सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033

स./NO. पू.क्षे.वि.स./**PROTECTION/2025/**910 **दिनांक /DATE: 05/08/2025**

सेवा में / To,

संलग्न सूची के अनुसार / As per list enclosed.

विषय : दिनांक – 15.07.2025 को आयोजित 149 वीं पीसीसी बैठक का कार्यवृत्त।

Sub: Minutes of the 149th PCC meeting held on 15.07.2025

महोदय/ Sir,

15.07.2025 को आयोजित **149**वीं पीसीसी बैठक का कार्यवृत्त पू.क्षे.वि.स. की वेबसाइट (http://www.erpc.gov.in/) पर उपलब्ध है। कृपया देखें।

Please find the minutes of the **149th PCC** meeting of ERPC held on **15.07.2025** available at ERPC website (http://www.erpc.gov.in/).

यदि कोई अवलोकन हो, तो कृपया इस कार्यालय को यथाशीघ्र भेजा जाए।

Observations, if any, may please be forwarded to this office at the earliest.

यह सदस्य सचिव, पू. क्षे. वि. स. के अनुमोदन से जारी किया जाता है।

This issues with approval of Member Secretary, ERPC.

भवदीय / **Yours faithfully,**

5/8/2025

(आई.के.मेहरा / I.K.Mehra)
अधीक्षण अभियंता(पी.एस)
Superintending Engineer (PS)

14 गोल्फ क्लब रोड, टॉलीगंज, कोलकाता - 700 033 । 14 Golf Club Road, Tollygunge, Kolkata – 700 033.
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LIST OF ADDRESSES:

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Chief Engineer(System Operation), SLDC , BSPTCL, Patna-800021	
Chief Engineer (SLDC) Damodar Valley Corporation, GOMD-I Premises, P.O.- DaneshSeikh Lane, Howrah- 711109	Chief Engineer (CTC) Damodar Valley Corporation, P.O. Maithon Dam, Dist. Dhanbad,Jharkhand-828207
Chief Engineer, (CRITL) Jharkhand Urja Sancharan Nigam Limited Kusai Colony, Doranda, Ranchi-834002	Chief Engineer (CLD) Jharkhand UrjaSancharan Nigam Limited, Kusai Colony,Doranda, Ranchi-834002
Chief General Manager (O&M), OPTCL, Janpath, Bhubaneswar, Odisha – 751 022. FAX: 0674-2542932 cgm.onm@optcl.co.in	Sr. General Manager (PPA), Technical Wing, OHPCL, Orissa State Police Housing & Welfare Corpn. Bldg. VaniviharChowk, Janpath, Bhubaneswar-752022
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Chief Engineer (CLD) WBSETCL, P.O.Danesh Sheikh Lane, AndulRoad, Howrah-711109	Addl. Chief Engineer (ALDC) West Bengal Electricity Distribution Company Ltd VidyutBhavan, 7th Floor, Bidhannagar, Sector-I Salt Lake City, Kolkata-700091(Fax-033-2334-5862)
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General Manager(O&M) FSTPS, NTPC Ltd., P.O. Nabarun, Dist. Murshidabad, West Bengal-742236	Dy. General Manager (Engineering), WBPDCL, OS Dept. Corporate Office, 3/C, L.A Block, Salt Lake-III, Kolkata-700098 (Fax-033-23350516)
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General Manager(O&M), TSTPS, NTPC Ltd., P.O.Kaniha, Dist. Angul, Orissa-759117	General Manager (AM), POWERGRID, Odisha Projects, Sahid Nagar, Bhubaneswar – 751 007
General Manager (OS), ERHQ-I, NTPC Ltd., LoknayakJaiprakashBhawan, (2nd Floor), DakBunglowChawk, Patna-800001	Manager (Electrical), Adhunik Power & Natural Resources Ltd. "Lansdowne Towers, Kolkata-700020 (Fax No. 033-2289 0285)
Executive Director (O&M) NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003 (Fax-01292272413)	Electrical Superintending Engineer, TTPS, TenughatVidyut Nigam Ltd.,Lalpania, Dist. Bokaro, Jharkhand-829149
Dy. General Manager (Electrical) IB Thermal Power Station, OPGCL Banhapalli, Dist. Jharsuguda-768234, Orissa	General Manager (AM), ER-I Power Grid Corporation of India Ltd., Alankar Place, Boring Road, Patna-800001
Chief Engineer (Trans.) Power Deptt., Govt. of Sikkim, Gangtok-731010	Sr. Manager (CTMC) Durgapur Projects Limited,Durgapur-713201
Executive Director, ERLDC, POSOCO, Tollygunge, Kolkata-700033	Head –Regulatory and contracts, IndiGrid Limited , 247 Embassy, Office No 107, 'B' Wing, Hindustan Co. Bus Stop, Gandhi Nagar, L.B.S. Road, Vikhroli West, Mumbai – 400 079. Ph : +91 845509 96408
General Manager (AM), ER-II Power Grid Corporation of India Ltd., J-I-15, Block-EP, Sector-V,Salt Lake,Kolkata-91	The Plant Head, Maithon Power Limited, Maithon Office, MA 5 Gogna, Dist. Dhanbad, Jhankand State, PIN-828207
General Manager (P&O), PTC Ltd., Kanchanjunga Bldg.,18, Barakhamba Road,	

New Delhi-110001	
Managing Director, Bhutan Power Corporation Post Box no. 580, Thimpu, Bhutan.	Managing Director, Druk Green Power Corprn. P.O. Box-1351, Thimpu, Bhutan.
Associate Director (Commercial and Regulatory) Darbhanga-Motihari Transmission Company Limited (DMTCL),503,Windsor, Off CST Road, Kalina, Santacruz(E), Mumbai-400098	The Plant Head, JITPL. (FAX:011-26139256-65)
General Manager, Sikkim Urja Limited, New Delhi (FAX:011-46529744)	President , TPTL, Bhikaji Cama Place, New Delhi , 110066
Director (NPC), CEA, NRPC Building, KatwariaSarai, New Delhi- 110016	President, Dans Energy Pvt. Ltd, 5th Floor, DLF Building No. 8, Tower-C, Gurgaon - 722OO2
Director, Shiga Energy Pw. Ltd., 5th Floor, DLF Building No. 8, Tower-C, Gurgaon - 722OO2	DGM (E&I), HALDIA ENERGY LIMITED, BARIK BHAWAN, KOKATA-700072, FAX: 033-22360955
The Plant Head, Dikchu HEP, Sikkim	

मुख्य अभियंता, ट्रांस (ओ एंड एम), बिहार स्टेट पावर ट्रांसमिशन लिमिटेड, विद्युत भवन, बेली रोड, पटना-800021	मुख्य अभियंता (सीआरआईटीएल), बिहार स्टेट पावर ट्रांसमिशन लिमिटेड, विद्युत भवन, बेली, रोड, पटना-800021
मुख्य अभियंता (सिस्टम ऑपरेशन), एसएलडीसी, बीएसपीटीसीएल, पटना-800021	
मुख्य अभियंता (एसएलडीसी), दामोदर वैली कॉर्पोरेशन, जीओएमडी-I परिसर, पी.ओ.-दानेशशेख लेन, हावड़ा- 711109	मुख्य अभियंता (सीटीसी), दामोदर घाटी निगम, पी.ओ. मैथन बांध, जिला। धनबाद, झारखण्ड-828207
मुख्य अभियंता (सीआरआईटीएल), झारखण्ड ऊर्जा संचरण निगम लिमिटेड कुसाई कॉलोनी, डोरंडा, रांची-834002	मुख्य अभियंता (सीएलडी), झारखंड ऊर्जा संचरण निगम लिमिटेड, कुसाई कॉलोनी, डोरंडा, रांची-834002
मुख्य महाप्रबंधक (ओ एंड एम), ओपीटीसीएल, जनपथ, भुवनेश्वर, ओडिशा – 751 022. फैक्स: 0674-2542932 cgm.onm@optcl.co.in	वरिष्ठ महाप्रबंधक (पीपीए), तकनीकी विंग, ओएचपीसीएल, उड़ीसा राज्य पुलिस आवास एवं कल्याण निगम बिल्डिंग वाणीविहार चौक, जनपथ, भुवनेश्वर-752022
मुख्य लोड डिस्पैचर, एसएलडीसी ओपीटीसीएल, पी.ओ. मंचेश्वर रेलवे कॉलोनी भुवनेश्वर-751017	मुख्य अभियंता (परीक्षण), डब्ल्यूबीएसईटीसीएल केंद्रीय परीक्षण प्रयोगशाला, अभिक्षण, साल्ट लेक, कोलकाता-700091 (फैक्स नंबर 2367-3578/1235)
मुख्य अभियंता (सीएलडी), डब्ल्यूबीएसईटीसीएल, पी.ओ. दानेश शेख लेन, अंदुलरोड, हावड़ा-711109	अतिरिक्त मुख्य अभियंता (एएलडीसी), पश्चिम बंगाल विद्युत वितरण कंपनी लिमिटेड विद्युत भवन, 7वीं मंजिल, बिधाननगर, सेक्टर-I साल्ट लेक सिटी, कोलकाता-700091 (फैक्स-033-2334-5862)
उप मुख्य अभियंता (परीक्षण)/वरिष्ठ प्रबंधक (परीक्षण) सीईएससी लिमिटेड, 4, शशि शेखर बोस रोड, कोलकाता-700025	महाप्रबंधक (ओ एंड एम), खएसटीपीएस, एनटीपीसी लिमिटेड, पी.ओ. दीप्ति नगर, जिला भागलपुर, बिहार-813203
महाप्रबंधक (ओ एंड एम) एफएसटीपीएस, एनटीपीसी लिमिटेड, पी.ओ. नबारून, जिला-मुर्शिदाबाद, पश्चिम बंगाल-742236	उप. महाप्रबंधक (इंजीनियरिंग), डब्ल्यूबीपीडीसीएल, ओएस विभाग कॉर्पोरेट कार्यालय, 3/सी, एलए ब्लॉक, साल्ट लेक-III, कोलकाता-700098 (फैक्स-033-23350516)
महाप्रबंधक (ओ एंड एम), बाढ़ एसटीपीएस, एनटीपीसी लिमिटेड, पी.ओ. एनटीपीसी बाढ़, जिला-पटना, बिहार-803213	महाप्रबंधक (ओएस), ईआरएचक्यू-II, एनटीपीसी लिमिटेड, 3rd Floor, ओएलआईसी बिल्डिंग, प्लॉट नं. एन 17/2, नयापल्ली, यूनिट-8 भुवनेश्वर- 751012 (फैक्स नंबर 0674-2540919)
महाप्रबंधक (ओ एंड एम), टीएसटीपीएस, एनटीपीसी लिमिटेड, पी.ओ.कनिहा, जिला- अंगुल, उड़ीसा-759117	महाप्रबंधक (एएम), पावरग्रिड, ओडिशा प्रोजेक्ट्स, साहिद नगर, भुवनेश्वर - 751 007
महाप्रबंधक (ओएस), ईआरएचक्यू-I, एनटीपीसी लिमिटेड, लोकनायक जयप्रकाश भवन, (दूसरी मंजिल), डाकबंगलाचौक, पटना-800001	प्रबंधक (इलेक्ट्रिकल), आधुनिक पावर एंड नेचुरल रिसोर्सेज लिमिटेड, लैंसडाउन टावर्स, कोलकाता-700020 (फैक्स नंबर 033-2289 0285)

कार्यकारी निदेशक (ओ एंड एम), एनएचपीसी लिमिटेड, एनएचपीसी कार्यालय परिसर, सेक्टर-33, फरीदाबाद, हरियाणा-121003 (फैक्स-01292272413)	विद्युत अधीक्षण अभियंता, टीटीपीएस, तेनुघाट विद्युत निगम लिमिटेड, ललपनिया, जिला। बोकारो, झारखण्ड-829149
उप महाप्रबंधक (विद्युत), आईबी थर्मल पावर स्टेशन, ओपीजीसीएल बनहापल्ली, जिला। झारसुगुड़ा-768234, उड़ीसा	महाप्रबंधक (एएम), ईआर-I पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड, अलंकार प्लेस, बोरिंग रोड, पटना- 800001
मुख्य अभियंता (ट्रांस.), विद्युत विभाग, सरकार। सिक्किम, गंगटोक-731010	वरिष्ठ प्रबंधक (सीटीएमसी), दुर्गापुर प्रोजेक्ट्स लिमिटेड, दुर्गापुर-713201
कार्यकारी निदेशक, ईआरएलडीसी, पोसोको, टॉलीगंज, कोलकाता-700033	प्रमुख-नियामक और अनुबंध, इंडीग्रिड लिमिटेड, 247 दूतावास, कार्यालय संख्या 107, 'बी' विंग, हिंदुस्तान कंपनी बस स्टॉप, गांधी नगर, एल.बी.एस. रोड, विक्रोली, पश्चिम, मुंबई - 400 079 फ़ोन: +91 845509 96408
महाप्रबंधक (एएम), ईआर-II इंडिया लिमिटेड का पावर ग्रिड कॉर्पोरेशन।, जे-आई-15, ब्लॉक-ईपी, सेक्टर-वी, साल्ट लेक, कोलकाता- 91	प्लांट हेड, मैथन पावर लिमिटेड, मैथन कार्यालय, एमए 5 गोगना, जिला। धनबाद, झारखंड राज्य, पिन-828207
महाप्रबंधक (पी एंड ओ), पीटीसी लिमिटेड, कंचनजंगा बिल्डिंग, 18, बाराखंभा रोड, नई दिल्ली-110001	
प्रबंध निदेशक, भूटान पावर कॉर्पोरेशन पोस्ट बॉक्स नं. 580, थिम्पू, भूटान।	प्रबंध निदेशक, ड्रुक ग्रीन पावर कॉर्पोरेशन। पी.ओ. बॉक्स-1351, थिंपू, भूटान।
सह निदेशक (वाणिज्यिक एवं नियामक), दरभंगा-मोतिहारी ट्रांसमिशन कंपनी लिमिटेड (डीएमटीसीएल), 503, विंडसर, ऑफ सीएसटी रोड, कलिना, सांताक्रूज़ (पूर्व), मुंबई- 400098	प्लांट हेड, जेआईटीपीएल। (फैक्स:011-26139256-65)
महाप्रबंधक, सिक्किम ऊर्जा लिमिटेड, नई दिल्ली (फैक्स:011-46529744)	अध्यक्ष, टीपीटीएल, भीकाजी कामा प्लेस, नई दिल्ली-110066
निदेशक (एनपीसी), सीईए, एनआरपीसी बिल्डिंग, कटवारियासराय, नई दिल्ली- 110016	अध्यक्ष, डान्स एनर्जी प्रा. लिमिटेड, 5वीं मंजिल, डीएलएफ बिल्डिंग नंबर 8, टावर-सी, गुड़गांव - 722OO2
निदेशक, शिगा एनर्जी पी.डब्ल्यू. लिमिटेड, 5वीं मंजिल, डीएलएफ बिल्डिंग नंबर 8, टावर-सी, गुड़गांव - 722OO2	डीजीएम (ई एंड आई), हल्दिया एनर्जी लिमिटेड, बारीक भवन, कोकाता-700072, फैक्स: 033-22360955
प्लांट हेड, डिक्चु एचईपी, सिक्किम ।	

Minutes
of
149th PCC Meeting

Date:05.08.2025
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 149th PROTECTION COORDINATION SUB-COMMITTEE MEETING HELD ON 15TH JULY 2025 AT 10:30 HRS THROUGH MS TEAMS

*Member Secretary, ERPC chaired the meeting. List of participants is attached at **Annexure A.1.** ERLDC representative explained protection performance of eastern region for June 2025 with help of presentation which is attached at **Annexure A.2.***

PART – A

ITEM NO. A.1: Confirmation of Minutes of 148th Protection Coordination sub-Committee Meeting held on 26th June 2025 through MS Teams.

The minutes of 148th Protection Coordination sub-Committee meeting held on 26.06.2025 was circulated vide letter dated 09.07.2025.

Members may confirm the minutes of the Meeting.

Deliberation in the meeting

Members confirmed the minutes of 148th PCC Meeting.

PART – B

ITEM NO. B.1: Total Power failure at 220 k V Jorethang HEP on 3rd June 2025 at 14:49 Hrs

Jorethang S/s is radially connected to New Melli through 220kV Jorethang-N Melli D/C. Prior to the disturbance, unit 1 was generating 48 MW. At 14:49 Hrs, during relay testing at Jorethang S/s, bar bar protection mal-operated, resulting in total power failure at 220kV Jorethang S/s.

Detailed report from ERLDC is attached at **Annexure B.1.**

Gen. loss: 48 MW
Outage Duration: 00:03 Hrs
Jorethang HEP may explain.

Deliberation in the meeting

Jorethang HEP representative was not present in the meeting.

ERLDC representative informed that on 3rd June 2025, prior to the disturbance, Jorethang unit 1 was generating around 48 MW and unit 2 was out of service.
At 14:58Hrs during relay testing activity at Jorethang, spurious bus bar protection operated leading to tripping 220kV main bus 1 & 2, 220kV Jorethang-New Melli D/C. Further unit 1 got tripped on overspeed protection which led to total power failure at substation.

He further said that as per report received from Jorethang HEP, supply of relay was made off and on during relay testing work by testing team of Voltech Engineer which resulted in spurious operation of bus bar protection. He informed that no DT receipt was observed at PG end therefore whether DT signal was sent from Jorethang end needs to be checked. He further said that as per DR, bus bar protection is not observed hence bus bar configuration needs to be implemented in DR.

PCC advised Jorethang HEP to follow all precautionary measures as per SOP for testing in order to avoid spurious tripping. It further advised to configure bus bar protection in DR and check whether DT signal was sent from Jorethang end during operation of bus bar protection and submit compliance to ERPC/ERLDC.

ITEM NO. B.2: Total Power Failure 220 k V Chatra (JUSNL) S/s on 8th June 2025 at 10:48 Hrs

Prior to the disturbance Chatra S/s was radially connected to 220kV Chatra-Daltongunj S/C as 220kV Chatra-Latehar was under tripped condition from 10:43 Hrs on Y-B fault. At 10:48 Hrs 220kV Chatra-Daltongunj got tripped on Y-B fault. Due to tripping of radial connected line, Chatra S/s became dead.

Detailed report from ERLDC is attached at **Annexure B.2.**

Load loss: 24 MW
Outage Duration: 00:21 Hrs
JUSNL may explain.

Deliberation in the meeting

ERPC representative brief the event. He said that on 8th June 2025, 220kV Chatra load was connected to Daltongunj and Latehar S/s. At 10:43 Hrs Y-B fault occurred in 220kV Latehar-Chatra line and line got tripped from both ends in zone 1. Further at 10:48 Hrs 220kV Daltonganj-Chatra also tripped on Y_B fault in zone 1 protection from Daltongunj end which led to total power failure at Chatra S/s.

JUSNL representative replied that week infeed protection voltage settings were revised on 11th July 2025 to 35 Volts from 65 Volts subsequently false tripping had been reduced. Further, for phase to phase fault, trimming work had been completed up to 185 no of locations out of 338 no of locations for 220kV Chatra-Latehar line. She further informed that shutdown of 220kV Chatra-Daltongunj S/C and 220kV Chatra-Latehar is planned on 19th July 2025 in which vegetation issues present between both lines corridor will be rectified.

On enquiry from ERPC, JUSNL representative informed that no fault was found physically at location observed by relay.

ERLDC representative said that as per DR observed at Daltongunj end, phase to phase fault had occurred in line and there is no involvement of ground which means that fault might had occurred due to phase to phase clearance of line. JUSNL representative replied that they had checked phase to phase clearance in around 10 number of towers on both side of fault however nothing was visible with respect to phase to phase clearance. He suggested that tower top patrolling or observing phase to phase clearance with binoculars may be done to identify location of phase to phase clearance.

PCC once again advised JUSNL to check phase to phase clearance issues for the line.

ITEM NO. B.3: Total Power Failure 400 k V PVUNL S/s on 10th June 2025 at 05:06 Hrs

Prior to the disturbance, PVUNL was radially drawing 5 MW startup power from 400/220 kV Tenughat S/s through 400/220 kV ICT 2 as 400/220kV ICT 1 was under outage condition. At 05:06 Hrs OTI (Oil Temperature Indicator) protection of 400/220kV ICT 2 operated, resulting in power supply failure at 400kV PVUNL subsequently 400kV PVUNL S/s became dead.

Detailed report from ERLDC is attached at **Annexure B.3.**

Load loss: 5 MW
Outage Duration: 04:28 Hrs
PVUNL and JUSNL may explain.

Deliberation in the meeting

TVNL representative informed that due to continuous rain, control cable was damaged due to which spurious tripping was observed for these disturbances which had been replaced and after that no tripping was observed. He added that setting for OTI is kept at 85 degree however during tripping maximum temperature observed for oil was 47 degree. He informed that time delay of 20 ms is kept in PSL logic along with temperature settings.

ITEM NO. B.4: Total Power Failure 220 kV Kishangunj (BSPTCL) S/s on 12th June 2025 at 18:24 Hrs

On 12th June 2025 at 18:24 Hrs, HV side B phase CT of 160 MVA ATR-3 got burst at 220/132kV GSS Kishanganj New (BSPTCL), resulting in a bus fault at 220 kV Kishanganj New and tripping of all connected lines, which led to total power failure at Kishanganj (BSPTCL) area of Bihar Power System.

Detailed report from ERLDC is attached at **Annexure B.4.**

Load loss: 128 MW
Outage Duration: 01:15 Hrs
BSPTCL may explain.

Deliberation in the meeting

ERLDC representative informed that on 12th June 2025 at 18:24 Hrs, 220/132 kV, 160 MVA ATR 3 at Kishanganj New got tripped on differential protection due to bursting of the B ph CT on the HV side. The bursting of CT resulted in severe fault, which evolved into a three-phase fault. Since Bus bar protection was not in service at the time of event, relay at Kishnagunj New end for all 220 kV lines of Kishanganj New detected the fault in reverse zone. Further, all 200 kV lines connected from Kishanganj New (BSPTCL) to Kishanganj (PG) lines detected the fault in Zone 2 from remote end and tripped except 220 kV Kishanganj New – Kishangunj-3. He further added that 220 kV Kishanganj New – Thakurganj-1 did not tripped from remote end as it is radially fed. Further DR for 220 kV Madhepura end ckt 1 and 2 is not available. Regarding 132 k V feeders, as there was no source from 132 kV side except 132 kV Forbisganj hence no other lines got tripped except 132 kV Forbisganj -Kishanganj New old (BSPTCL) from Forbisganj side.

Regarding 220 kV Kishanganj New – Kishangunj-3, he informed that fault was detected initially in zone 4 at local end however impedance trajectory went out of reverse zone and entered Zone 1, leading to tripping in the line in Zone 1 at Kishanganj New end and through carrier aided trip at Kishanganj (PG) end. He opined that arc near line CT of ATR 3 ionised the air around and led to catching of fire in wave trap connected to line 3. As line 3 is situated adjacent to ATR 3, thus fault came in forward zone of line 3 hence relay tripped the line in zone 1 at local end.

BSPTCL representative said that during the incident, Bus bar protection did not operate at 220 kV New Kishanganj due to blowing of DC power supply fuse. Actual time of blowing of DC power supply fuse could not be ascertained as it was not time synchronized. Further, the same was taken into service by next day and is healthy at present.

PCC advised BSPTCL to time synchronize bus bar relay with GPS at earliest.

ITEM NO. B.5: Disturbance at 400 kV Dikchu HEP on 19th June 2025 at 10:44 Hrs

Prior to the disturbance Dikchu generation was around 103 MW evacuating through 400kV Dikchu-Rangpo and 400kV Dikchu-Rangpo(Teesta-III Bypass). At 10:44 Hrs phase to phase fault(Y_B) occurred in 400kV Dikchu Rangpo line and line got tripped from both ends in Zone 1protection. At the same time 400/132kV ICT at Dikchu also got tripped on over current protection. Due to loss of evacuation Dikchu units 1 & 2 got tripped on over speed/ over frequency protection.

