NEEPCO, however, healthiness of the OPGW link on the line has to be checked first. Forum asked DoP Nagaland to coordinate with NEEPCO in this regard	Forum requested DoP Nagaland to ensure one communication channel at Sanis end for OPGW communication and also ensure the availability of the FOTE. DoP Nagaland to coordinate with NEEPCO in this regard.
TSECL	132kV 79 Tilla-Budhjungnagar. DPR to be prepared. Cost estimate submitted to TIDC to arrange for ADB funding.	TIDC approval still awaited. Regarding Rokhia-N.Rokhia link, he updated that the breaker has been received.

	TIDC approval is still awaited for fund.	

Sub-committee noted as above.

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

Status as updated in the 67th PCCM:

Sl No	Details of the events(outage)	Remedial action suggested	Name of the utility & previous update	status as per 67th PCCM
1.	132 kV Balipara-Tenga line in May and June	Carrier aided inter-tripping to be implemented for 132kV Balipara-Tenga-Khupi at the earliest (PLCC has to be installed on the link. Under consideration of the higher authorities)	DoP, Arunachal Pradesh. PLCC panels received. For further work PSDF payment issue. Matter to be taken up with PSDF	DoP updated that PSDF funding will be short closed due to long pending payment issues and delays. He further stated that state is considering funding of the project through its own funding. PLCC work to be tentatively completed by end of this year.
2.	132 kV DoyangMokokchung line 132 kV Mokokchung - Mokokchung (DoP, Nagaland) D/C lines on 30th July	Carrier inter-trip for 132kV DHEP-Mokokchung to be implemented by DoP Nagaland (NO PLCC on the line. Matter under consideration of Higher authorities)	DoP Nagaland (DPR is under preparation for PLCC, by March'24	DPR is being prepared for DTPC link on the line.
3.	Leshka-Khleihriat DC multiple tripping in April to September	TLSA installation along the line to be done by MePTCL	MePTCL (DPR submitted, Approval pending.)	DPR returned by PSDF.
4.	132 kV Loktak-Jiribam line, 132 kV Loktak-Imphalline,132 kV Loktak-Ningthoukhong	> 5MVA TRAFO (Aux. Transformer) to be repaired	NHPC Tender awarded, Order placed,	TX manufacturing underway. To

	line, 132 kV Loktak-Rengpang line & Loktak Units 1,2 and 3 on 3rdAug	->5MVA Auxiliary TRAFO panel to be repaired by NHPC	manufacturing underway.	be completed by Dec'24
5.	Grid Disturbance at Loktak HEP on 03rd Aug'22	NHPC-Loktak informed that LBB has been included under R&U scheme and the same shall be commissioned by Mar'23	NHPC (LBB to be commissioned under R&U project) Renovation would start in Nov.'24 and to be completed by Oct.'25. Forum stressed to take LBB on priority.	Same status, Forum requested to expedite it
6.	Outage of 220 KV Bus Bar Protection Scheme at 400/220/132 KV Killing SS	Bus-Bar protection of 220kV bus at Killing SS	MePTCL Order given to ABB. Visit of OEM next week. To be completed by April'24	BBR defective. Order placed in Oct'23, will arrive in around 7 months, i.e. by May or June'24
7.	Non-operation of AR for various lines at Byrnihaat end on 25th and 26th 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	By May'24
8.	Tripping of 132kV Kahilipara- Sarusajai 1, 2 and 3 line, 132kV Kahilipara Main bus 1, 132kV Kahilipara transfer Bus 1 and 132kV Kahilipara-Kamalpur line on 2.08.2021	BB protection to be implemented at Kahilipara with procurement of 5 core CTs	AEGCL DPR is under preparation for PSDF. CT under procurement, to be completed by end of this year	By end of this year
9.	AR issue at Gohpur end for 132kV Nirjuli-Gohpur line	Panel replacement underway	AEGCL - By April'24	Panel to be replaced by NERTS by this month (May'24).
10.	Non-operation of AR at Doyang HEP	Pneumatic CBs to be replaced	NEEPCO- August 2024	March'25

Sub-committee noted as above.

DATE AND VENUE OF NEXT PROTECTION SUB- COMMITTEE MEETING

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

****

Annexure-I

List of Participants in the 67th PCC Meeting held on 16.05.2024

SN	Name & Designation	Organization	Contact No.
1	Sh. Moli Kamki, AE (E), SLDC	Ar. Pradesh	09863703539
2	Sh. Pranab J.Baishya, AGM, APGCL	Assam	09365643696
3	Sh. Abhishek Kalita, Dy.Mgr, AEGCL	Assam	08486213068
4	Sh. Bibek Baruti, Dy.Mgr, AEGCL	Assam	07002238466
5	Sh. Ksh.Nobelli, DM, MSPCL	Manipur	09637997590
6	Sh. Rishabh Singh Khwairakpam, DM, MSPCL	Manipur	08837429153
7	Sh. C.Daniela, EE	Mizoram	09774692350
8	Sh. Lalawmpuia Chawngthu, AE	Mizoram	08730843706
9	Sh. A.G.Tham, AEE, MePTCL	Meghalaya	09774664034
10	Sh. A.Shullai, AEE, MePGCL	Meghalaya	07005379616
11	Sh. Woophang Khonglah, JE, MePTCL	Meghalaya	09436137111
12	Sh. Rokobeito Iralu, S.D.O (Trans.)	Nagaland	09436832020
13	Sh. L.Kikon, JE	Nagaland	09383234164
14	Sh. Anil Debbarma, DGM, SLDC	Tripura	09612559250
15	Sh. Amaresh Mallick, ED	NERLDC	09436302720
16	Sh. Biswajit Sahu, CGM	NERLDC	09425409539
17	Sh. Bimal Swargiary, Ch.Mgr	NERLDC	09435499779
18	Sh. Subhra Ghosh, AM	NERLDC	08415857079
19	Sh. Ankit Vaish, DGM (AM)	PGCIL	09409305725
20	Sh. Joypal Roy, CGM	NEEPCO	08837200069
21	Sh. Bhaskar Mazumdar, Sr.Mgr	NEEPCO	09612079362
22	Sh. Sushil Kumar, SIC (O)	OTPC	08794716817
23	Sh. M.Murali Mohan, DGM	NTPC	09440901781
24	Sh. S.K.Srvastava, AM(E)	NHPC	09419169964
25	Sh. Manoj Kr. Gupta, DGM	KMTL	09996789264
26	Sh. Soumya Sur, Team Lead (PSS)	PRDC	09007934696
27	Sh. Basab Maity, Engg.(PSS)	PRDC	09732416233
28	Sh. K.B.Jagtap, Member Secretary	NERPC	-
29	Sh. Anil Kawrani, Director	NERPC	08799737377
30	Smt. Maya Kumari, Dy.Director	NERPC	09024334279
31	Sh. Vikash Shankar, AD-I	NERPC	09455331756

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 - Khleihriat 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	Not Completed	Fiber Network Not Available
4	EPIP -I - Killing Line II	Completed	Completed	Not Completed	
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	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	