Detailed report from ERLDC is attached at **Annexure B.5.**

Gen. loss: 103 MW
Outage Duration: 00:50 Hrs
Dikchu HEP may explain.

Deliberation in the meeting

ERLDC representative informed that on 19th June 2025 at 10:44 Hrs, Y-B fault occurred in 400kV Rangpo-Dikchu line and line got tripped from both end in Zone-1 protection within 100 msec. However, at the same time, 400/132kV ICT at Dikchu got tripped on over current protection in 132kV LV side due to wrong settings and master trip command extended to HV side of ICT. Due to tripping of ICT,
Dikchu unit 1 & 2 got tripped on overspeed protection due to loss of evacuation path.

He added that revised o/c protection settings had been implemented on 4th July 2025. Revised Settings is attached at ***Annexure B.5.1.***

ITEM NO. B.6: Tripping of ICTs during the month of June 25

Sl. No	Name of the Element	Trip Date	Trip Time	Remarks	Utility
1	400KV/220KV 250 MVA ICT 2 AT TENUGHAT	28-06-2025	07:57	PRV relay operated	TVUNL
2	400KV/220KV 315 MVA ICT 4 AT NEW CHANDITALA	23-06-2025	01:52	Differential protection operated	WBSETCL
3	400KV/220KV 250 MVA ICT 2 AT TENUGHAT	20-06-2025	13:46	Differential protection operated	TVUNL
4	400KV/220KV 315 MVA ICT 2 AT PATRATU	20-06-2025	09:19	86 Relay operated	JUSNL
5	400KV/220KV 315 MVA ICT 2 AT PATRATU	19-06-2025	16:12	86 Relay operated	JUSNL
6	400KV/132KV 270 MVA ICT 1 AT DIKCHU HEP	19-06-2025	10:44	B/C Over current protection operated	GREENKO
7	400KV/220KV 250 MVA ICT 2 AT TENUGHAT	10-06-2025	05:06	OTI operated	TVUNL
8	400KV/220KV 315 MVA ICT 3 AT MENDHASAL	10-06-2025	01:50	Pressure Relief Valve Operated	OPTCL

9	400KV/220KV 315 MVA ICT 3 AT MENDHASAL	09-06-2025	20:47	Pressure Relief Valve Operated	OPTCL
10	400KV/220KV 250 MVA ICT 2 AT TENUGHAT	07-06-2025	02:07	OTI operated	TVUNL
11	400KV/220KV 250 MVA ICT 2 AT TENUGHAT	06-06-2025	20:45	OTI operated	TVUNL
12	400KV/220KV 500 MVA ICT 2 AT DARBHANGA(DMTCL)	04-06-2025	21:39	Tripped due to a failure in the MV side Cable Bushing Terminal (CBT) joint	DMTCL
13	400KV/220KV 315 MVA ICT 3 AT JEERAT	03-06-2025	11:02	Tripped due to Circulating Current.	WBSETCL
14	400KV/220KV 315 MVA ICT 2 AT KODERMA	02-06-2025	03:04	Transformer Differential Protection Operated	DVC

Utilities may explain.

Deliberation in the meeting

- **Tripping of 400KV/220KV 250 MVA ICT 2 AT TENUGHAT on 10th June 2025, 20th June 2025 and on 28th June 2025**

*Tripping is already discussed in **Item No. B.3.***

- **Tripping of 400KV/220KV 315 MVA ICT 4 AT NEW CHANDITALA on 23rd June 2025**

WBSETCL representative informed that on 23rd June 2025, 33 kV blue phase bushing of ICT got failed which resulted in operation differential protection. He updated that bushing was replaced within 2 days of the disturbance.

- **Tripping of 400KV/220KV 315 MVA ICT 2 AT PATRATU on 19th June 2025 and 20th June 2025**

JUSNL representative informed that ICT had tripped on 19th June 2025 and 20th June 2025 during which 86 relay operated. Thorough investigation was done however no issue was identified except bad weather was reported on day of incident. PCC advised JUSNL representative to test for DC leakage in the substation and healthiness of cable.

- **Tripping of 400KV/132KV 270 MVA ICT 1 AT DIKCHU HEP on 19th June 2025**

*Tripping is already discussed in **Item No. B.5.***

- **Tripping of 400KV/220KV 315 MVA ICT 3 AT MENDHASAL on 9th June 2025 and 10th June 2025**

OPTCL representative informed that on 9th June 2025 and 10th June 2025 due to heavy raining, moisture ingress at terminal point of PRV relay caused operation of PRV relay and resulted in tripping of ICT 3 at Mendhasal. He added that canopy had been installed in order to avoid further tripping of ICTs due to moisture ingress.

- **Tripping of 400KV/220KV 500 MVA ICT 2 AT DARBHANGA(DMTCL) on 4th June 2025**

DMTCL representative informed that ICT 2 had tripped due to a failure in the LV side Cable Bushing Terminal (CBT) joint which had been rectified.

- **Tripping of 400KV/220KV 315 MVA ICT 3 AT JEERAT on 3rd June 2025**

WBSETCL representative informed that on 3rd June 2025, Jeerat -Krishnanagar feeder got tripped at 11:02 Hrs in earth fault during which circulating current got developed in ICT which led to tripping of ICT. He further informed that relay testing of ICT, stability test was done and settings were checked however no abnormality was found.

- **Tripping of 400KV/220KV 315 MVA ICT 2 AT KODERMA on 2nd June 2025**

DVC representative was not present in the meeting.

ITEM NO. B.7: Tripping of Buses during the month of June 25

Sl. No	Name of the Element	Trip Date	Trip Time	Remarks	Utility
1	220kV Main Bus 2 at Motipur	25-06-2025	18:54	LBB operated	BSPTCL

Concerned Utilities may explain.

Deliberation in the meeting

- **Tripping of 220kV Main Bus 2 at Motipur on 25th June 2025 at 18:54 Hrs**

BSPTCL representative informed that on 25th June 2025, 220 k V Main Bus 2 at Motipur had tripped due to initiation of 86 relay coil for lower voltage developed by 86 supervision relay. He further said that as remedial measure, wiring for 86 supervision relay had been disconnected and instruction for replacement of 86 relay is already provided to site.

ITEM NO. B.8: Repeated tripping of transmission lines during the month of June 25

Sl.No.	Name of the Element	No. of times Tripped	Remarks	Utility
1	400KV-BINAGURI-MALBASE-1	3	Tripped on R phase to ground fault in all instances and fault distance was around 100 to 103 Km from Binaguri end.	PG ER-2 / Bhutan
2	220KV-DALTONGANJ-CHATRA-1	7	Spurious tripping reported in 4 instances and phase to ground fault in 2 instances.	JUSNL
3	220KV-BARIPADA-BALASORE-2	3	DT received at Balasore end in 2 instances.	OPTCL/PG ODISHA
4	132KV-BARIPADA(PG)-BHOGARAI-1	5	Tripped on R phase to ground fault in 4 instances.	OPTCL/PG ODISHA
5	132KV-BARIPADA(PG)-JALESWAR-1	5	Tripped on phase to ground fault in 3 instances and on	OPTCL/PG ODISHA

			phase-to-phase fault in two instances.	

Concerned utilities may explain.

Deliberation in the meeting

- ***Repeated tripping of 400kV-BINAGURI-MALBASE-1 in June 2025***

Powergrid representative was not present in the meeting.

- ***Repeated tripping of 220kV-DALTONGANJ-CHATRA-1 in June 2025***

JUSNL representative informed that in case of 2 numbers of tripping line had tripped due to fault in line. He further said that in 2 numbers of tripping line had tripped due to weak infeed protection settings and carrier receipt from remote end for which week infeed protection settings had been revised. He further said that testing of carrier will be done on 19th July 2025.

- ***Repeated tripping of 220kV-BARIPADA-BALASORE-2 in June 2025***

OPTCL representative informed that spurious DT signal for 6 ms was received at Balasore end in 2 instances during which line had tripped however DT signal was not sent from PG end as confirmed from Powergrid. He further said that issue had been already communicated to communication wing however no abnormality was noticed. As precautionary measure, delay of 20 ms is introduced for DT receipt at Balasore end.

- ***Repeated tripping of 132kV-BARIPADA(PG)-BHOGARAI-1 in June 2025***

OPTCL representative informed that line corridor is in hilly terrain. During rainy season line had tripped in past also. On enquiry from PCC regarding remedial actions, He replied that tower footing resistance was tested and found to be around 100 ohms therefore special earthing for towers is being done. He further said that auto-recloser is implemented for line and was successful during these tripping. OPTCL representative further said that definite time overcurrent protection is implemented at PG end for line due to which frequent tripping of line is observed.

PG representative was not present in the meeting.

PCC advised OPTCL representative to share relay settings at their end to ERPC/ERLDC along with issues being faced due to PG end settings. It further opined that auto-recloser can be enabled at PG end to avoid tripping of lines in transient faults.

- ***Repeated tripping of 132kV-BARIPADA(PG)-JALESWAR-1 in June 2025***

OPTCL representative informed that line corridor is in hilly terrain. During rainy season line had tripped in past also. On enquiry from PCC regarding remedial actions, He replied that tower footing resistance was tested and found to be around 100 ohms therefore special earthing for towers is being done. He further said that auto-recloser is implemented for line and was successful during these tripping. OPTCL representative further said that definite time overcurrent protection is implemented at PG end for line due to which frequent tripping of line is observed.
PG representative was not present in the meeting.

PCC advised OPTCL representative to share relay settings at their end to ERPC/ERLDC along with issues being faced due to PG end settings. It further opined that auto-recloser can be enabled at PG end to avoid tripping of lines in transient faults.

ITEM NO. B.9: Submission of protection performance indices on monthly basis by users to RPC and RLDC for 220 kV and above lines

As per IEGC 2023 Clause 15(6), 15(7) all users shall submit protection performance indices of previous month by 10th of every month to ERPC and ERLDC along with reasons for performance indices less than unity of individual element wise protection system to the respective RPC and action plan for corrective measures. For the month of June'25, detailed list is attached.

Following table shows the status of PP Indices received for last five months.

Sl.no	Utility Name	February 2025	March 2025	April 2025	May 2025	June 2025
1	PG-ER-1			Yes (23.02.2025)		
2	PG-ER-2	Yes	Yes (19.04.2025)	Yes		
3	PG-Odisha	Yes (06.03.2025)	Yes (21.4.2025)	Yes (12.05.2025)	Yes (16.06.2025)	
4	WBSETCL/ WBPDCL	Yes (06.03.2025)	Yes (08.04.2025)	Yes (07.05.2025)	Yes (09.06.2025)	Yes (07.07.2025)
5	BSPTCL/ BGCL	Yes (10.03.2025)	Yes (11.04.2025)	Yes (13.05.2025)	Yes (18.06.2025)	Yes (07.07.2025)
6	OPTCL/ OHPC	Yes (17.03.2025)	Yes (15.04.2025)	Yes (15.05.2025)	Yes (16.06.2025)	
7	DVC			Yes (12.05.2025)		
8	JUSNL	Yes (05/03/2025)	Yes (23.04.2025)	Yes (21.05.2025)	Yes (22.06.2025)	
9	Sikkim					
10	OPGC					
11	PMTL					
12	NTPC-KHSTPP	Yes	Yes	Yes (23.05.25)	Yes (14.06.2025)	
13	NTPC-FSTPP					
14	NTPC-BARH	Yes (07.03.2025)	Yes (15.04.2025)	Yes (09.05.2025)	Yes (14.06.2025)	
15	NTPC-TSTPP					
16	NTPC-KBUNL					

17	NPGC					
18	BRBCL					
19	NTPC-DARILAPLI	Yes (01/03/2025)	Yes (02.04.2025)	Yes (02.04.2025)	Yes (02.06.2025)	Yes (02.07.2025)
20	NTPC-NORTH KARNPUARA	Yes (01/03/2025)				
21	ATL					
22	APNRL					Yes (09.07.2025)
23	CBPTCL					
24	DMTCL	Yes (03/04/2025)	Yes (02/04/2025)	Yes (03.05.2025)	Yes (04/06/2025)	Yes (03.07.2025)
25	ENICL	Yes		Yes (13.05.2025)		Yes (07.07.2025)
26	Chuzachen HEP					
27	Jorethang HEP	Yes (01/03/2025)	Yes (02.04.2025)	Yes (02.05.2025)	Yes (01/06/2025)	
28	Tashiding Hep	Yes (02/03/2025)	Yes (01.04.2025)	Yes (03.05.2025)	Yes (02/06/2025)	Yes (01.07.2025)
29	GMR					
30	IBEUL					
31	JITPL					
32	MPL					
33	NKTL					
34	OGPTL	Yes		Yes (13.05.2025)		Yes (07.07.2025)
35	PMJTL					
36	Powerlink					
37	PKTCL	Yes		Yes (13.05.2025)		Yes (07.07.2025)
38	CESC					Yes (11.07.2025)
39	Rongnichu HEP					
40	TVNL	Yes (05.03.2025)	Yes (01.04.2025)	Yes (03.05.2025)	Yes (04.06.2025)	Yes (01.07.2025)

Members may discuss.

Deliberation in the meeting

ERPC representative informed that protection performance indices for June 2025 has been received from PG ER-II, WBSETCL, BSPTCL, OPTCL, NTPC Darlipalli, CESC, DMTCL, Tashiding HEP, TVNL, Indigrid and APNRL

JUSNL representative replied that indices will be shared to ERPC/ERLDC at earliest.

Protection performance indices for June 2025 received from utilities is attached at ***Annexure B.9.***

PCC advised all utilities to share indices data of particular month by 10th day of subsequent month to ERPC/ERLDC.

ERPC secretariat informed that communication will be forwarded to utilities for which indices are not being received for last few months and subsequently will be highlighted in upcoming TCC/ERPC meeting if not resolved.

ITEM NO. B.10: Protection System Analysis Group of Eastern Region

A Uniform Protection protocol has been developed by NPC in line with IEGC 2023. The protocol envisages formation of a Protection System Analysis Group (PSAG) loads in each region with members from RPC, NLDC, RLDC, PGCIL, a Protection Expert from the region along with the entity under whose jurisdiction GD/GI occurred to analyze the GD/GI for analysis of Grid Disturbances/incidents at major/critical S/s and at substations that affected critical/essential/strategic in detail by visiting the respective substation/substations physically and conducting the meetings. The progress of implementation of the PSAG shall be followed up in the monthly PCC Meeting.

Status of nominations received from utilities are as follows-

S. No.	Utility	Status
1	NLDC	Not received
2	ERLDC	Received
3	Powergrid	Received
4	BSPTCL	Received
5	JUSNL	Received
6	OPTCL	Received
7	WBSETCL	Received
8	DVC	Received
9	CESC	Not received
10	NTPC	Not received

Members may update.

Deliberation in the meeting

PCC advised CESC and NTPC representative to share nominations to ERPC by one week.

ITEM NO. B.11: Single Line Tripping Incidences in month of June 2025

Single line tripping incidents in the month of June 2025 which needs explanation from constituents of either end is attached.

Members may discuss.

Deliberation in the meeting

Explanation from constituents of either end for single line tripping incidences in month of June 2025 is attached at ***Annexure B.11.***

PART- C: OTHER ITEMS

ITEM NO. C.1: Third Party Protection audit of Critical Sub stations by ERPC

In 145th PCC Meeting, ERPC representative informed that it is planned to carry out protection audit for few critical substations by last week of April 2025 (2025-26).

List of Critical Substations for which third party protection audit will be carried out by ERPC is as follows –

1. 400/220 kV Tenughat (TVNL)S/s
2. 400 kV Kahalgaon (NTPC) S/s
3. 400/220 kV Jeerat (WBSETCL) S/s
4. 400/220 kV Lapanga (OPTCL) S/s
5. 220/132 kV Biharsharif (BH) S/s
6. 400/220 kV Meeramundali (OPTCL)S/s
7. 220/132 kV Ramchnadrapur (JUSNL) S/s

The audit of 400/220 kV Jeerat S/s will be carried out in the 1st week of June-25. For remaining substations, it will be completed by 2nd week of July-25.

Draft Protection audit format for carrying out third party protection audit is attached. Observations, if any on the format may be submitted to ERPC Secretariat.

In 148th PCC Meeting, ERPC representative informed that protection audit of Jeerat S/s had been completed. He further added that protection audit of substations in Odisha and Jharkhand are likely to be completed in July 2025 and audit for remaining Substations will be done by second week of Aug 2025.

Members may update.

Deliberation in the meeting

ERPC representative informed that protection audit at Jeerat, Lapanga and Meermundali S/s had been completed and protection audit at Ramchandrapur S/s will be done from 17th July 2025 to 19th July 2025. Further, protection audits of remaining substations will be completed by third week of Aug 2025.

ITEM NO. C.2: Internal Protection Audit Plan of Sub stations for the Year 2025-26

The Clause (5) of Regulation 15 of IEGC Regulations, 2023 envisages as below:

Quote
(1) *All users shall conduct internal audit of their protection systems annually, and any shortcomings identified shall be rectified and informed to their respective RPC. The audit report along with action*

plan for rectification of deficiencies detected, if any, shall be shared with respective RPC for users connected at 220 kV and above (132 kV and above in NER). .....

(5) Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC."

Unquote

All utilities are requested to submit the annual audit plan for the substations 220kV and above voltage level for FY 2025-26 to ERPC by 31.10.2024. Annual audit plans for internal audit of their protection systems and third-party protection audit shall be furnished separately.

In 145th PCC Meeting, PCC advised all utilities to share internal protection audit plan for FY 2025-26 to ERPC at earliest.

Powergrid ER-II had submitted internal protection audit plan for FY 2025-26 to ERPC vide email dated 19 April 2025.

DMTCL had submitted internal protection audit plan for FY 2025-26 to ERPC vide email dated 5 April 2025.

In 148th PCC Meeting, PCC advised concerned utilities to share internal protection audit plan for FY 2025-26 to ERPC at earliest. It further said that final report of completed audits should also be shared with ERPC.

Concerned utilities may update.

Deliberation in the meeting

PCC advised concerned utilities to share internal protection audit plan for FY 2025-26 to ERPC at earliest. It further said that final report of completed audits should also be shared with ERPC.

ITEM NO. C.3: Third Party Protection audit of Sub stations for the Year 2025-26

As per IEGC 2023 Clause 15.2, "All users shall also conduct third party protection audit of each sub-station at 220 kV and above (132 kV and above in NER) once in five years or earlier as advised by the respective RPC."

and as per clause 15.5," Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC."

In 148th PCC Meeting, PCC advised all utilities to share third party protection audit plan for FY 2025-26 to ERPC at earliest. It further said that final report of completed audits should also be shared with ERPC.

Concerned utilities may update.

Deliberation in the meeting

PCC advised all utilities to share third party protection audit plan for FY 2025-26 to ERPC at earliest. It further said that final report of completed audits should also be shared with ERPC.

ITEM NO. C.4: Follow-up of Decisions of the Previous Protection Sub-Committee Meeting(s)

The decisions of previous PCC meetings are attached.

Members may update.

Deliberation in the meeting

Updated status of decisions of previous PCC meetings is attached at ***Annexure C.4.***

List of participants in 149th PCC Meeting

Annexure A.1

Name	First Join	Email				
ERPC Kolkata	7/15/25, 10:21:12 AM	ERPC@KolkataMST.onmicrosoft.com				
SKD (Unverified)	7/15/25, 10:22:28 AM					
Gitesh Patel (External)	7/15/25, 10:22:28 AM	giteshpatel@erldc.onmicrosoft.com				
TVNL (Unverified)	7/15/25, 10:22:28 AM					
WBPDCL (Unverified)	7/15/25, 10:22:29 AM					
बिमल/ईआरएलडीसी (Unverified)	7/15/25, 10:22:29 AM					
NIRMAL MONDAL ,WBSETCL (Unverified)	7/15/25, 10:22:30 AM					
SLDC, ODISHA (Unverified)	7/15/25, 10:22:31 AM					
Pandi Krishnan N {पाण्डी कृष्णन एन.} (External)	7/15/25, 10:23:40 AM	pandikrishnan.n@powergrid.in				
P P JENA, ERPC (Unverified)	7/15/25, 10:24:40 AM					
Nishant Kumar Shankwar	7/15/25, 10:25:34 AM	Nishant.Kumar@energy-sel.com				
Aman (Unverified)	7/15/25, 10:26:18 AM					
Deepak Kumar EEE, CRITL, BSPTCL	7/15/25, 10:27:23 AM					
Ratnakar Padhy (External)	7/15/25, 10:28:43 AM	p_ratnakar@erldc.onmicrosoft.com				
Sayan (PRDC) (Unverified)	7/15/25, 10:29:21 AM					
OPTCL MERAMUNDALI (Unverified)	7/15/25, 10:29:48 AM					
Rahul Srivastava	7/15/25, 10:30:12 AM	rlsa@sikkimurjalimited.in				
PKN OPTCL (Unverified)	7/15/25, 10:30:51 AM					
Manas Das (External)	7/15/25, 10:30:54 AM	manasdas@erldc.onmicrosoft.com				
arindam bsptcl (Unverified)	7/15/25, 10:30:58 AM					
CD (Unverified)	7/15/25, 10:32:22 AM					
Mithun Gayen {मिथुन गायेन} (External)	7/15/25, 10:33:35 AM	mithun.gayen@powergrid.in				
Bilash Achari (External)	7/15/25, 10:34:24 AM	bilash.achari@erldc.onmicrosoft.com				
SR MANAGER 400/220KV GSS PATRATU (Unverified)	7/15/25, 10:34:27 AM					
Eee CRITL (Unverified)	7/15/25, 10:35:27 AM					
Rajendra Paswan (SPTL) (Unverified)	7/15/25, 10:36:06 AM					
SMS Sahoo, DGM(Elect), OPTCL (Unverified)	7/15/25, 10:36:30 AM					
Senior Manager,TD HZB,JUSNL (Unverified)	7/15/25, 10:37:03 AM					
DGM E&MR JAJPUR ROAD (Unverified)	7/15/25, 10:38:13 AM					
suvakanta (Unverified)	7/15/25, 10:38:56 AM					
Sarv Verma (External)	7/15/25, 10:39:18 AM	sverma@erldc.onmicrosoft.com				
M MISHRA NHPC (Unverified)	7/15/25, 10:39:36 AM					
SR MANAGER 400/220KV GSS PATRATU JUSNL (Unverified)	7/15/25, 10:41:13 AM					
Somnath Chatterjee (External)	7/15/25, 10:42:02 AM	schatterjee@tatapower.com				
MS ERPC (Unverified)	7/15/25, 10:42:09 AM					
Laldhari Kumar (External)	7/15/25, 10:43:02 AM	laldhari@erldc.onmicrosoft.com				
Shabari Pramanick (External)	7/15/25, 10:43:18 AM	shabari.pramanick@erldc.onmicrosoft.com				

SMS Sahoo, DGM(Elect), OPTCL (Unverified)	7/15/25, 10:43:46 AM					
RAHUL RAJ (Unverified)	7/15/25, 10:44:00 AM					
Sarfraj Akhtar (Unverified)	7/15/25, 10:44:10 AM					
Alok Pratap Singh (External)	7/15/25, 10:44:19 AM	apsingh@erldc.onmicrosoft.com				
Pritam Mukherjee (External)	7/15/25, 10:45:13 AM	pritam@erldc.onmicrosoft.com				
DGM,EMR,Burla (Unverified)	7/15/25, 10:45:29 AM					
Rajeev (Unverified)	7/15/25, 10:46:24 AM					
Atanu Mandal (External)	7/15/25, 10:47:35 AM	atanumandal@erldc.onmicrosoft.com				
Prabhat Kumar	7/15/25, 10:48:09 AM	pk@sikkimurjalimited.in				
Pravin Ram (Unverified)	7/15/25, 10:48:39 AM					
PRASANTA kumar PRUSTY	7/15/25, 10:48:56 AM					
PARAG CHATTERJEE (External)	7/15/25, 10:49:00 AM	PARAGCHATTERJEE@NTPC.CO.IN				
SK Das (Unverified)	7/15/25, 10:49:24 AM					
Atul jha (Unverified)	7/15/25, 10:50:34 AM					
EMR BBSR	7/15/25, 10:51:32 AM					
Deb (Unverified)	7/15/25, 10:51:57 AM					
Nisar Husain	7/15/25, 10:52:56 AM					
CRITL BSPTCL (Unverified)	7/15/25, 10:56:05 AM					
KAVITA PARIHAR ERLDC (Unverified)	7/15/25, 10:56:35 AM					
Dharm Das Murmu (Unverified)	7/15/25, 10:57:09 AM					
SK Das (Unverified)	7/15/25, 11:08:23 AM					
DGM EMR JJP Road	7/15/25, 11:10:05 AM					
Avinash Kumar	7/15/25, 11:15:16 AM					
SK Das (Unverified)	7/15/25, 11:21:56 AM					
DGM , E&MR J.Road (Unverified)	7/15/25, 11:29:22 AM					
Pranav Rathore (External)	7/15/25, 11:30:07 AM	pranav.rathore@indigrid.com				
EMR BBSR OPTCL (Unverified)	7/15/25, 11:31:56 AM					
Amresh Prusti (External)	7/15/25, 11:35:36 AM	amresh.prusti@opgc.co.in				
Sachin Singh (External)	7/15/25, 11:36:05 AM	sachinsingh@adhunikpower.co.in				
CRITL Bsptcl (Unverified)	7/15/25, 11:36:08 AM					
SK Das (Unverified)	7/15/25, 11:36:52 AM					
TASHIDING HEP (Unverified)	7/15/25, 11:38:57 AM					
SK Das (Unverified)	7/15/25, 11:58:03 AM					
Amit Kumar.. (External)	7/15/25, 12:07:27 PM	AMITKUMAR29@NTPC.CO.IN				
De (Unverified)	7/15/25, 12:21:35 PM					
SKDas (Unverified)	7/15/25, 12:21:55 PM					
Sanjeev Kumar (External)	7/15/25, 12:30:52 PM	sanjeev.kumar@greenkoassetmanagement.com				

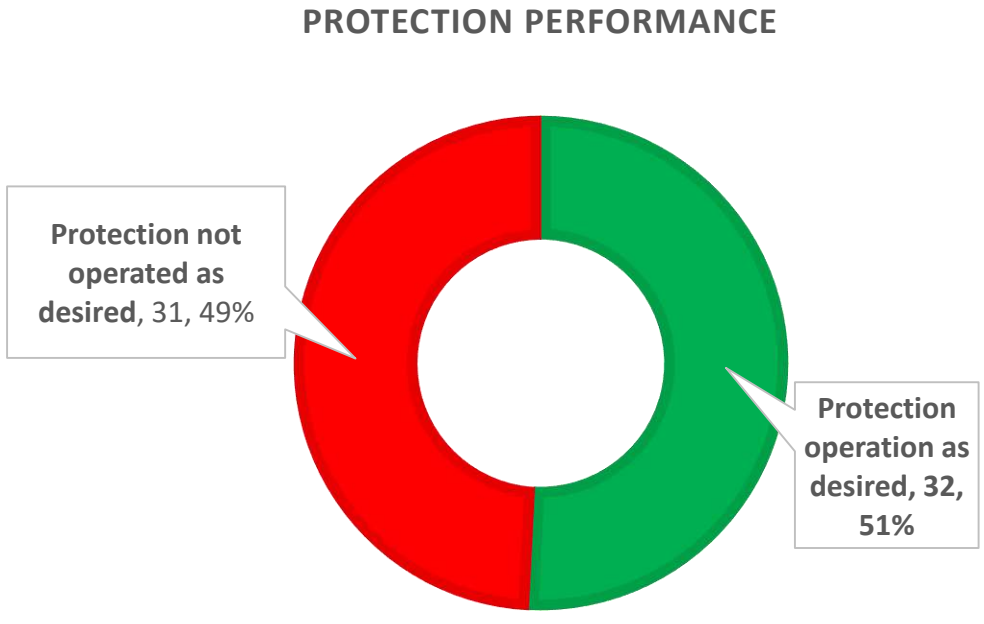
Annexure A.2

149th PCC Meeting
(15-07-2025)

Protection Performance For The Month Of June 2025:

- Total 63-line tripping:
  - Protection operation as per scheme: **32 (51%)**
  - Protection operation not as desired: **31 (49%)**

- Number of Grid Event: **5**
  - Maximum Generation loss: **103 MW**(Disturbance at Dikchu due to incorrect setting)
  - Total Energy loss: **0.20 MU**

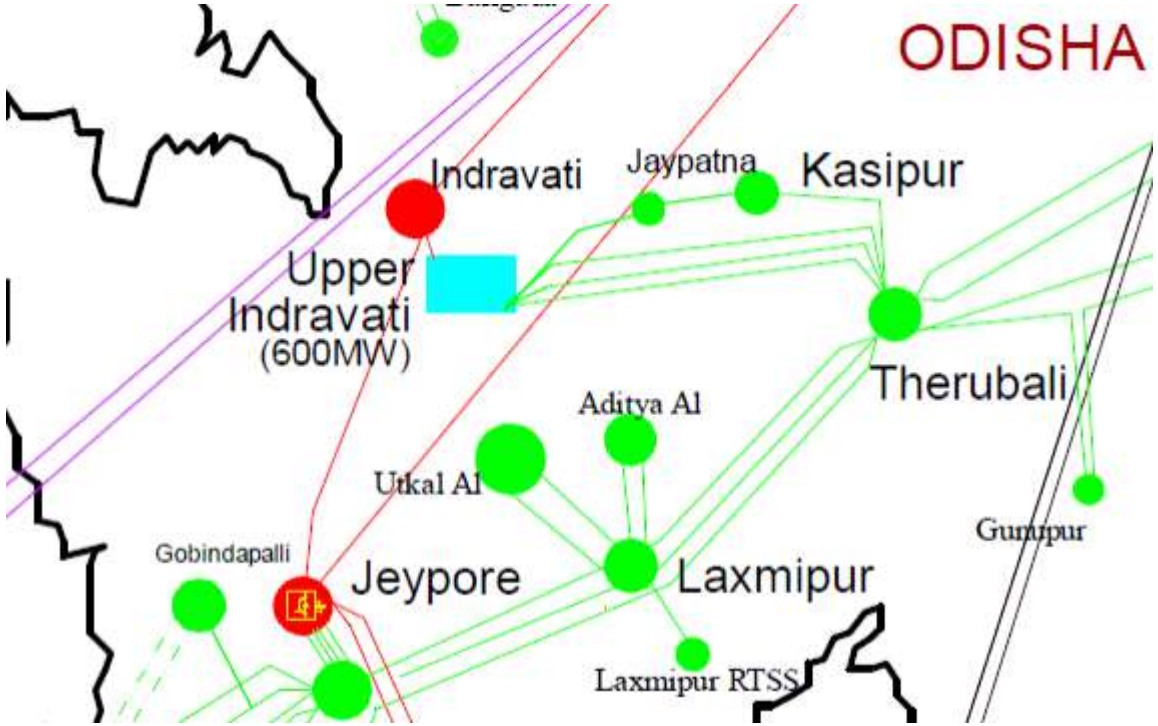


Bus Bar protection details for 200kV and above:

Sr. No.	Utility	Bus Bar Submission Status	Remark
1	Bihar	Yes	Due to non-availability/out of service of bus bar protection, Zone-4 time delay changed to 250 msec
2	Jharkhand	Yes	Zone-4 time delay of all 220kV feeders at Burmu, Godda, Garhwa, and Chatra S/s may be changed to 250 msec.
3	DVC	Yet Not Received	-
4	Odisha	Yet Not Received	-
5	WB	Yes	For 220 & 132kV KLC Bus bar protection Kept Off due to relay faulty

Repeated Grid Disturbance at Indravati HEP:

- On 15/02/2025 disturbance occurred at Indravati HEP due to Bus bar protection operated.
- It was discussed in 145th PCC meeting and it was advised that all elements should be equally distributed on both 220 kV bus-I & II.
- On 13/07/2025 & 14/07/2025 generation loss was reported due to spurious bus bar protection operation (Generation loss :**500 MW and 150 MW** respectively).
- It is recommended that bur bar protection may be disabled and zone-4 time delay changed to 250 msec to avoid unwanted tripping and generation loss till resolution of BB protection issue.



THANK YOU

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre
कार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033
CIN : U40105DL2009GOI188682, Website : www.erldc.in, E-mail : erldcinfo@grid-india.in, Tel.: 033 23890060/0061

पूर्वी क्षेत्र के 220 केवी जोरेथाँग में ग्रिड घटना पर विस्तृत रिपोर्ट / Detailed Report of grid event at 220kV Jorethang S/s of Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))

(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date(दिनांक): 19-06-2025

1. Event Summary (घटना का सारांश):

Jorethang S/s radially connected to New Melli through 220kV Jorethang-N Melli D/C and unit#1 was generating 48 MW (Unit#2 was out of service). At 11:35 Hrs, during relay testing at Jorethang S/s, bar bar protection mal-operated, resulting in 220kV Jorethang S/s became dead. Generation loss of 48 MW occurred at Jorethang.
Power extended at 15:03 Hrs through 220kV Jorethang-New Melli #1.

2. Time and Date of the Event (घटना का समय और दिनांक): At 11:35 Hrs on 10/05/2025

3. Event Category (ग्रिड घटना का प्रकार): Grid Disturbance (GD)-1

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Sikkim

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation in MW	Regional Demand in MW
Pre-Event (घटना पूर्व)	49.925	29433	24328
Post Event (घटना के बाद)	49.925	29385	24328

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

Important Transmission Line/Unit if under outage (महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां	Jorethang Unit#2 was out of service.

जो बंद है)	
Weather Condition (मौसम स्थिति)	Normal

6. **Load and Generation loss (लोड और जेनरेशन हानि):** Around 48 MW generation loss occurred at Jorethang.

7. **Duration of interruption (रुकावट की अवधि):** 03:28 Hrs (3 hour 28 minutes).

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

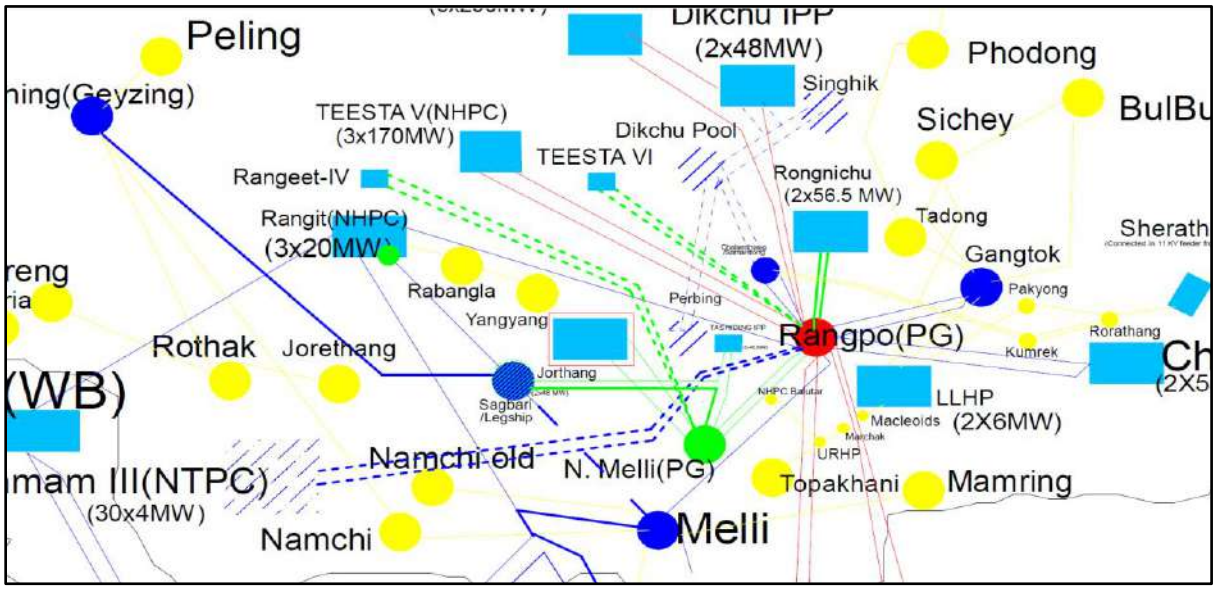


Figure 1: Network across the affected area

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

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

Event 1: At 11:35 Hrs on 10/05/2025:

क्रoसo	नाम	Trip time (hh:mm:ss)	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	Restoration time
1	220KV-NEW MELLI-JORETHANG-1	14:58:59	Bus bar protection operated		15:03
2	220KV-NEW MELLI-JORETHANG-2				15:14

3	JORETHANG UNIT-1		Overspeed/Over frequency protection	15:08

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

- Prior to the disturbance, Jorethang unit#1 generating around 48 MW and unit#2 was out of service.
- At 14:58:59 Hrs during relay testing activity at Jorethang, spurious bus bar protection operated due to bus bar relay power became dead.
- 220kV main bus #1 & 2 and 220kV Jorethang-New Melli D/C tripped due to bus bar protection operation.
- Jorethang unit#1 tripped on overspeed/over frequency.
- 220kV Jorethang S/s became dead.
- Total generation loss of 48 MW occurred at Jorethang.
- Power extended at 15:03 Hrs through 220kV Jorethang-New Melli #1 and Jorethang unit#1 synchronised at 15:08 Hrs.

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

- You are requested to share the reason of bus bar operation during testing activity.

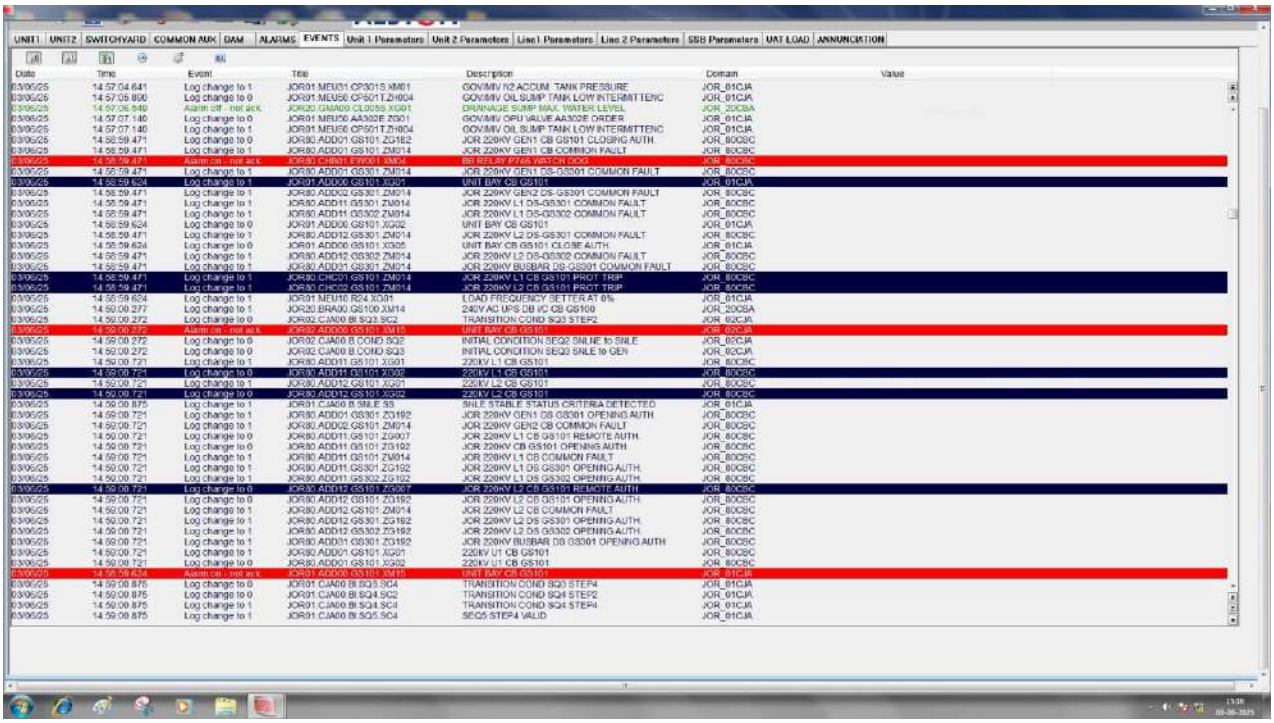
13. Action Taken/Remedial Measures (सुधारात्मक उपाय): NIL

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

S.No.	Issues	Regulation Non-Compliance	Utilities
1.	**DR/EL not submitted within 24 hours**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**Jorethang**

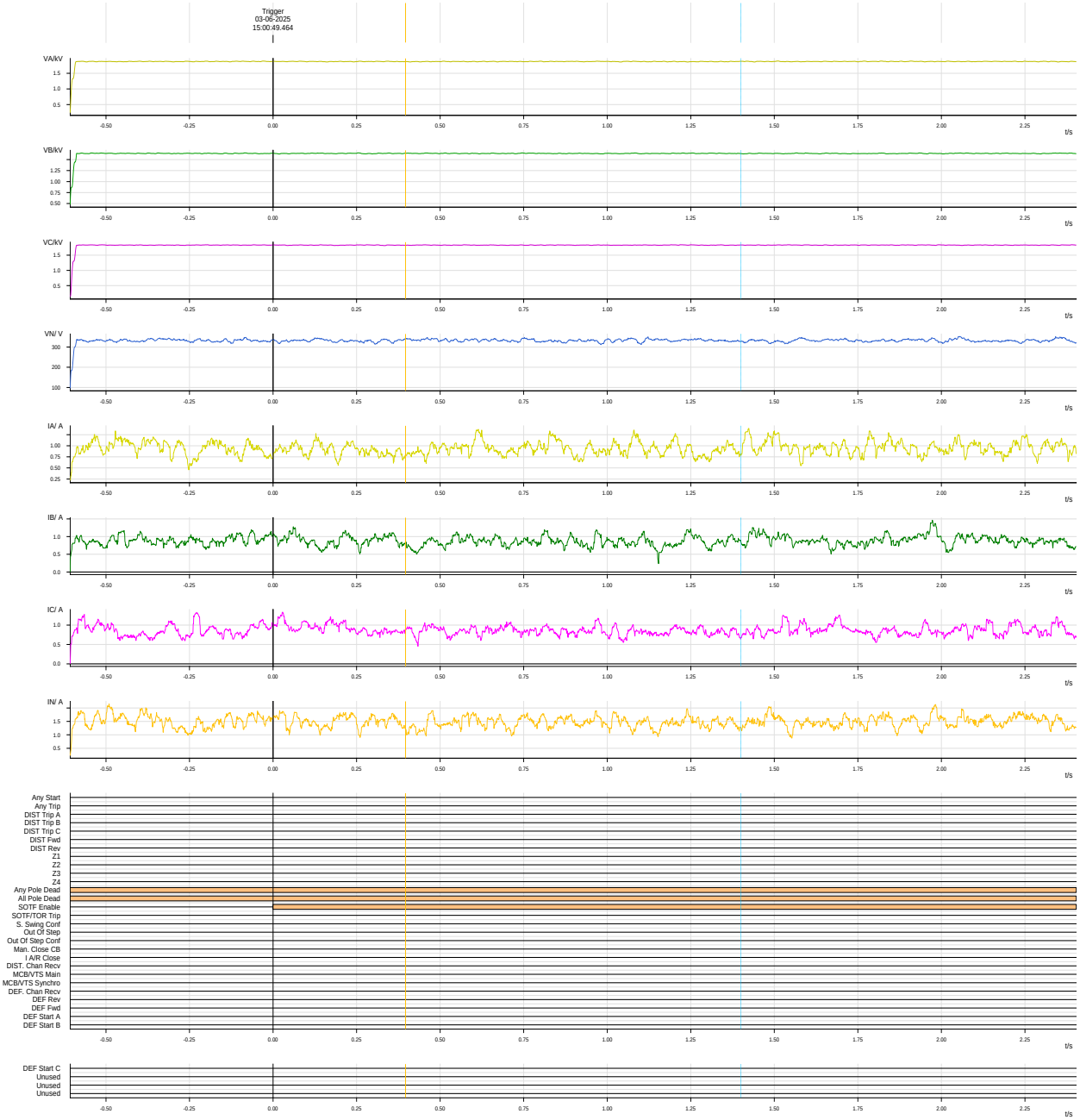
15. Key Lessons Learnt (प्रमुख अधिगम बिंदु): NIL

Annexure 1: (Sequence of Events-As per Jorethang SCADA):



Annexure 2:

DR of 220kV Jorethang-N Melli #1 at Jorethang



DR of unit #1 at Jorethang

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre
कार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033
CIN : U40105DL2009GOI188682, Website : www.erldc.in, E-mail : erldcinfo@grid-india.in, Tel.: 033 23890060/0061

पूर्वी क्षेत्र के 220/132 केवी चतरा में ग्रिड घटना पर विस्तृत रिपोर्ट / Detailed Report of grid event at 220/132 kV Chatra S/s of Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))

(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date(दिनांक): 27-06-2025

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

Prior to the disturbance Chatra S/s radially connected to 220kV Chatra-Daltongunj S/C (220kV Chatra-Latehar under tripped condition from 10:43 Hrs_08-06-2025 on Y-B fault). **At 10:48 Hrs** 220kV Chatra-Daltongunj tripped on Y-B fault. Due to tripping of radial connected line, Chatra S/s became dead. Total load loss of 24 MW reported at Chatra S/s.
Power was extended through 220kV Chatra-Latehar circuit at 11:09 Hrs.

2. **Time and Date of the Event (घटना का समय और दिनांक):** 10:48 hrs of 08.06.2025
3. **Event Category (ग्रिड घटना का प्रकार): Grid Disturbance (GD)-1**
4. **Location/Control Area (स्थान/नियंत्रण क्षेत्र):** Jharkhand
5. **Antecedent Conditions (पूर्ववर्ती स्थिति):**

	Frequency	Regional Generation	Regional Demand	State Generation	State Demand
				Jharkhand	Jharkhand
Pre-Event (घटना पूर्व)	50.03	21241	26257	181	1794
Post Event (घटना के बाद)	50.03	21241	26233	181	1770

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

Important Transmission Line/Unit if under outage (महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां	220kV Chatra-Latehar under tripped condition. (Tripped at 10:43 Hrs_08/06/2025 on Y-B fault)

जो बंद है)	
Weather Condition (मौसम स्थिति)	Normal.

6. **Load and Generation loss (**लोड और जेनरेशन हानि**):** Approximate load loss of 24 MW at Chatra S/s.
7. **Duration of interruption (**रुकावट की अवधि**):** 00:21 Hrs (21 minutes)

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

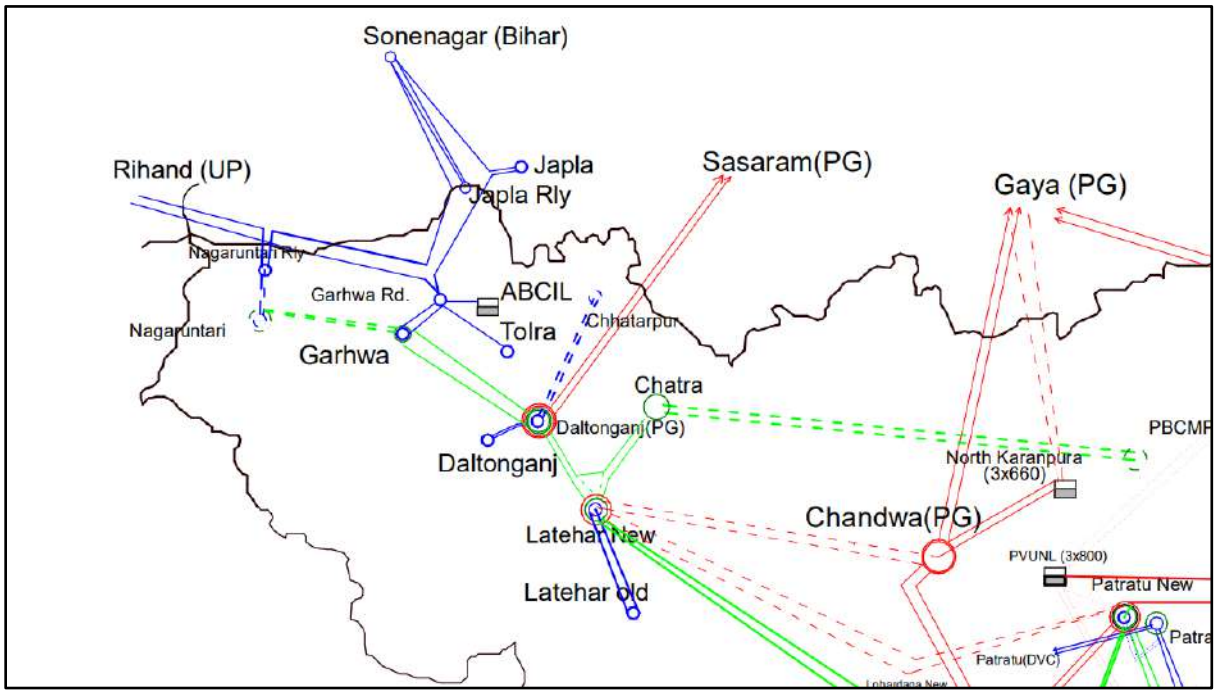


Figure 1: Network across the affected area

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

10. Major Elements Tripped (प्रमुख ट्रिपिंग):

क्रoसo	नाम	Trip time (hh:mm:ss)	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	Restoration time
1	220kV Latehar-Chatra S/C	10:43:42	-	Chatra: Z-1, Y-B, Iy-1.88 kA, Ib-1.8 kA	11:09
2	220kV Daltongunj-Chatra S/C	10:48:37	Daltongunj: Y-B fault, Z-1, FD: 87.2 km, Iy-2.2 kA, Ib-2.2 kA,	-	19:23

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

- 220kV Chatra load was connected to Daltongunj and Latehar S/s.
- At 10:43:42 Hrs Y-B fault occurred in 220kV Latehar-Chatra line and line got tripped from both end.

Figure 2: PMU of voltage at Daltongaunj

- After tripping of 220kV Latehar Chatra on Y_B fault, Chatra load was radially feeding from Daltonganj S/s.
- At 10:48:37 Hrs 220kV Daltonganj-Chatra also tripped on Y_B fault.

Figure 3: PMU of voltage at Daltongaunj

- Due to tripping of radially connected line from Chatra, 220kV Chatra S/s became dead.
- Load loss of 24 MW occurred at Chatra S/s.
- Power was extended through 220kV Chatra-Latehar circuit at 11:09 Hrs.

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

- Lines connected from 220kV Chatra S/s tripped multiple times in **Y_B** fault during last 3 month. You are requested to plan for **patrolling** of both lines to avoid tripping and disturbance at Chatra S/s.

13. Action Taken/Remedial Measures (सुधारात्मक उपाय): Nil

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

S.No.	Issues	Regulation Non-Compliance	Utilities
1.	**DR/EL not submitted within 24 hours**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**JUSNL**

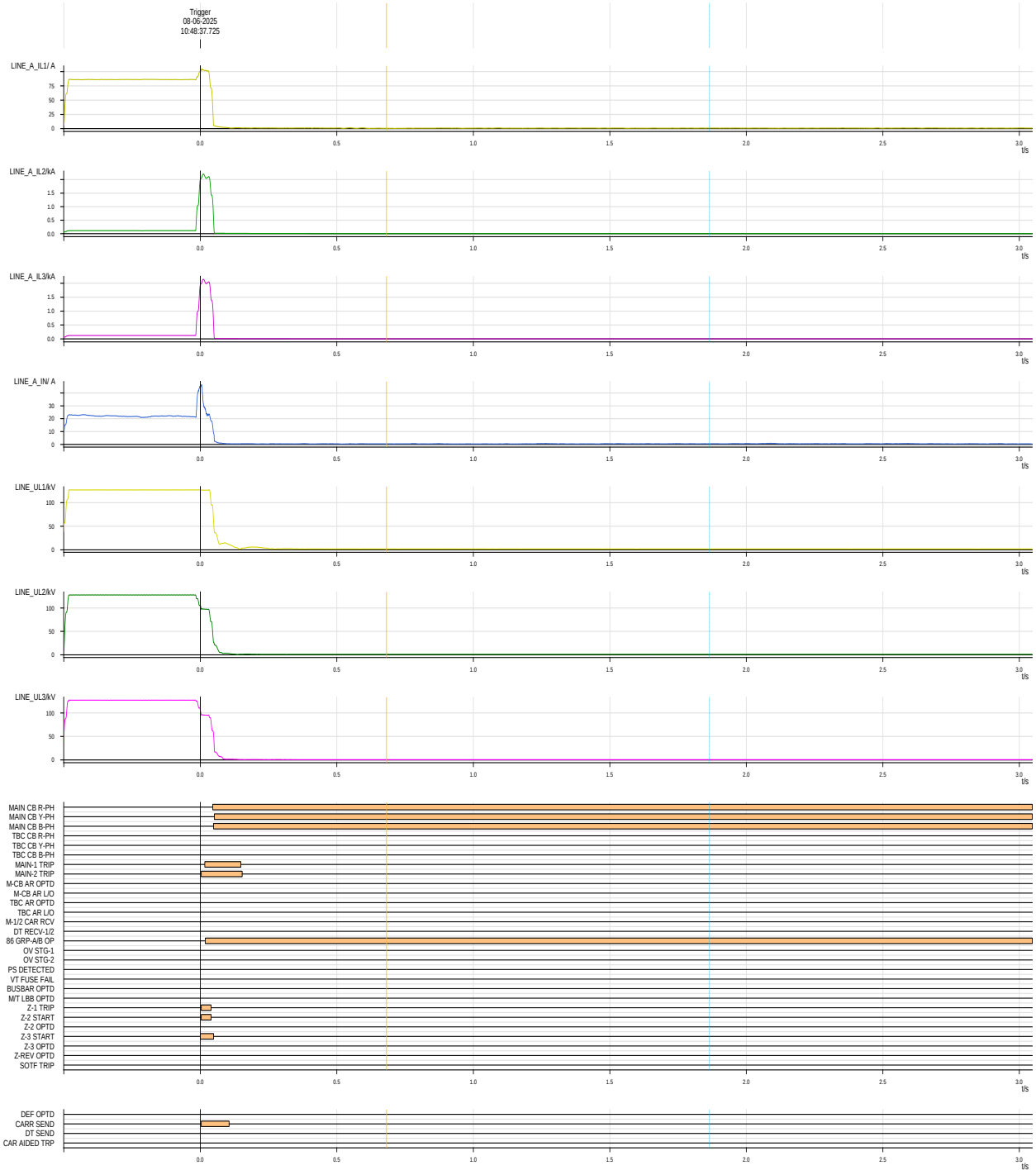
15. Key Lessons Learnt (प्रमुख अधिगम बिंदु): Nil

Annexure 1: (Sequence of Events-As per ERLDC SCADA):

**** Remaining SOE not available at ERLDC end.**

Annexure 2:

DR of 220kV Daltongaunj-Chatra at Daltongaunj:



ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
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पूर्वी क्षेत्र के 400 केवी पी.वी.यू.एन.एल. उप-केन्द्र में ग्रिड घटना पर विस्तृत रिपोर्ट / Detailed Report of grid event at 400 kV-PVUNL Station of Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))

(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date(दिनांक):19-05-2025

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

Event 1: At 05:06 Hrs on 10/06/2025

Prior to the disturbance, PVUNL was radially drawing 5 MW startup power from 400/220 kV Tenughat S/s through 400/220 kV ICT#2(400/220kV ICT #1 was under outage condition). At 05:06 Hrs OTI (Oil Temperature Indicator) protection of 400/220kV ICT#2 operated, resulting in tripping of 400kV Tenughat-PVUNL #1. 400kV PVUNL S/s became dead. Load loss of 5 MW (startup power) occurred at PVUNL.
400/220kV ICT #2 and 400kV Tenughat-PVUNL charged at 09:34 Hrs.

Event 2 & 3: At 02:07 Hrs on 07/06/2025 & At 20:45 Hrs on 06/06/2025

Similar type of event occurred on 06/06/2025 and 07/06/2025 at 20:45 Hrs and 02:07 Hrs respectively due to tripping of 400/220kV ICT #2 on OTI (Oil Temperature Indicator) protection, resulting in 400kV PVUNL became dead.

2. **Time and Date of the Event (घटना का समय और दिनांक):**
   - Event 1: At 05:06 Hrs on 10/06/2025

3. **Event Category (ग्रिड घटना का प्रकार): Grid Disturbance (GD)-1**

4. **Location/Control Area (स्थान/नियंत्रण क्षेत्र):** Jharkhand / 400kV-PVUNL

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

	Frequency	Regional Generation	Regional Demand	State Generation	State Demand
				Jharkhand	Jharkhand
Pre-Event (घटना पूर्व)	50.06	31369	27332	148	1808
Post Event (घटना के बाद)	50.06	31369	27332	148	1803

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

Important Transmission Line/Unit if under outage (महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है)	400/220 kV 250 MVA Tenughat ICT#1 under long outage condition.
Weather Condition (मौसम स्थिति)	Normal.

6. Load and Generation loss (लोड और जेनरेशन हानि):

- Generation loss: Nil; Load loss: 5 MW.

7. Duration of interruption (रुकावट की अवधि): 04:28 Hrs

8. Network across the affected area (प्रभावित क्षेत्र का नक्शा)

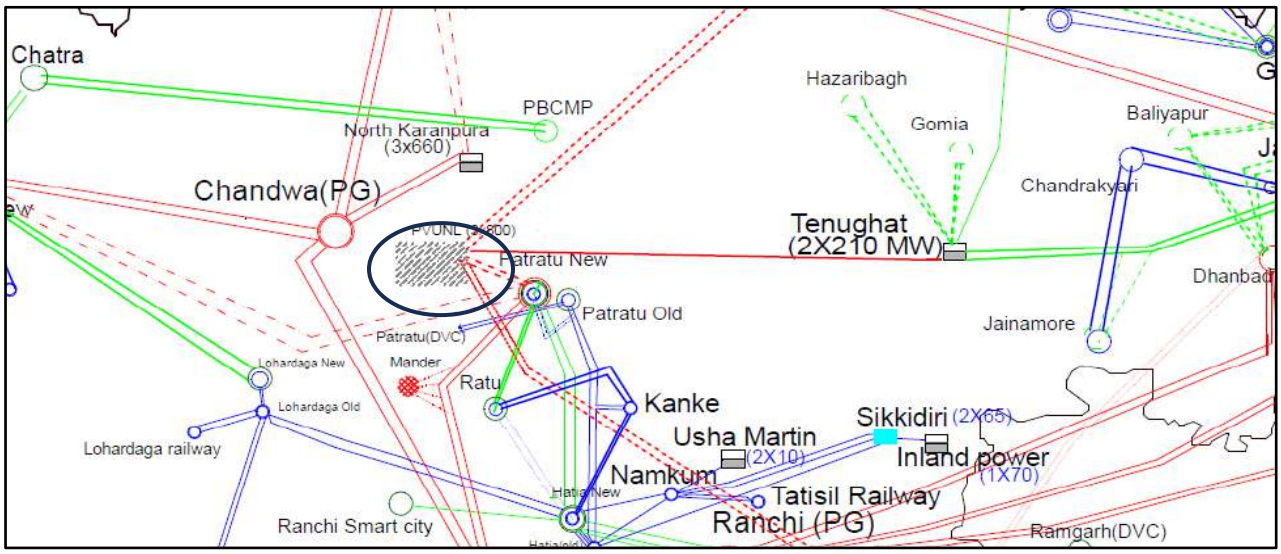


Figure 1: Network across the affected area

9. Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NA

10. Major Elements Tripped (प्रमुख ट्रिपिंग):

Event 1: At 14:45 Hrs on 05/04/2025:

क्र०स०	नाम	Trip time (hh:mm: ss)	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	Restoration time
1	400/220 kV ICT#2 at Tenughat	05:06:50	OTI protection operated.		09:34

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

- Prior to the event PVUNL drawing 5 MW start power radially from Tenughat through 400/220kV ICT#2 at Tenughat.
- 400/220kV ICT #1 at Tenughat was under long outage condition.
- At 05:06:50 Hrs on 10/06/2025 ICT#2 tripping due to OTI (Oil Temperature Indicator) protection operated.

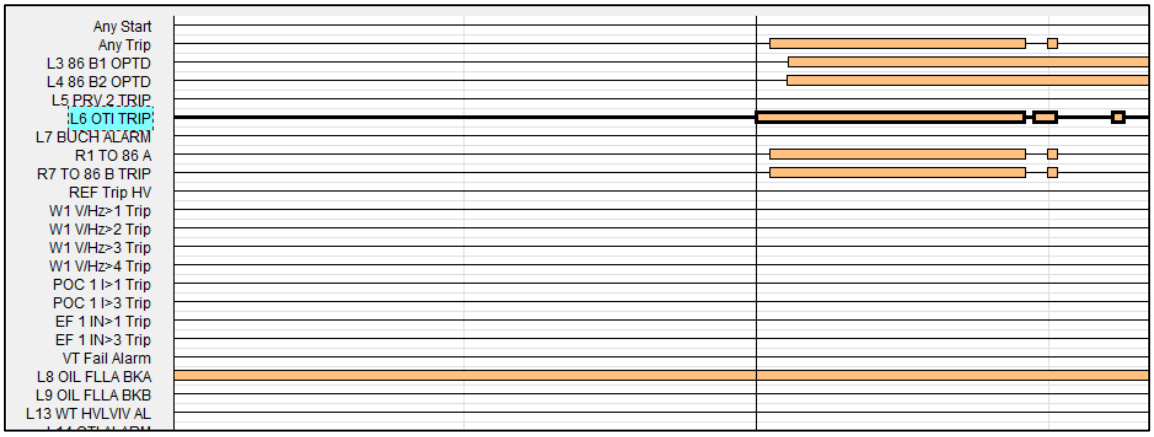


Figure 2: DR of 400/220kV ICT#2 at Tenughat

- 400kV PVUNL became dead and total 5 MW load loss (startup power) occurred at PVUNL.
- At 09:34 Hrs ICT#2 charged, and power extended to PVUNL through 400kV Tenughat-PVUNL.

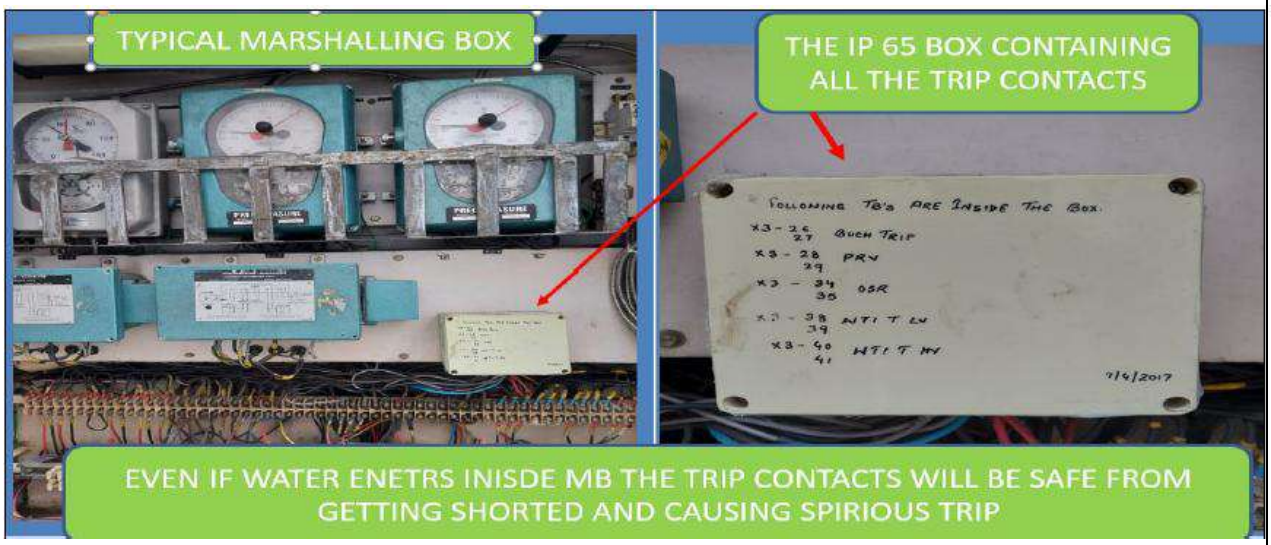
ICT-2 Tripping Report at T.T.P.S. Lalpania

Date & Time of Tripping	Cause of Tripping	Observation	Action Taken
06.06.2025 20:45hrs	OTI Trip Optd	*Reading after Tripping on OTI OTI 37°C Max 47°C *Heavy showers around evening hours.	*OTI Tripping Setting was checked manually which was at 85°C. *Alarm & Trip NO Contacts of OTI were checked & found ok. *Relay was RESET and Charging of ICT-2 & 400KV TTPS-PVUNL T/L was done at 22:10hrs.
07.06.2025 02:07hrs	OTI Trip Optd	*Reading after Tripping on OTI OTI 33°C Max 50°C.	* Cable Continuity was checked * Control Cable emanating from Transformer MB to Control Room Insulation Resistance was measured Cable-Earth & Cable-Cable which was found OK. * Relay Simulation was done and Relay was found Healthy. * Timer of 20ms was introduced to rule out any spurious Tripping. * Relay was RESET and Charging of ICT-2 & 400KV TTPS-PVUNL T/L was done at 17:00hrs.
10.06.2025 05:06hrs	OTI Trip Optd	*Reading after Tripping on OTI OTI 35°C Max 53°C.	* Control Cable for OTI Tripping from Transformer MB to Control Room was isolated and other cable of core was used for OTI Tripping. * Relay was RESET and Charging of ICT-2 & 400KV TTPS-PVUNL T/L was done at 09:34hrs.

Figure:3 Tripping history of ICT#2 and Action taken by Tenughat

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

- As per tripping report OTI operated multiple times without any internal fault in ICT (Maximum temperature was below 55 degree). As per verbal communication and report received from Tenughat, **ICT tripped due to moisture and bad weather**.
- Following practice was adopted by MPL to avoid unwanted tripping of ICT: To avoid moisture-related issues, the trip contacts should be placed in a separate box within the marshalling box. The OTI and WTIs should be enclosed in a metallic cage to prevent the displacement of mercury-based OTI/WTIs, as shown in the figure.



13. Action Taken/Remedial Measures (सुधारात्मक उपाय): Nil

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

S.No.	Issues	Regulation Non-Compliance	Utilities
1.	**DR/EL not provided within 24 Hours**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**NA**

- **Key Lessons Learnt (प्रमुख अधिगम बिंदु)**:

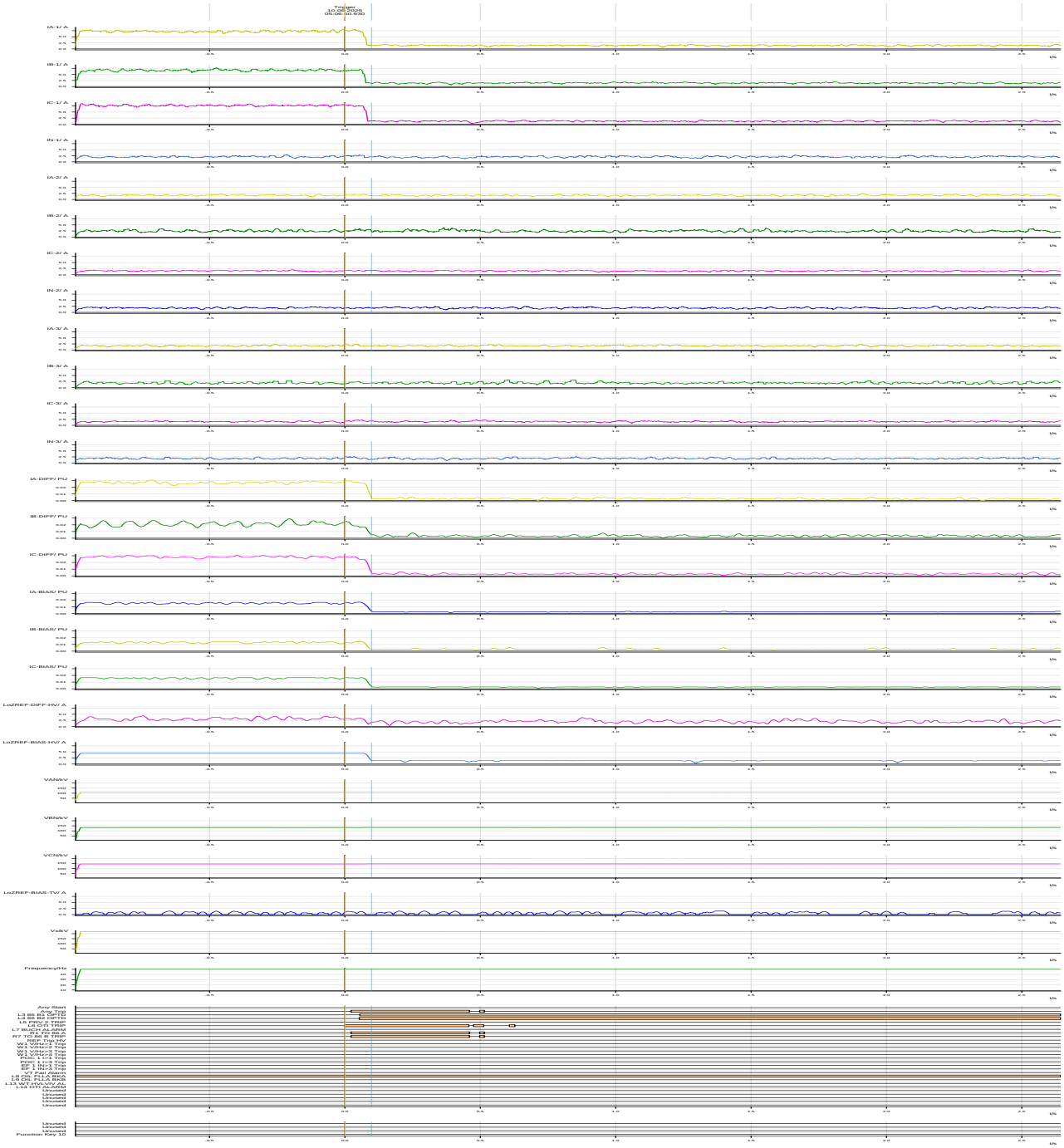
Due to bad weather and moisture, it was observed that mal operation of mechanical type relay (WTI, OTI, PRV and Buchholz relay) was reported in most of the ICT tripping. To avoid such type of mal-operation **mercury float switch relays may be replaced by magnetic reed relays and proper sealing may be done** to avoid spurious operation of relays due to transformer vibration, moisture, water ingress and bad weather etc.

15. Annexure 1: (Sequence of Events-As per ERLDC SCADA)

SOE data not available at ERLDC Scada.

Annexure 2:

DR of 400/220kV ICT#2 at Tenughat:



ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre
कार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033
CIN : U40105DL2009GOI188682, Website : www.erldc.in, E-mail : erldcinfo@grid-india.in, Tel.: 033 23890060/0061

पूर्वी क्षेत्र के 220 केवी जोरेथाँग में ग्रिड घटना पर विस्तृत रिपोर्ट / Detailed Report of grid event at 220kV Kishanganj New S/s of Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))

(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date(दिनांक): 01-07-2025

1. Event Summary (घटना का सारांश):

At 18:24 Hrs of 12/06/2025, HV side B phase CT of 160 MVA ATR-3 burst at 220/132kV GSS Kishanganj New (BSPTCL), which evolved to a three phase fault, resulting in a bus fault at 220 kV Kishanganj New and tripping of all connected lines, which led to total power failure at Kishanganj (BSPTCL) area of Bihar Power System.Power extended at 19:40 Hrs through 220 kV Kishanganj (BSPTCL) – Kishanganj (PG) -1.

2. Time and Date of the Event (घटना का समय और दिनांक): At 18:24 Hrs on 12/06/2025

3. Event Category (ग्रिड घटना का प्रकार): Grid Disturbance (GD)-1

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Kishanganj New

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation in MW	Regional Demand in MW	State Generation in MW	State Demand in MW
				Bihar	Bihar
Pre-Event (घटना पूर्व)	50.023	30879	27701	457	6763
Post Event (घटना के बाद)	50.023	30879	27573	457	6635

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

Important Transmission Line/Unit if under outage (महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है)	• 132 kV Arariya- Kishanganj New s/c was in opened condition • 132 kV Palassi-Forbisganj s/c was in opened condition

	• 220 KV Kishanganj – Thakurganj 2 is no load charged from Kishanganj New end
Weather Condition (मौसम स्थिति)	Normal

6. Load and Generation loss (लोड और जेनरेशन हानि): 128 MW in Kishanganj

7. Duration of interruption (रुकावट की अवधि): 1 Hour and 15 Minutes

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

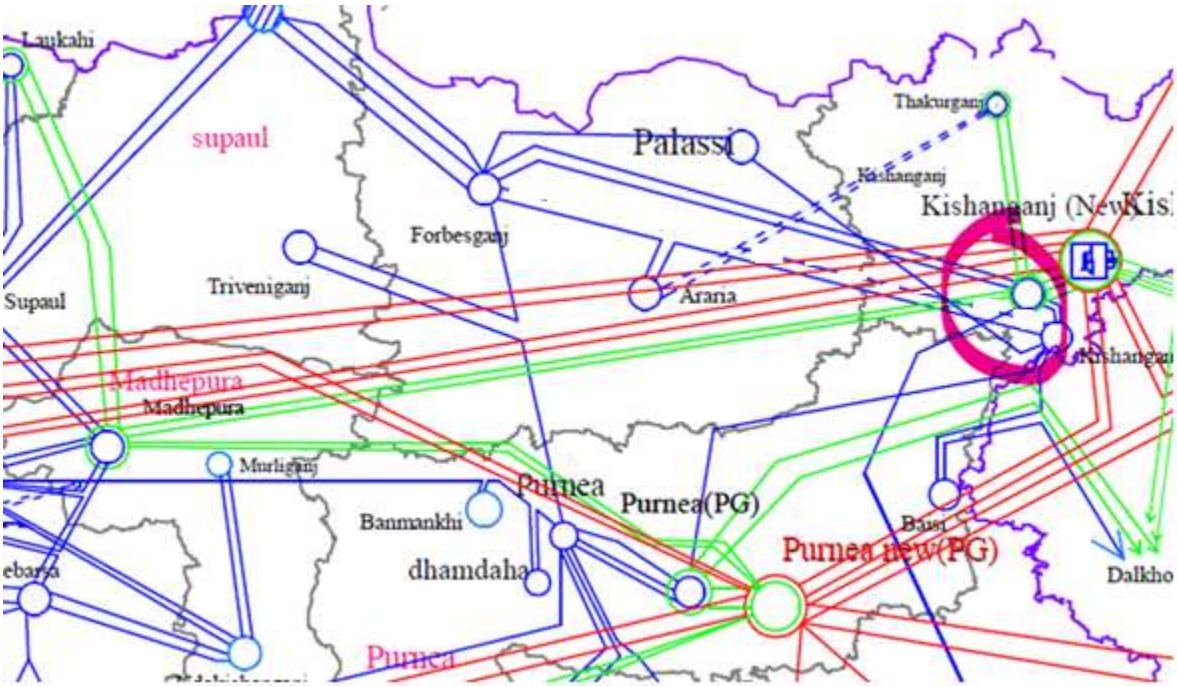


Figure 1: Network across the affected area

9. Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): HV side B-Phase CT of 160 MVA ATR-3 at Kishanganj New S/S

10. Major Elements Tripped (प्रमुख ट्रिपिंग):

क्रoसo	नाम	Trip time (hh:mm:ss)	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	Restoration time
1	220 kV Kishanganj (BSPTCL) – Kishanganj (PG) 1	18:24 Hrs	No trip at Kishanganj new (Z4 pickup)	3 Phase Tripped from Kishanganj (PG end) on Z2	19:40 Hrs

2	220 kV Kishanganj (BSPTCL) – Kishanganj (PG) 2		No trip at Kishanganj new (Z4 pickup)	3 Phase Tripped from Kishanganj (PG end) in Z2	20:07 Hrs
3	220 kV Kishanganj (BSPTCL) – Kishanganj (PG) 3		Tripped in Zone 1 at Kishanganj New	Z-2 pickup and Carrier aided trip	13:18 Hrs on 13/06/25
	220 kV Kishanganj (BSPTCL) – Kishanganj (PG) 4		No trip at Kishanganj new (Z4 pickup)	3 Phase Tripped from Kishanganj (PG end) in Z2	20:09 Hrs
	220 KV Kishanganj – Thakurganj 1		No tripping (Z4 pick up)	No tripping as Thakurganj is radially connected load	20:11 Hrs
	220 KV Kishanganj – Madhepura 1		No tripping (Z4 pick up)	Tripped from Madhepura end.DR/EL awaited	20:48 Hrs
	220 KV Kishanganj – Madhepura 2		No tripping (Z4 pick up)	Tripped from Madhepura end. Relay details pending.	20:49 Hrs
	132 kV Kishanganj – Barsoi T/L		No tripping as Barsoi is fed radially		19:43 Hrs
	132 kV Kishanganj – Kishanganj (Old) T/L		No tripping as Kishanganj Old became radial due to opening of lines from forbisganj source as stated in antecedent condition		19:47 Hrs.
	132 kV Kishanganj – Forbesgunj T/L		Hand tripped later	Tripped from Forbisganj end. Relay details pending	Taken into service after putting ATR 3 into service 11:57 Hrs 17/06/25
	160 MVA 220/132 KV Autotransformer 1		Did not trip		
	160 MVA 220/132 KV Autotransformer 2		Did not trip		

	160 MVA 220/132 KV Autotransformer 3		Tripped on B ph Differential protection		12:35 Hrs 16/06/25

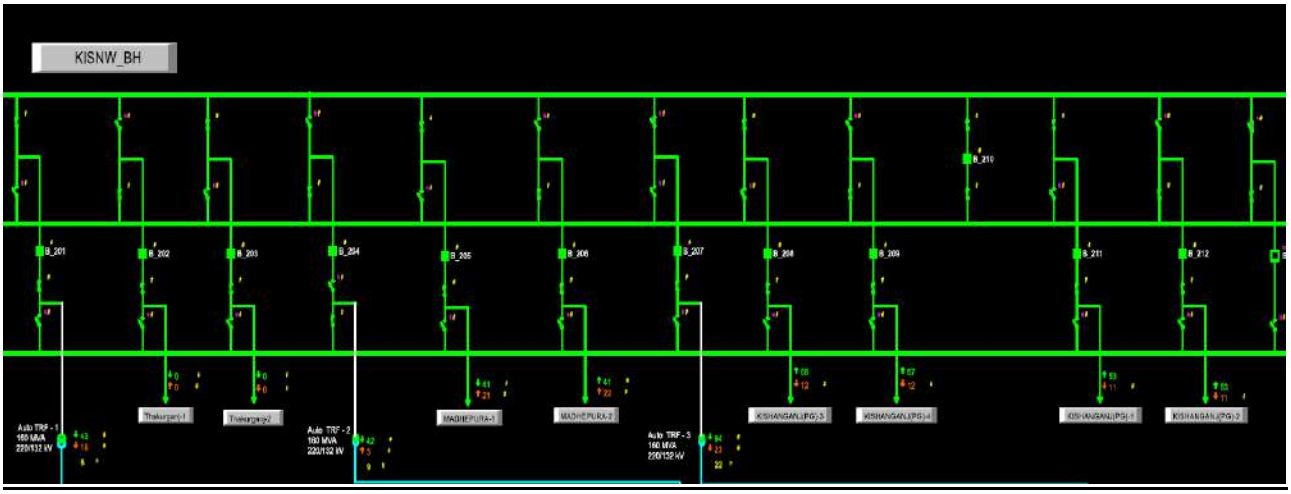
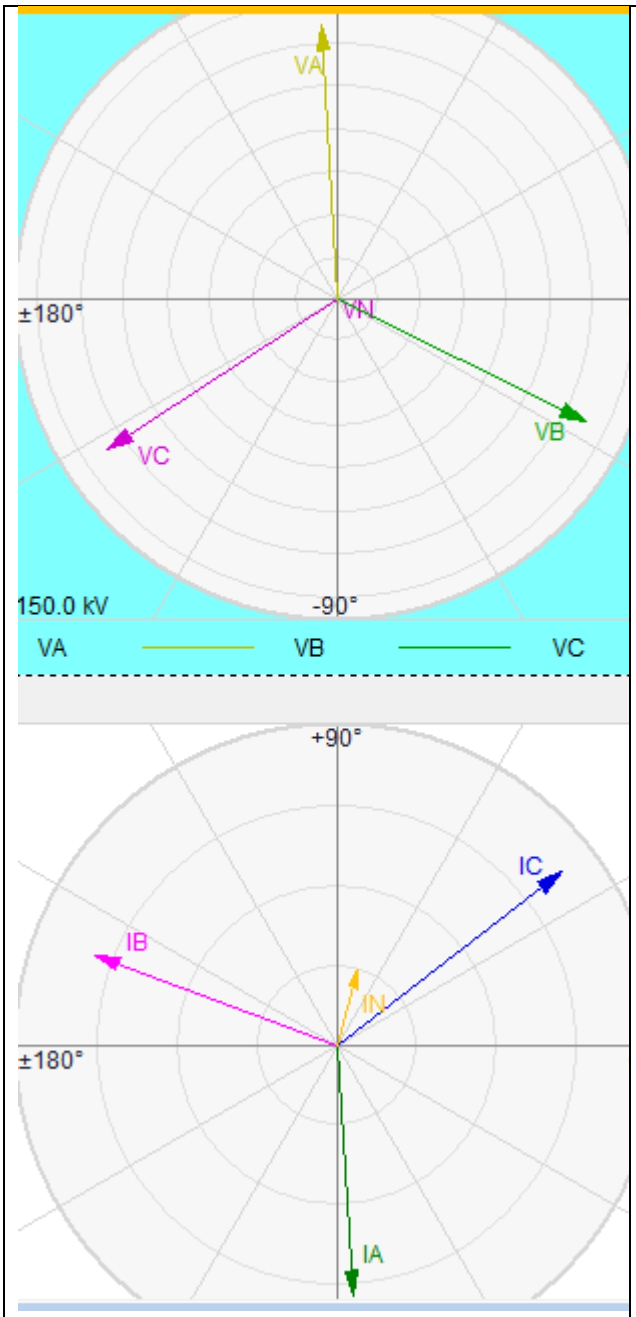


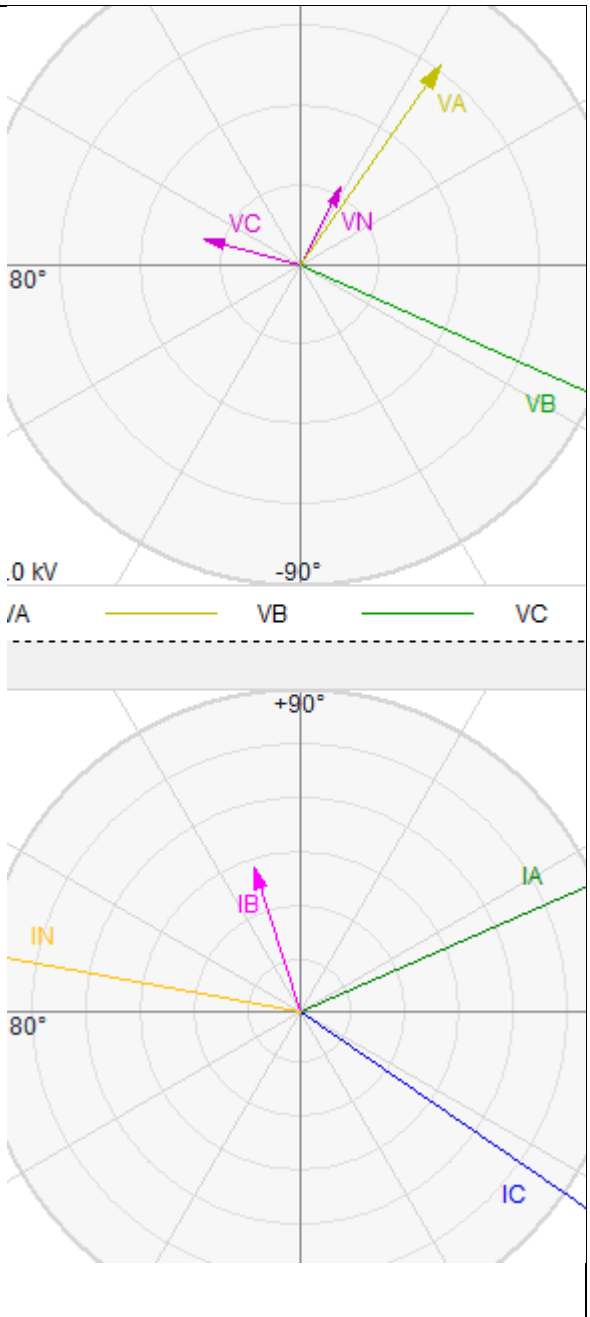
Fig 2: SLD of 220 kV Kishanganj S/S

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

- At 18:24 Hrs on 12-06-2025, 220/132 kV, 160 MVA ATR 3 at Kishanganj New tripped on differential protection due to bursting of the B ph CT on the HV side. The bursting of CT resulted in severe fault, which evolved into a three-phase fault. Bus bar protection was not in service at the time of event.
- As a result, all 220 kV lines of Kishanganj New detected the fault in reverse zone. All 200 KV lines connected from Kishanganj New(BSPTCL) to Kishanganj (PG) lines except ckt 3 detected the fault in Z-2 from remote end and tripped.
- 220 KV Thakurganj ckt 1 feeder is radially fed,so no tripping there at remore end.220 KV
- 220 KV Kishanganj New Kishanganj (PG) ckt -3 initially detected the fault in Z-4 at Kishanganj New(BSPTCL) end. However, impedance trajectory went out of reverse zone and entered Zone 1, leading to tripping in Z-1 at Kishanganj New end and carried aided trip at Kishanganj(PG) end . This happened because the arc near line CT of ATR 3 ionised the air around and led to catching of fire in wave trap connected to line 3 since lince 3 is situated adjacent to ATR 3. Thus, fault came in forward zone of line 3.Following figure below shows the change in current direction vis a vis voltage in Ckt 3-



Fault as seen in reverse zone in ckt 3 BSPTCL end

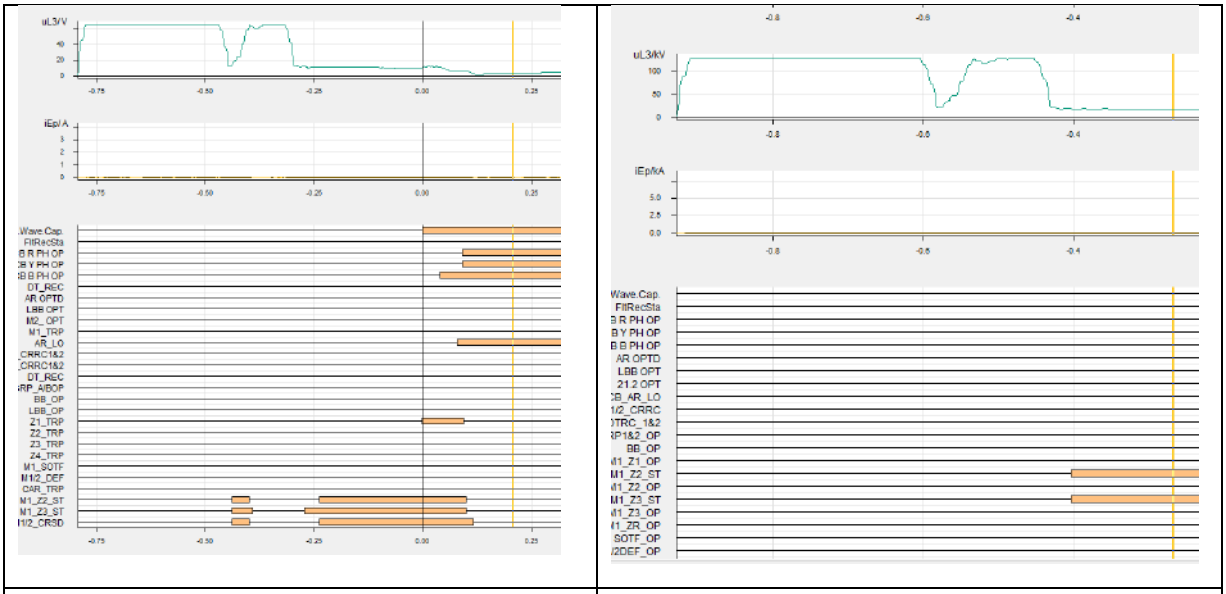


Fault seen in forward zone in ckt 3 BSPTCL end

Fig 3: Phasor angle comparison between instants showing impedance trajectory in ckt 3 at Kishanganj new going from reverse to forward zone

- DR of 220 KV Madhepura end ckt 1 and 2 is awaited. Also, that 132 KV Forbisganj end for Forbisganj Kishanganj new d/c is awaited. Now to explain 450 msec fault clearing time, Out of the 220 KV Kishangang PG ckts 1, 2 and 4, which tripped on remote end on Z2, zone 2 of ckt 4 dropped midway and picked up 120 ms later as seen in figure below, thus making overall fault clearing at 450 msec, though after 2nd picking it tripped by 350 msec.

- In case of ckt 2, zone 2 pick-up is delayed by 204 msec. Ckt 1 zone 2 clearing time is 350 msec



Ckt 4 at Kishanganj end	Ckt 2 at Kishanganj end

Fig 4: DR of Kishanganj (PG) end for 200 KV Kishanganj New ckt 4 and ckt 2 showing reason for delayed Z-2 operation

- There was no source from 132 KV side except 132 KV Forbisganj. Hence no other ckts tripped except 132 kV Forbisganj -Kishanganj New old(BSPTCL) from FOrbisganj side.

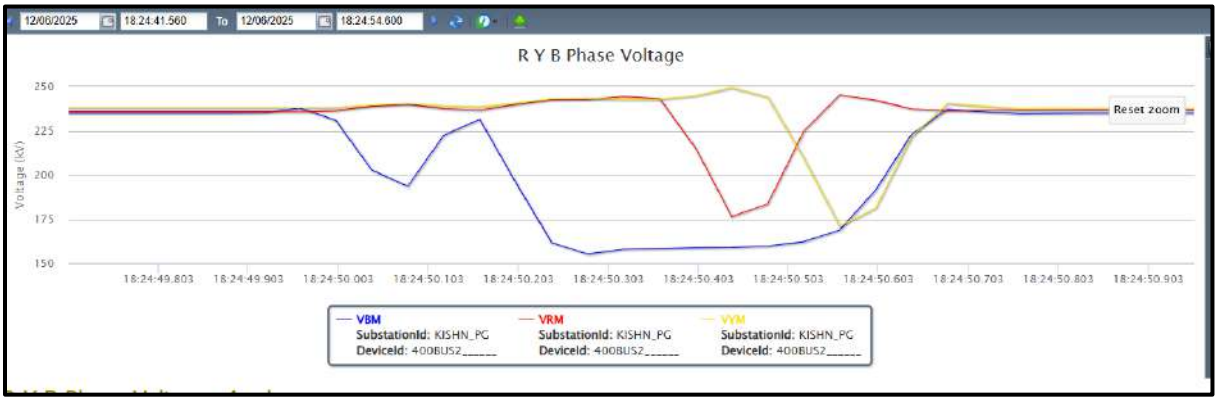


Fig 5: PMU plot at 400KV Kishanganj Bus Voltage

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

- Bus bar protection not operational on 12/06/25 at 220 KV New Kishanganj due to blowing of DC power supply fuse. It was informed that the same was taken into service by next day. BSPTCL may confirm the healthiness of BB protection.
- DR at 220 Kishanganj New bus bar relay is not time synchronized as observed from another event next day. The DR to be time synchronised with the GPS for proper analysis.
- Fault clearing is almost 450 msec which means some remote end zone 2 clearing took that time instead of 350 msec. BSPTCL and Powergrid ER-I may respond.

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

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

S.No.	Issues	Regulation Non-Compliance	Utilities
1.	**DR/EL not submitted within 24 hours**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**BSPTCL**
2	**Non submission of detailed report to ERLDC by 7 days**	IEGC section 37.2 (e)	**BSPTCL**

15. Key Lessons Learnt (प्रमुख अधिगम बिंदु):

- Bus bar protection should be operational at 220 KV Sub stations as per CEA (Technical standards for construction of electrical plants and Electric lines) Regulations-2022, which in this case would have led to outage of only those elements fed from connected bus, thus avoiding total power loss.
- Healthiness of DC source annunciation circuit to be ensured.

Annexure 1: (Sequence of Events-As per ERLDC SCADA):

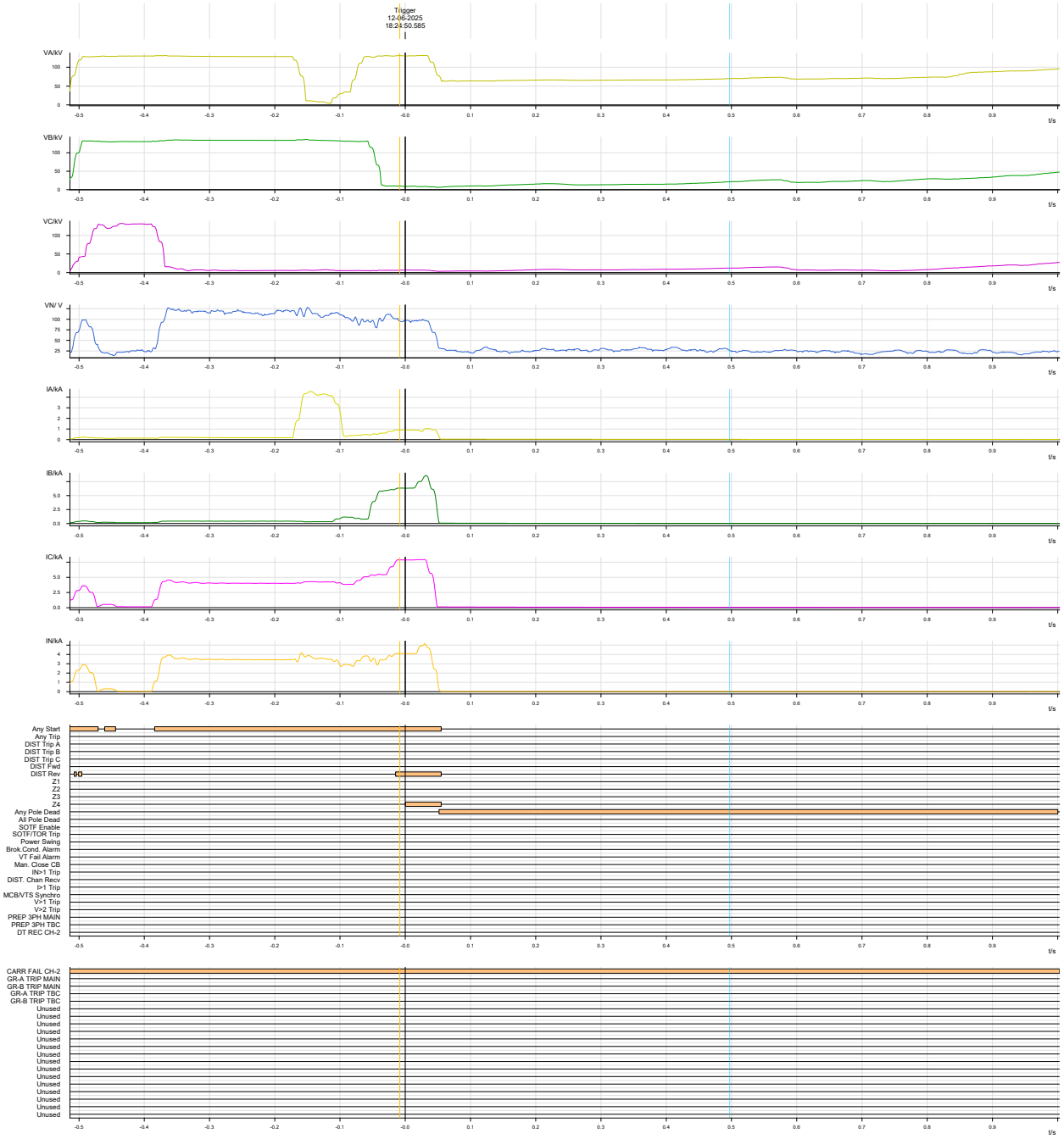
TIME	MILLI_SEC	OSI_KEY	STATION	DESCRIPTION	STATUS
12-06-2025 18:24	485	0223B120	KISHN_PG	220_KISNW_BH_3_CB	Travel
12-06-2025 18:24	485	0223B120	KISHN_PG	220_KISNW_BH_3_CB	Travel
12-06-2025 18:24	490	02241027	DKCHU_PG	132_ICT_1_Sec_CB	Travel
12-06-2025 18:24	493	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	493	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	494	0223B120	KISHN_PG	220_KISNW_BH_3_CB	Open

12-06-2025 18:24	494	0223B120	KISHN_PG	220_KISNW_BH_3_CB	Open
12-06-2025 18:24	497	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	497	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	509	02241027	DKCHU_PG	132_ICT_1_Sec_CB	Open
12-06-2025 18:24	536	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	536	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	536	0223B124	KISHN_PG	220_KISNW_BH_4_CB	Travel
12-06-2025 18:24	536	0223B124	KISHN_PG	220_KISNW_BH_4_CB	Travel
12-06-2025 18:24	542	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	542	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	572	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	572	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	578	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	578	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	596	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	596	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	596	0223B124	KISHN_PG	220_KISNW_BH_4_CB	Open
12-06-2025 18:24	596	0223B124	KISHN_PG	220_KISNW_BH_4_CB	Open
12-06-2025 18:24	597	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	597	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	599	0223B116	KISHN_PG	220_KISNW_BH_2_CB	Travel
12-06-2025 18:24	599	0223B116	KISHN_PG	220_KISNW_BH_2_CB	Travel
12-06-2025 18:24	603	0223B112	KISHN_PG	220_KISNW_BH_1_CB	Travel
12-06-2025 18:24	603	0223B112	KISHN_PG	220_KISNW_BH_1_CB	Travel
12-06-2025 18:24	607	0223B116	KISHN_PG	220_KISNW_BH_2_CB	Open
12-06-2025 18:24	607	0223B116	KISHN_PG	220_KISNW_BH_2_CB	Open
12-06-2025 18:24	612	0223B112	KISHN_PG	220_KISNW_BH_1_CB	Open
12-06-2025 18:24	612	0223B112	KISHN_PG	220_KISNW_BH_1_CB	Open
12-06-2025 18:24	666	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	666	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	669	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	669	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed

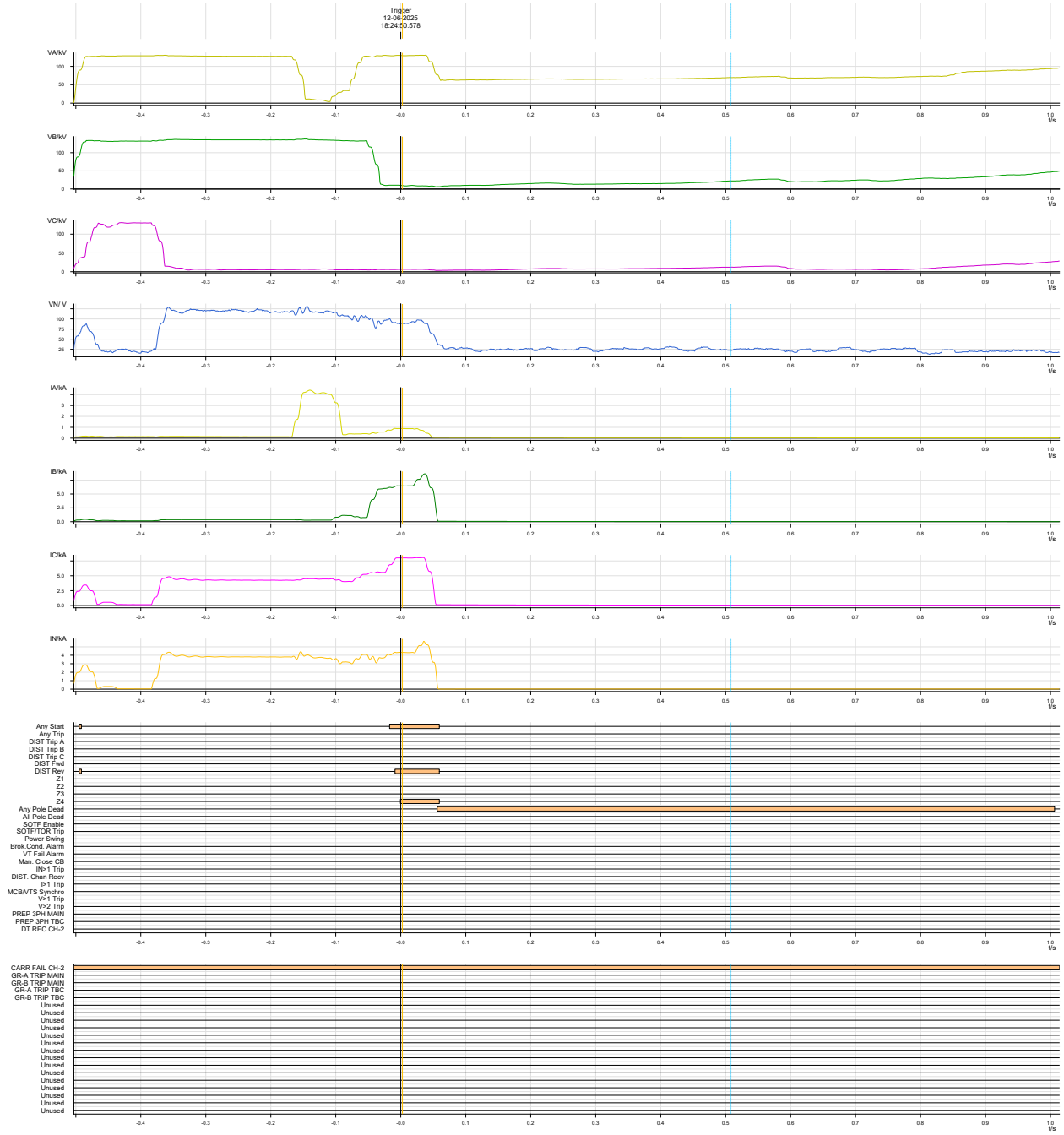
12-06-2025 18:24	691	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	691	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	706	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	706	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	721	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	721	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Travel
12-06-2025 18:24	726	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed
12-06-2025 18:24	726	0223B118	KISHN_PG	220_KISNW_BH_3_MB1_ISO	Closed

Annexure 2:

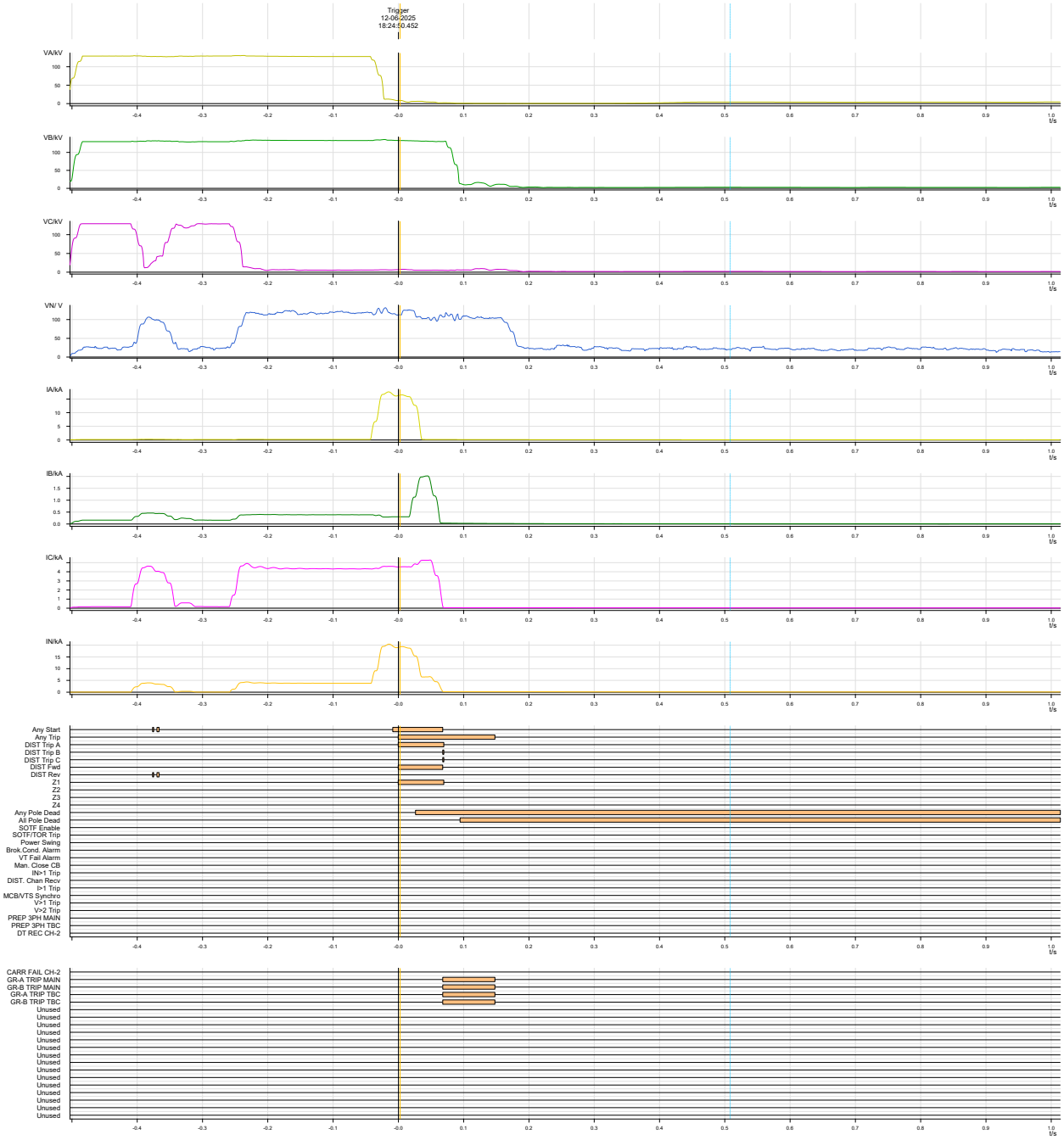
DR of 220 KV Kishanganj New Kishanganj (PG) ckt 1 at Kishanganj New(BSPTCL)



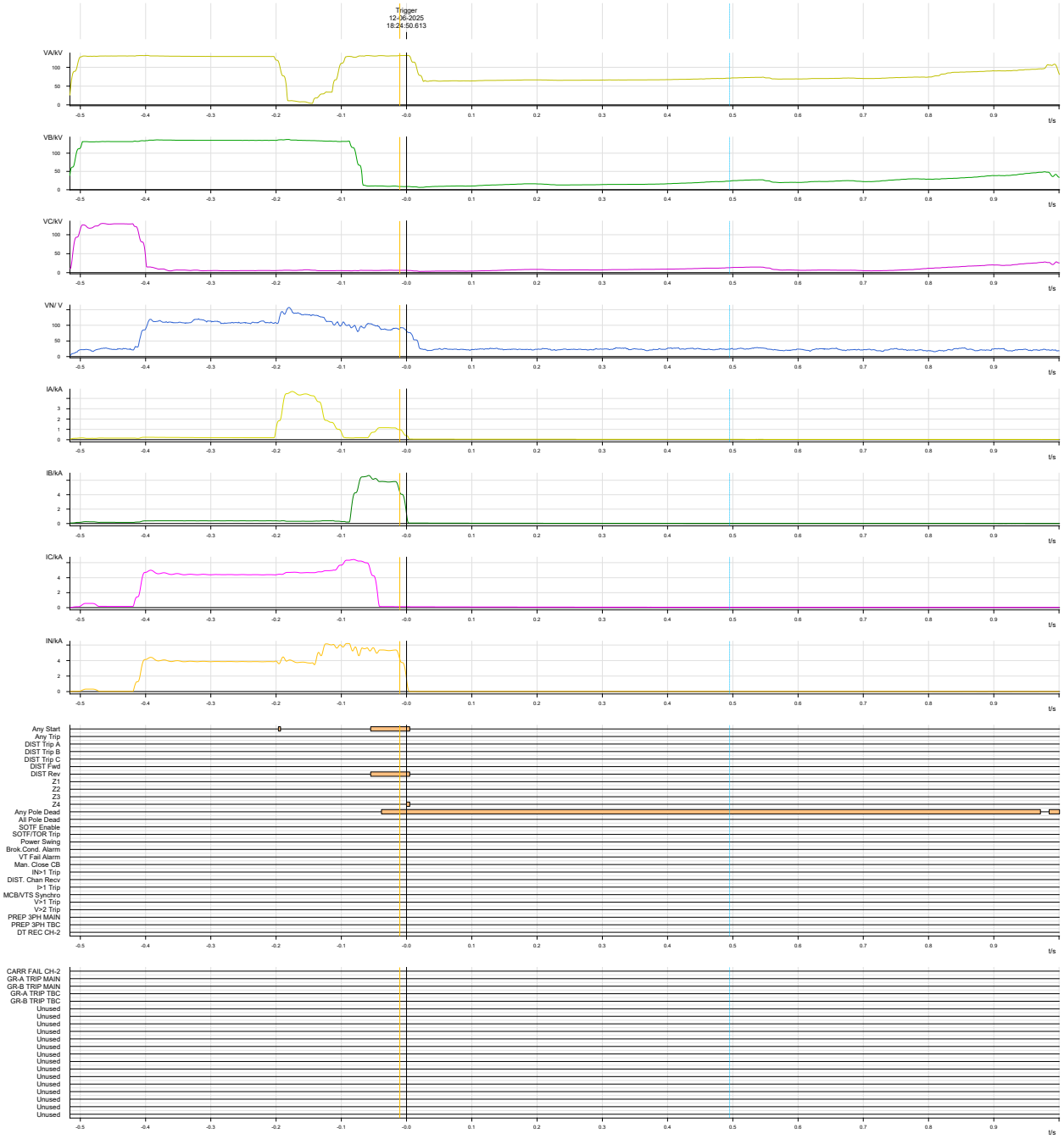
DR of 220 KV Kishanganj New Kishanganj (PG) ckt 2 at Kishanganj New(BSPTCL)



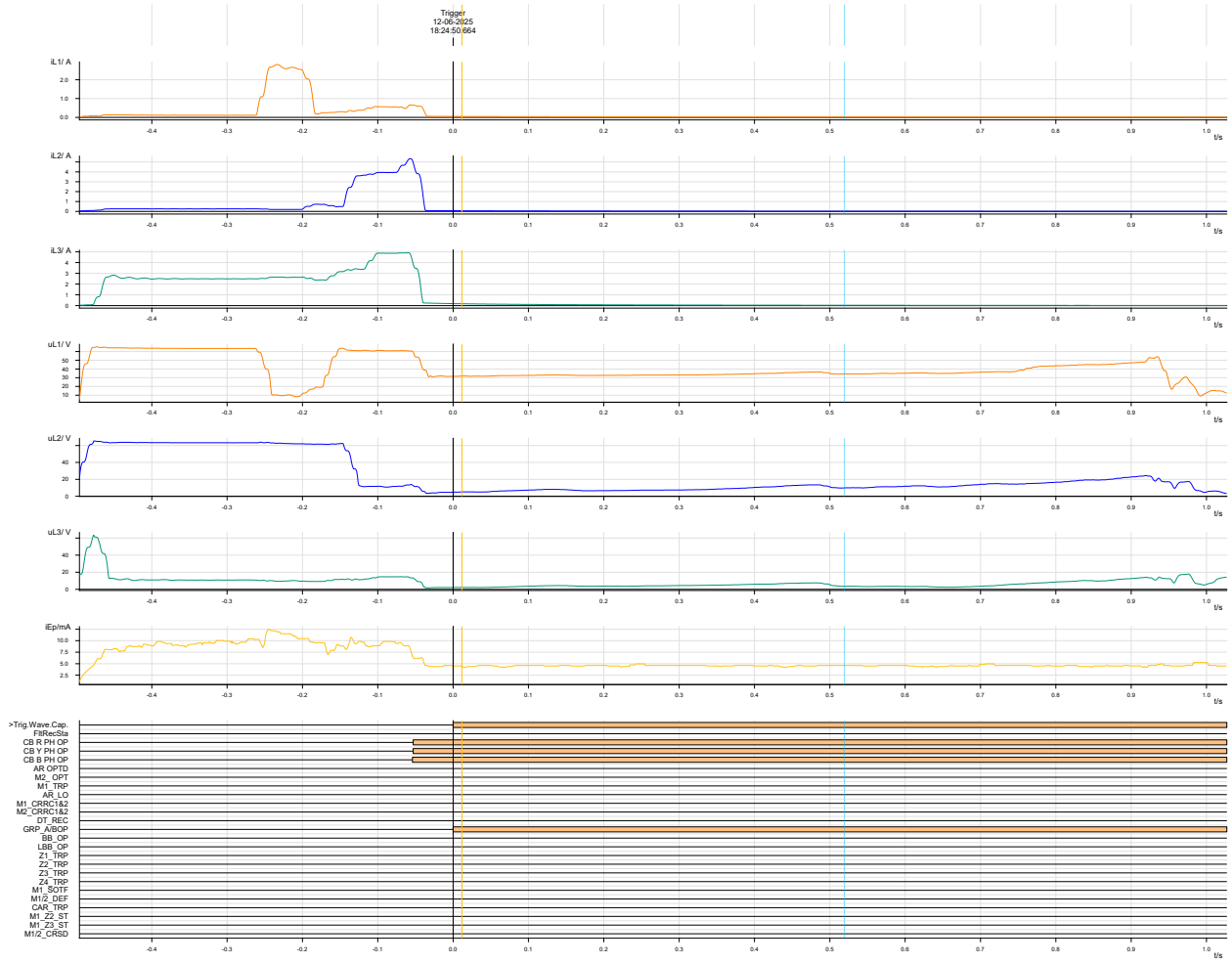
DR of 220 KV Kishanganj New Kishanganj (PG) ckt 3 at Kishanganj New(BSPTCL)



DR of 220 KV Kishanganj New Kishanganj (PG) ckt 4 at Kishanganj New(BSPTCL)



DR of 220 KV Kishanganj New Kishanganj (PG) ckt 1 at Kishanganj (PG)



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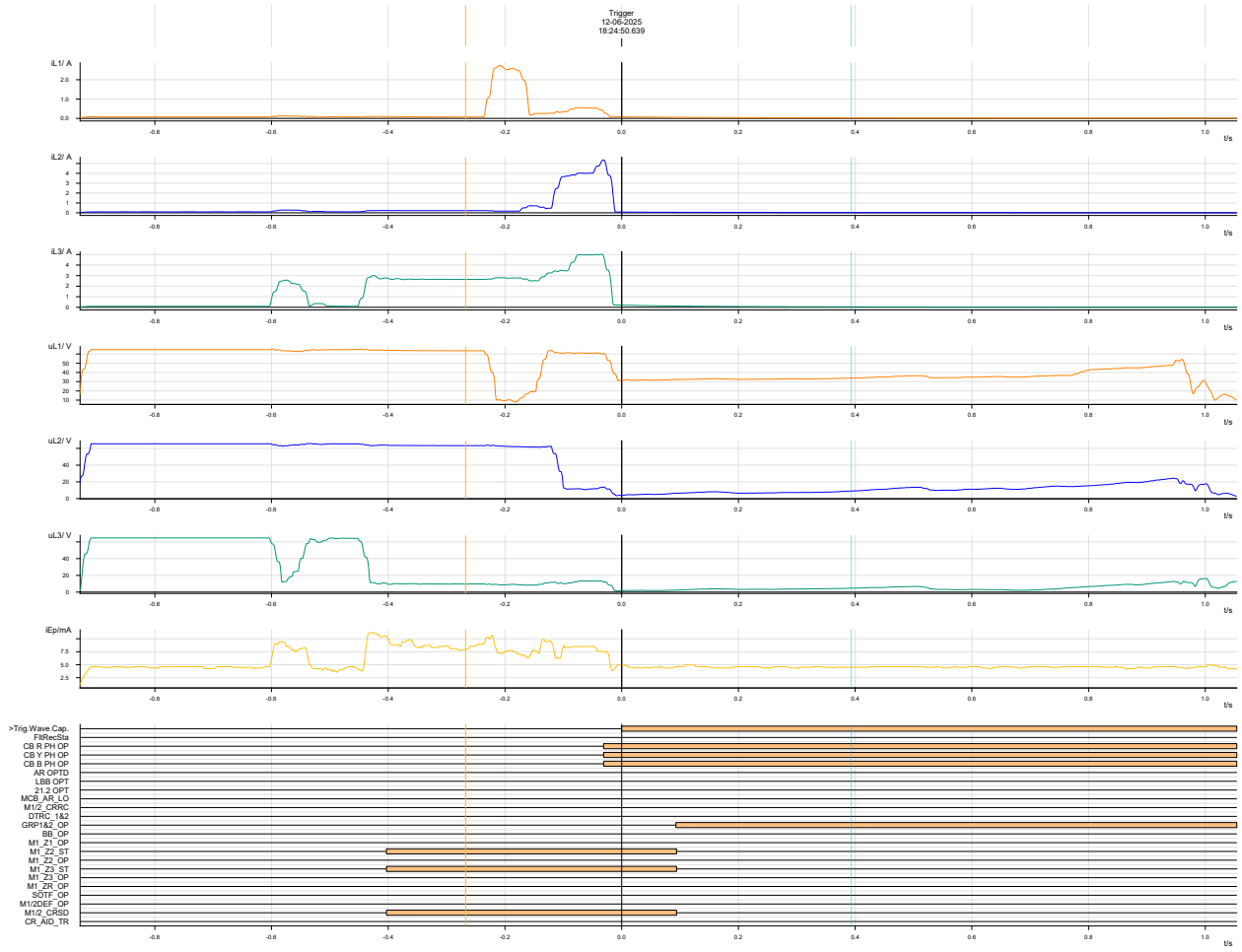

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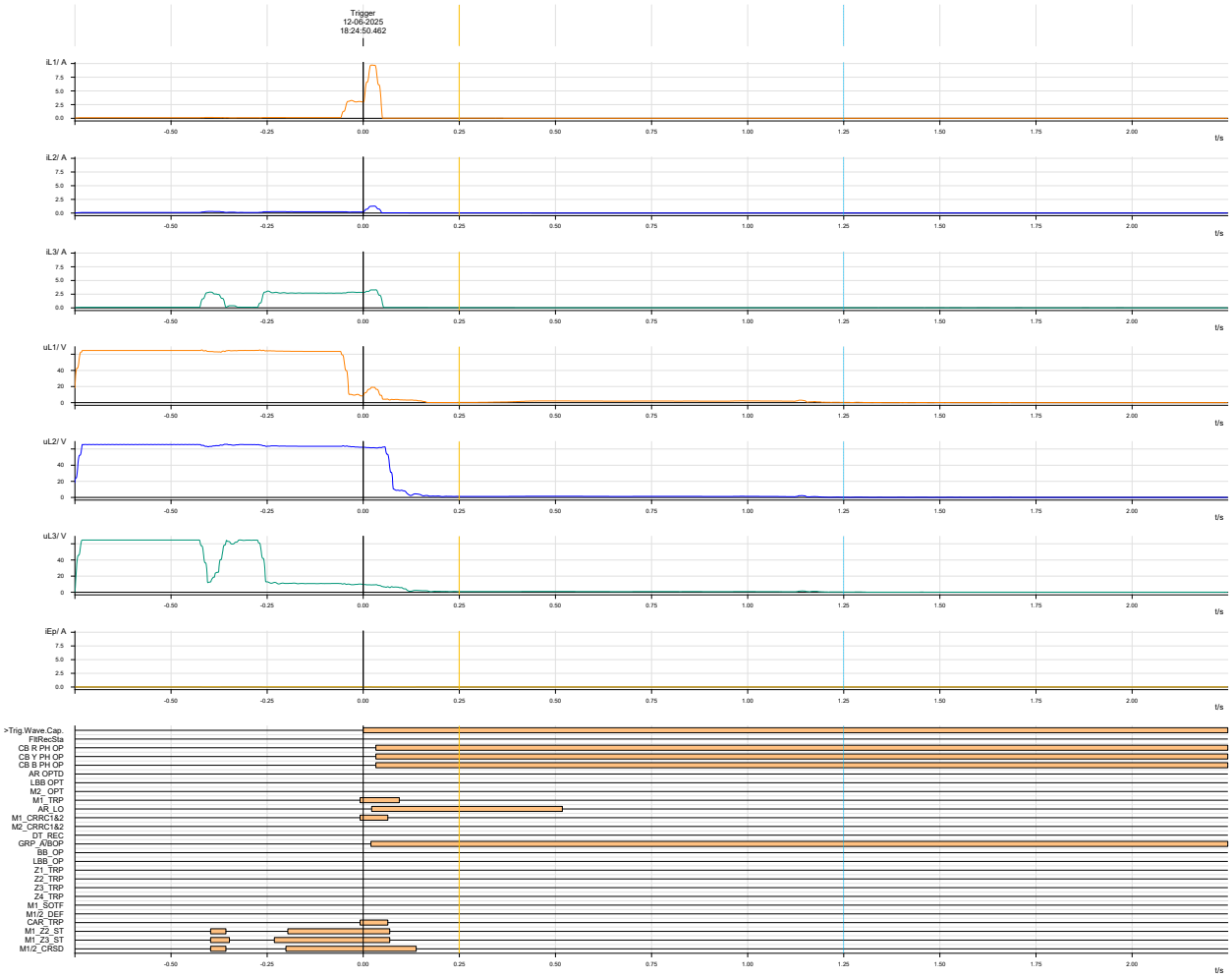

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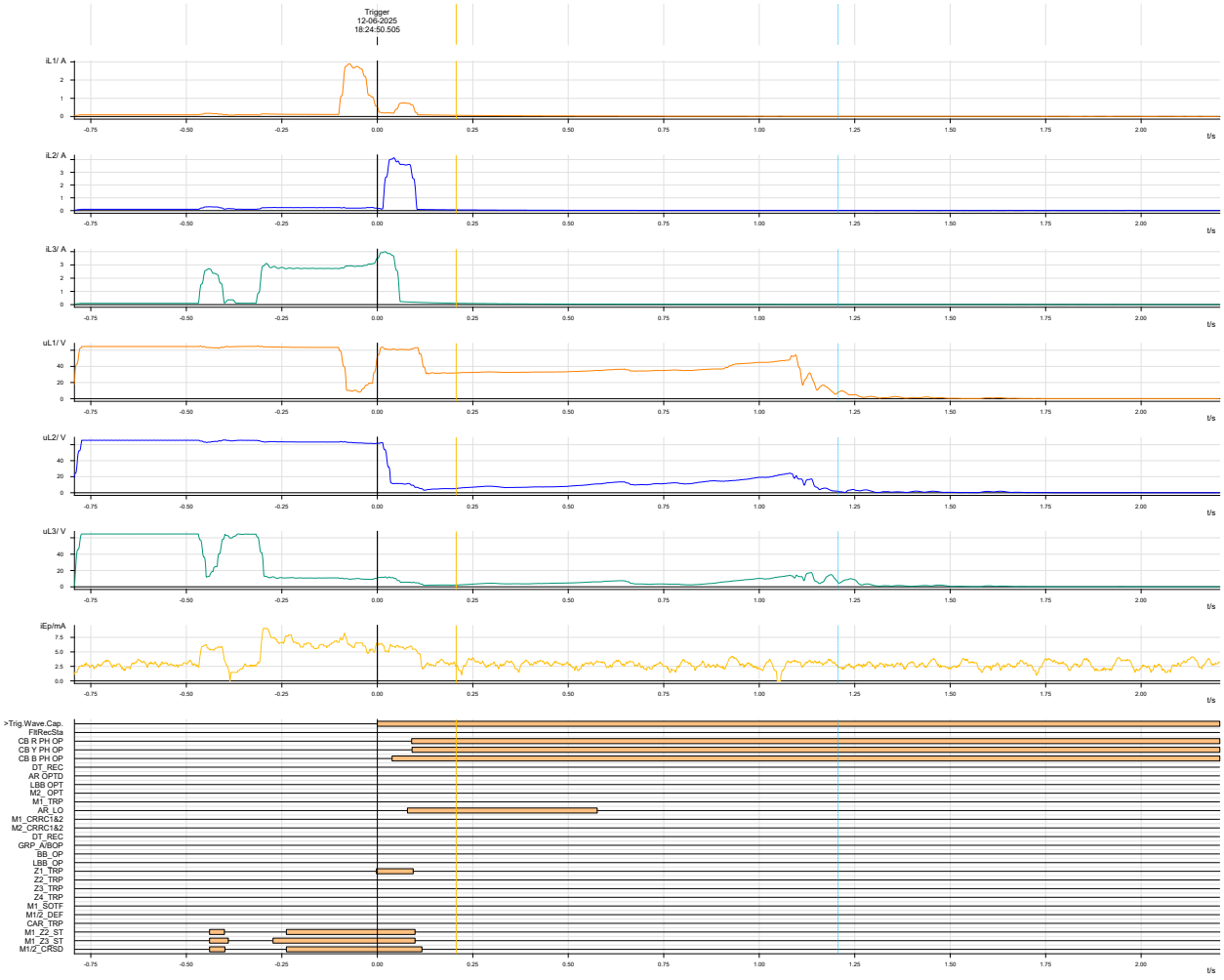
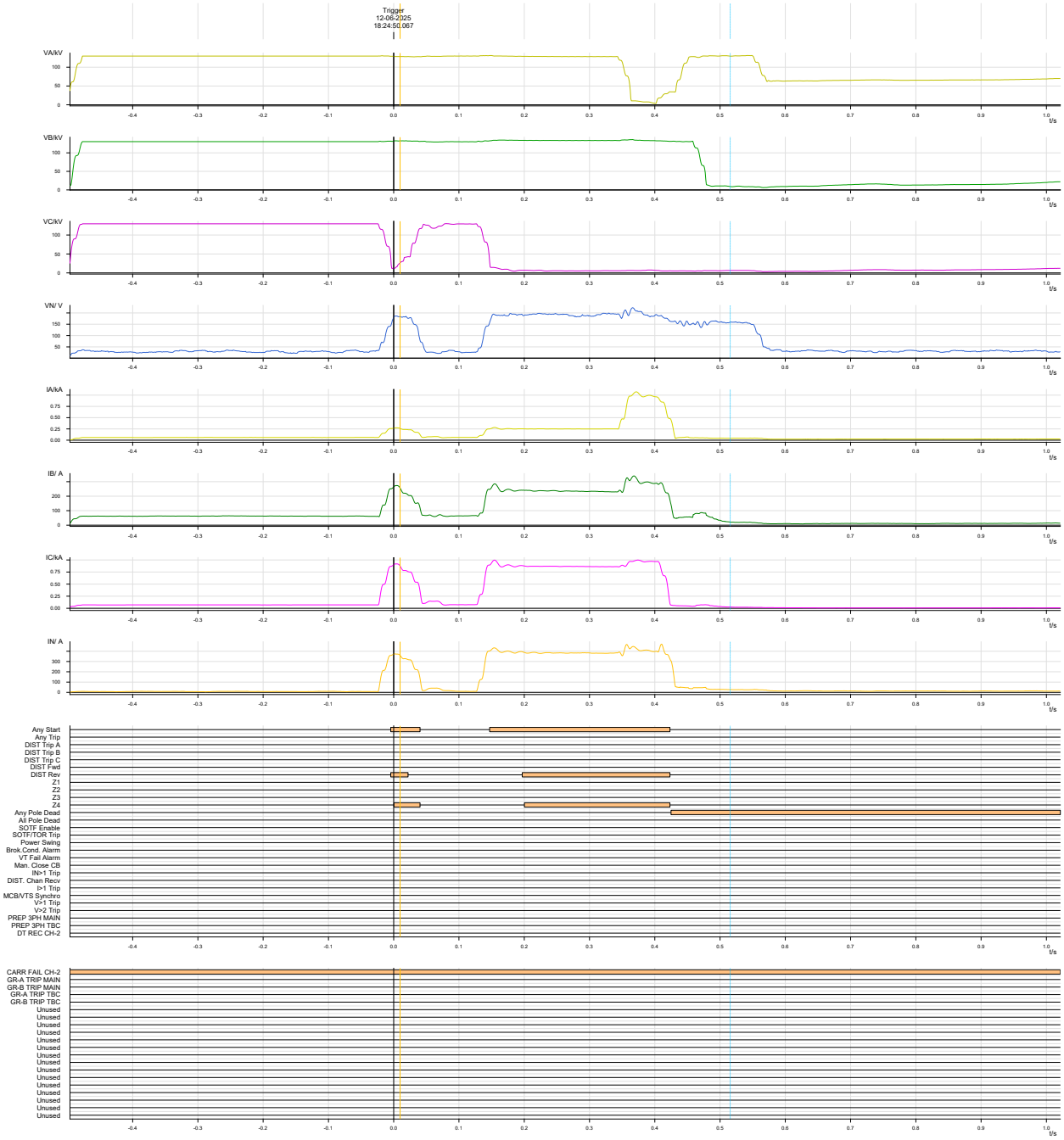
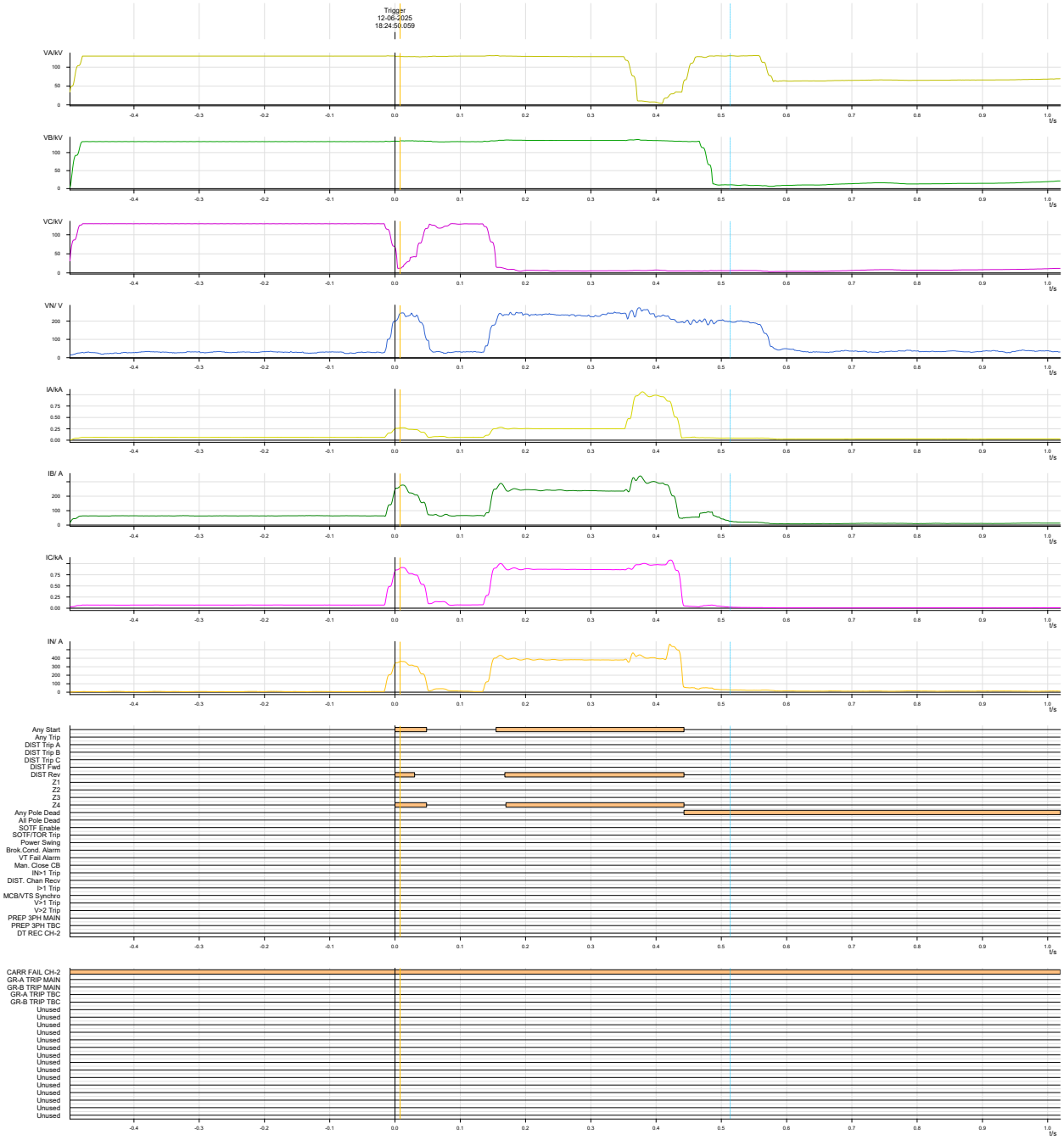


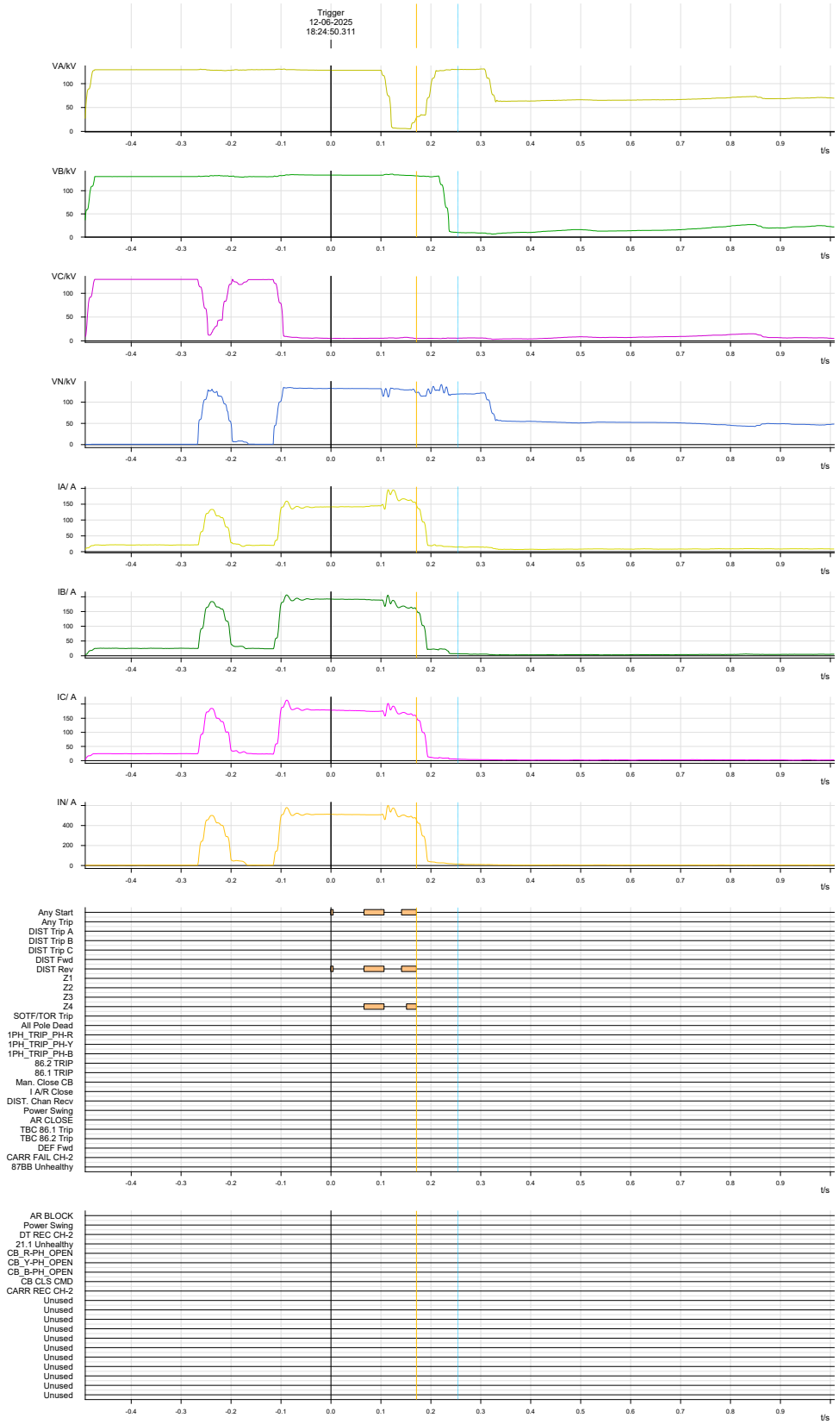
DR of 220 KV Kishanganj New Madhepura ckt 1 at Kishanganj New



DR of 220 KV Kishanganj New Madhepura ckt 2 at Kishanganj New



DR of 220 KV Kishanganj New Thakurganj ckt 1 at Kishanganj New


Trigger
12-06-2025
18:24:50.311
VA/kV
VB/kV
VC/kV
VN/kV
IA/ A
IB/ A
IC/ A
IN/ A
t/s
Any Start
Any Trip
DIST Trip A
DIST Trip B
DIST Trip C
DIST Fwd
DIST Rev
Z1
Z2
Z3
Z4
SOTF/TOR Trip
All Pole Dead
1PH_TRIP_PH-R
1PH_TRIP_PH-Y
1PH_TRIP_PH-B
86.2 TRIP
86.1 TRIP
Man. Close CB
I A/R Close
DIST. Chan Recv
Power Swing
AR CLOSE
TBC 86.1 Trip
TBC 86.2 Trip
DEF Fwd
CARR FAIL CH-2
87BB Unhealthy
AR BLOCK
Power Swing
DT REC CH-2
21.1 Unhealthy
CB_R-PH_OPEN
CB_Y-PH_OPEN
CB_B-PH_OPEN
CB CLS CMD
CARR REC CH-2
Unused

ग्रिड-इंडिया GRID-INDIA ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre
कार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033
CIN : U40105DL2009GOI188682, Website : www.erldc.in, E-mail : erldcinfo@grid-india.in, Tel.: 033 23890060/0061

पूर्वी क्षेत्र के 400 केवी दिक्चू में ग्रिड घटना पर विस्तृत रिपोर्ट / Detailed Report of grid event at 400 kV Dikchu S/s of Eastern Region

(To be submitted by RLDC/NLDC during Grid Disturbances/Grid Incidents/Near Miss Event as per IEGC section 37.2 (f))

(आई ई जी सी 37.2 (एफ) के अनुपालन में)

Date(दिनांक): 04-07-2025

1. Event Summary (घटना का सारांश):

Prior to the disturbance Dikchu generation was around 103 MW evacuating through 400kV Dikchu-Rangpo Line and 400kV Dikchu-Rangpo (Teesta-III Bypass) Line. At 10:44 Hrs Y-B Phase fault occurred in 400kV Dikchu-Rangpo line and line got tripped from both end in Z-1 protection. Simultaneously 400/132kV ICT at Dikchu also tripped on B/U over current protection. Due to complete loss of evacuation path, Dikchu unit#1 & 2 tripped on over speed/ over frequency protection. This resulted in a total generation loss of 103 MW at Dikchu S/s.

2. Time and Date of the Event (घटना का समय और दिनांक): 10:44 hrs of 19.06.2025

3. Event Category (ग्रिड घटना का प्रकार): Grid Incident (GI)-2

4. Location/Control Area (स्थान/नियंत्रण क्षेत्र): Sikkim

5. Antecedent Conditions (पूर्ववर्ती स्थिति):

	Frequency in Hz	Regional Generation in MW	Regional Demand in MW
Pre-Event (घटना पूर्व)	50.020	22671	22287
Post Event (घटना के बाद)	49.998	22568	22287

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

Important Transmission Line/Unit if under outage	NA

(महत्वपूर्ण संचरण लाइने/ विधुत उत्पादन इकाइयां जो बंद है)	
Weather Condition (मौसम स्थिति)	Normal.

6. Load and Generation loss (लोड और जेनरेशन हानि): Generation loss of 103 MW at Dikchu S/s.

7. Duration of interruption (रुकावट की अवधि): 00:50 Hrs.

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

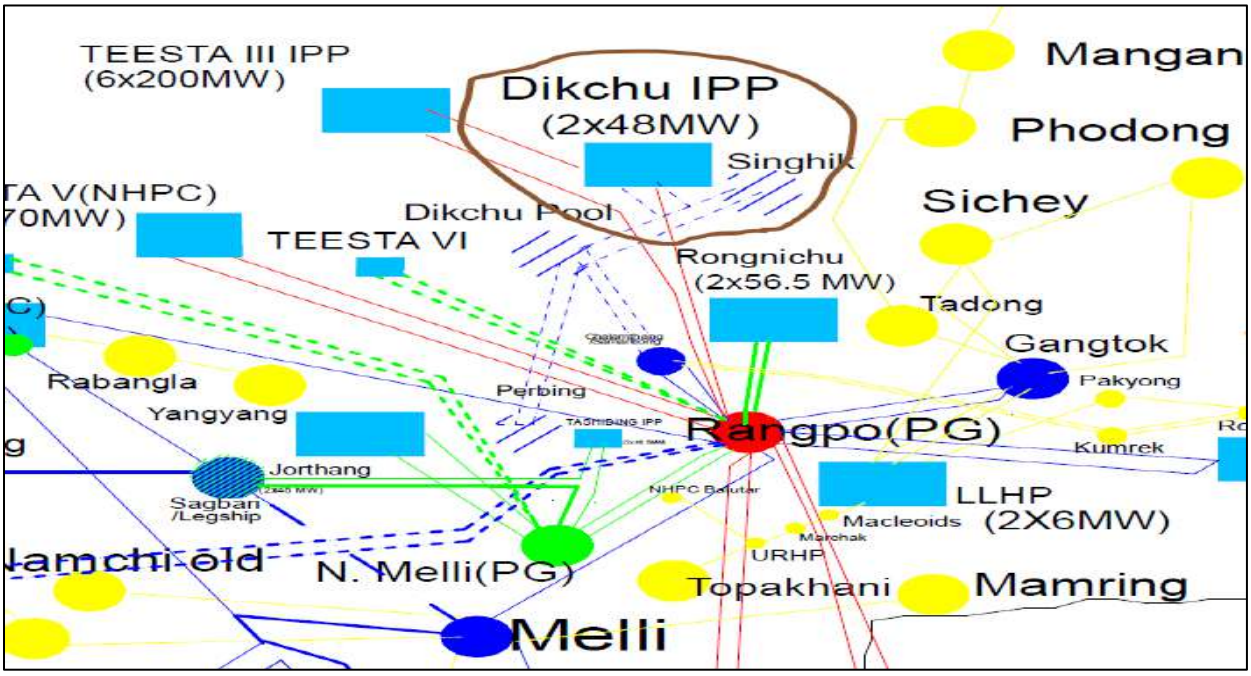


Figure 1: Network across the affected area

9. Details of Equipment Failure (if any during the event) (उपकरण विफलता का विवरण): NA

10. Major Elements Tripped (प्रमुख ट्रिपिंग):

क्रoसo	नाम	Trip time (hh:mm:ss)	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	Restoration time
1	400 kV Rangpo-Dikchu Line	10:44:53	Rangpo end: Y_B fault, Z-2, Iy=9.14kA, Ib=9.14kA, FD=30.23 km	Dikchu end: Y_B fault, Iy=3.47kA, Ib=3.36kA, FD=4.8 km	16:09

2	400/132kV ICT at Dikchu		Backup over current protection operated	11:34
3	Dikchu Unit-1		Over frequency/Overspeed	11:38
4	Dikchu Unit-2		Over frequency/Overspeed	11:44

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

- Dikchu generation was evacuated through 400kV Rangpo-Dikchu S/c and 400kV Rangpo-Dikchu (Bypassing Teesta-III) Line.

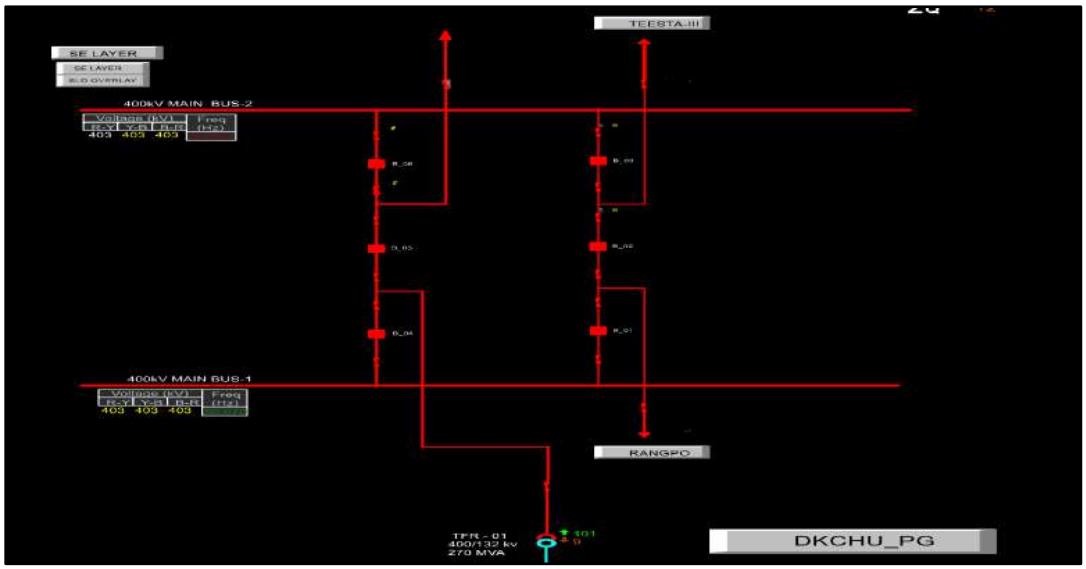


Figure 2: SLD of 400kV Dikchu S/s

- At 10:44:53 Hrs, Y-B fault occurred in 400kV Rangpo-Dikchu line and line got tripped from both end in Zone-1 protection within 100 msec.

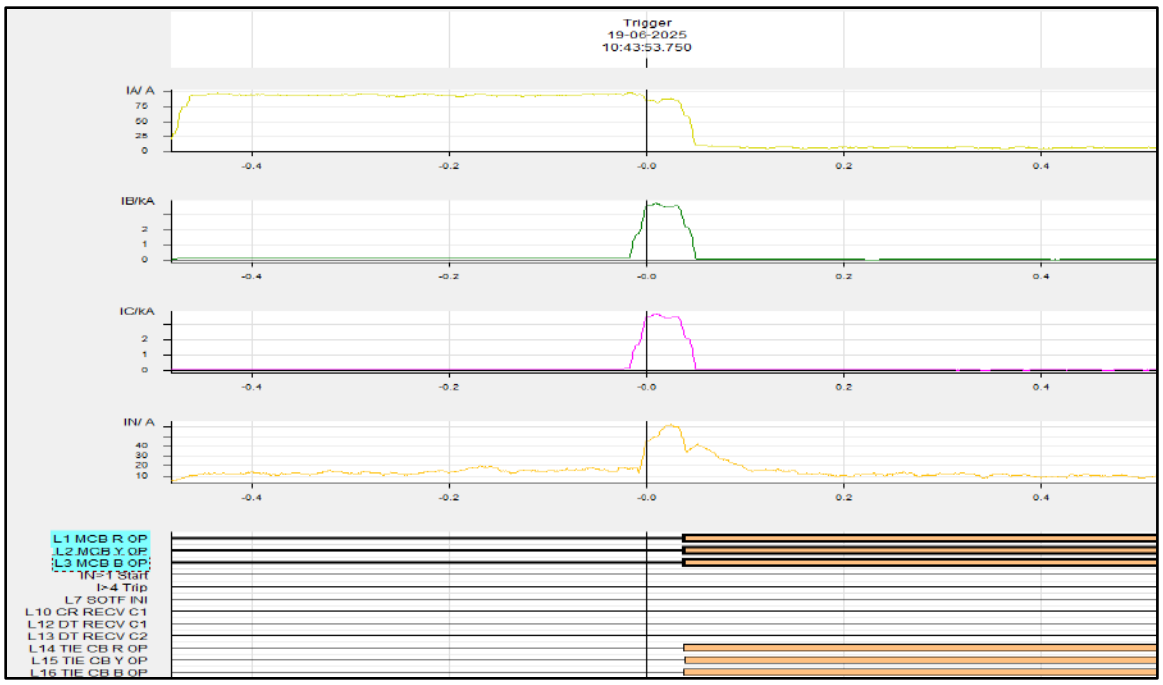


Figure 3: DR of 400kV Rangpo-Dikchu at Dikchu

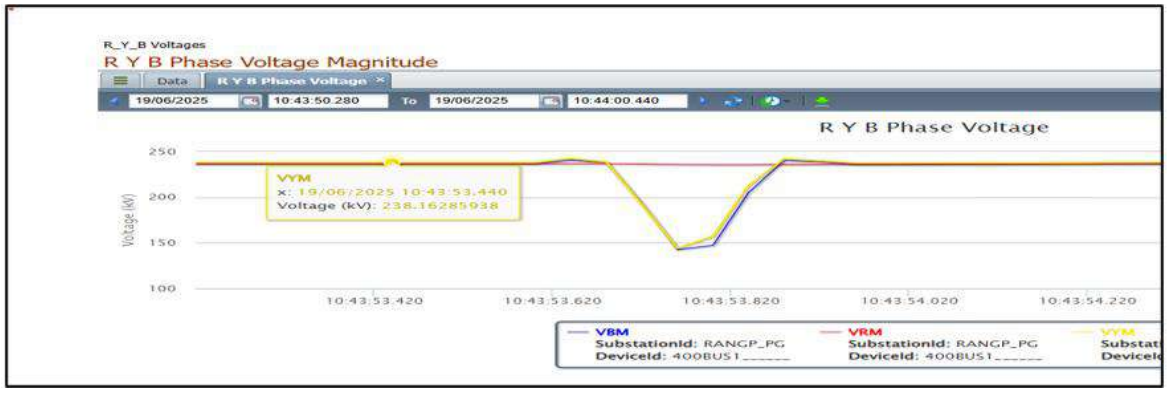


Figure-4: PMU of Rangpo voltage

- At the same time, 400/132kV ICT at Dikchu also got tripped on over current protection in 132kV LV side and master trip command extended to HV side of ICT.

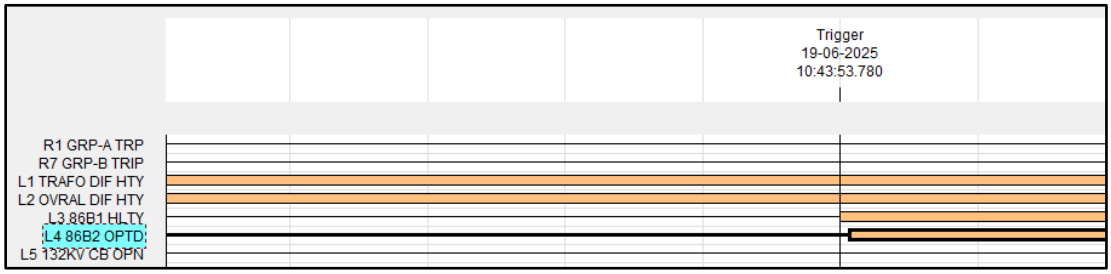


Figure 5: DR of 400/132kV ICT at Dikchu

- Due to tripping of 400/132kV ICT at Dikchu, Dikchu unit#1 & 2 got tripped on overspeed/ over frequency protection due to loss of evacuation path.

- Generation loss of 103 MW reported at Dikchu.
- 400/132kV ICT at Dikchu charged at 11:34 Hrs and Dikchu unit #1 & 2 synchronised at 11:38 Hrs and 11:44 Hrs respectively.

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

- Line fault was cleared within 100 msec from both end and at the same time 400/132kV ICT tripped on B/U over current protection which is unwanted. Backup over current setting of ICT at Dikchu may be reviewed.

13. Action Taken/Remedial Measures (सुधारात्मक उपाय): Informed Under review.

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

S.No.	Issues	Regulation Non-Compliance	Utilities
1.	**DR/EL not submitted within 24 hours**	1. IEGC section 37.2 (c) 2. CEA grid Standard 15.3	**Dikchu**

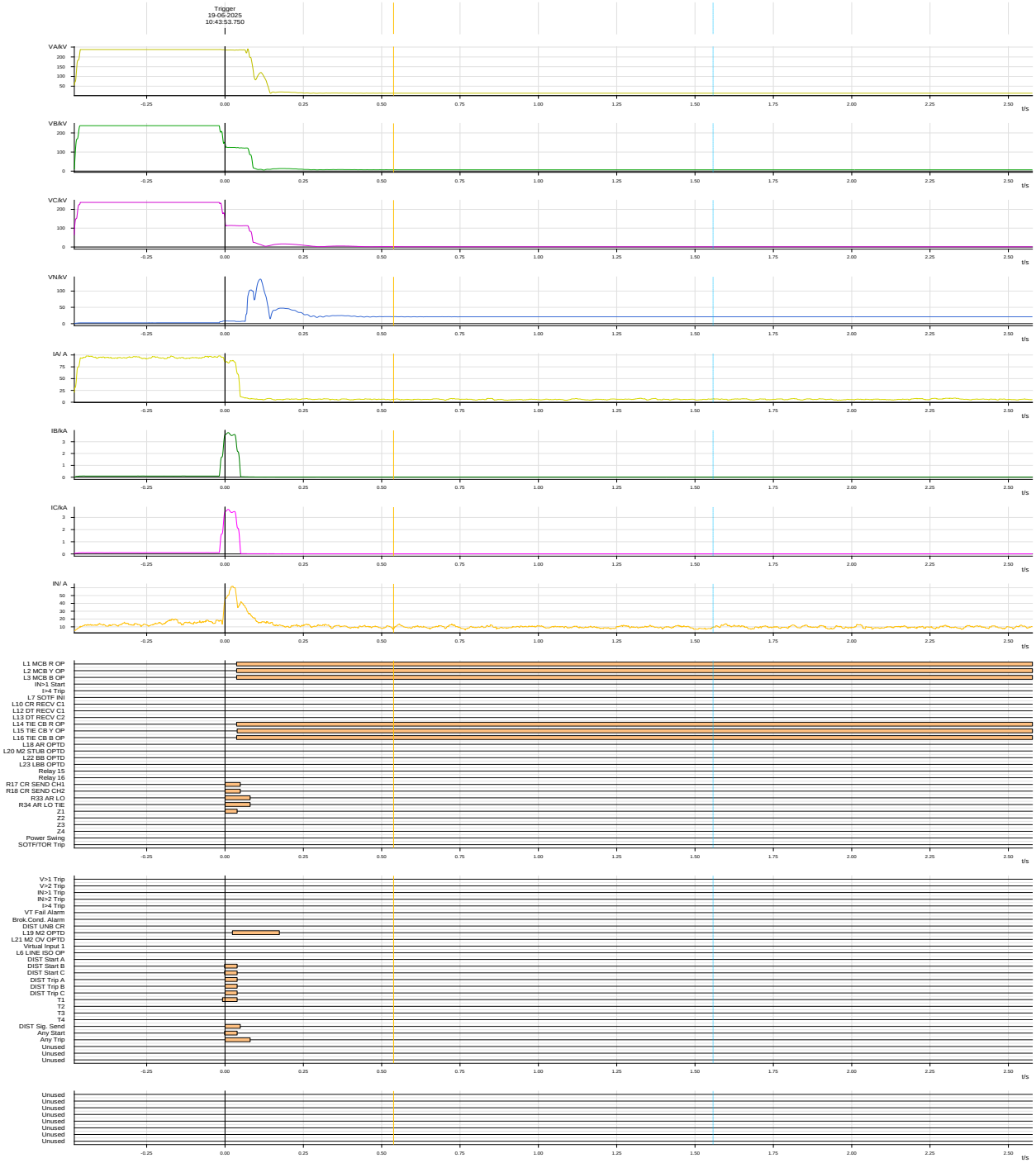
15. Key Lessons Learnt (प्रमुख अधिगम बिंदु): Ensuring proper protection setting in line with ERPC protection Philosophy is essential to prevent UNWANTED tripping and system disturbance. As per Grid code, this should be verified through an internal protection audit conducted annually.

Annexure 1: (Sequence of Events-As per ERLDC SCADA):

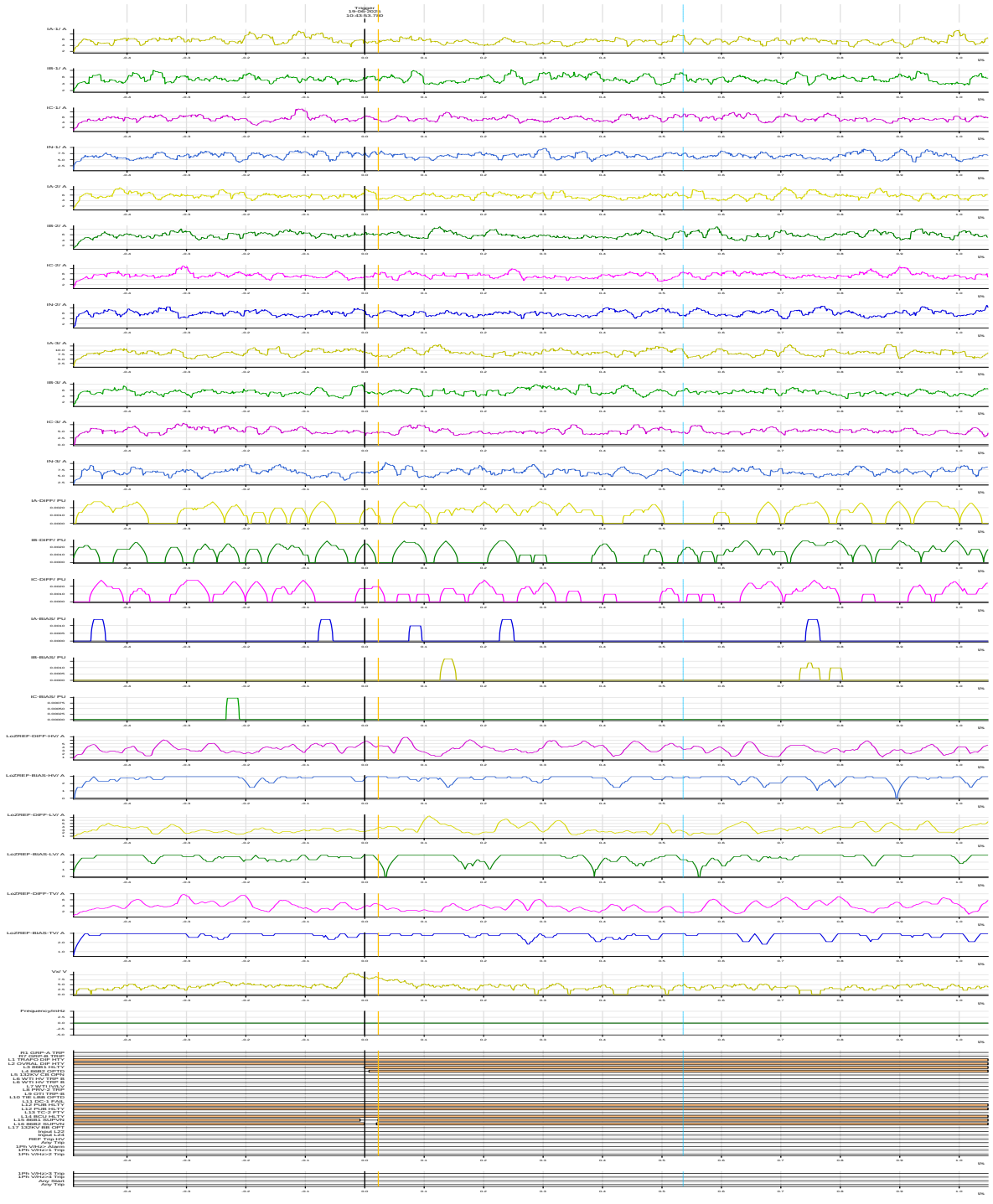
TIME	MILLI_SEC	STATION	DESCRIPTION	STATUS
19-06-2025 10:43:53	818	RANGP_PG	400_DIKCHU_PG_CB	Open
19-06-2025 10:43:53	850	DKCHU_PG	132_ICT_1_Sec_CB	Open
19-06-2025 10:43:53	850	DKCHU_PG	132_UNIT_H_1_CB	Open
19-06-2025 10:43:53	850	DKCHU_PG	132_UNIT_H_2_CB	Open
19-06-2025 10:43:53	850	DKCHU_PG	132/11_Xfmr1_Pri_CB	Open

Annexure 2:

DR of 400kV Rangpo-Dikchu at Dikchu:



DR of 400/132kV ICT at Dikchu:



Annexure B.5.1

Reply all | Delete Junk | •••

RE: Revised settings of ICT LV side Protection Relay at Dikchu HEP

Ashish Kumar <ashish.k@budhilhydro.com>
Fri 7/4, 6:10 PM
Gitesh Patel (गितेश पटेल); Akash Kumar Modi (आकाश कुमार मोदी); arif md <arif.md@greenkoenergyprojects.com>+2 more

Reply all

Inbox

Dear Sir,

As discussed, revised settings of for ICT LV side Protection Relay have been implemented on field at Dikchu HEP. Revised setting details are as follows:

1. **Phase Overcurrent 132kV Side of ICT**
   - CT Ratio: 2000/1A

   Stage:1
   - Type: IEC S Inverse
   - Direction: Forward Directional
   - Current Setting Stage-1 **Ip** : 1535.222 A **(Primary)**
   - TMS: 0.30

   Stage:2
   - Type: DT
   - Direction: Forward Directional
   - Current Setting Stage-2 **I>** : 10392.6 A **(Primary)**
   - Time Delay: 150ms

2. **EF Overcurrent 132kV Side of ICT**
   - NOT REQUIRED at 132KV LV Side

This is for your kind information please.

Best Regards,
Ashish Kumar | M +91 9805092371 | M +91 7007249207
Sneha Kinetic Power Projects Private Limited
Dikchu HEP

Annexure B.9 PG ER-II

List of important transmission lines in ER which tripped in June-2025																		END-A						END-B					
Sl. No.	LINE NAME	TRIP DATE	TRIP TIME	RESTORATION DATE	RESTORATION TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reason	Fault Clearance time in msec	Remarks	DR Configuration Discrepancy(Local End)	DR Configuration Discrepancy(Remote End)	DR/ELRECEIVED FROM LOCAL END	DR/ELRECEIVED FROM REMOTE END	LOCAL END UTILITY	REMOTE END UTILITY	UTILITY RESPONSE	Nc	Nu	Nf	Dependability Index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Nc	Nu	Nf	Dependability Index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))
5	400KV-BINAGURI-MALBASE-1	30-06-2025	02:07	-	-	Binaguri end: RN fault, FC-3.593 ka, FD-103.8 km	Malbase end: Zone I, Fault location: 20.38km, Fault values; Ia= 6.055kA, Ib= 521.4A, Ic= 310.9A,	R-Earth	100 msec	A/r failed after 1 sec.			YES	NO	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.	1			1	1	1	NA					
8	400KV-NEW JEERAT-SUBHASGRAM(PG)-1	29-06-2025	03:03	29-06-2025	15:56	B_N, F Current : Ib 8.774 kA, Dist 25.90 km	B-N, FC- 4.072 kA, FD-69.3 km.	B-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PMJTL	PG-ER 2	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.	1			1	1	1	1					
10	400KV-BINAGURI-MALBASE-1	28-06-2025	00:29	29-06-2025	13:53	Binaguri - R-N, F/C 3.544 KA, F/D: 104.2. KM	Malbase - Zone 1 tripped. Dist=20.1km R_N FC - 6.058 KA ,	R-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.	1			1	1	1	NA					
11	400KV-ALIPURDUAR (PG)-JIGMELLING-1	27-06-2025	21:02	27-06-2025	21:28	DT receipt	Not Tripped	No Fault	NA	DT Received at Alipurduar end.			YES	NO	PG-ER 2	BHUTAN	No fault was present in line. DT received at Alipurduar end and 3 phase trip happened. Protection operated properly at Alipurduar end.	1			1	1	1	NA					
30	220KV-NEW MELLI-TASHIDING-2	22-06-2025	23:03	-	-	Tashiding: Y-B Ph, Z-1, 1.894 km, 138.54A	New Melli: Y-B Ph, Z-II, 4.35kA, 18.65km	Y-B	100 msec	Line tripped on phase to phase fault			YES	YES	PG-ER 2	DANS POWER	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.	1			1	1	1	NA					
33	400KV-ALIPURDUAR (PG)-JIGMELLING-1	22-06-2025	13:45	22-06-2025	14:05	Alipurduar: DT Received	Jigmelling: Not tripped.	No Fault	NA	DT Received at Alipurduar end.			YES	NO	PG-ER 2	BHUTAN	No fault was present in line. DT received at Alipurduar end and 3 phase trip happened. Protection operated properly at Alipurduar end.	1			1	1	1	NA					
34	400KV-BINAGURI-MALBASE-1	21-06-2025	04:27	27-06-2025	18:06:00	Binaguri :R_N, Z-1, F Dist 100.7 km, F Current 2.56 kA	Malbase:R_N, Main 1 opted, F Dist=20.57km F Current Ir 6.112kA;	R-Earth	100 msec	A/r failed after 1 sec.			YES	NO	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.	1			1	1	1	NA					

36	400KV-DURGAPUR-KHSTPP-2	19-06-2025	16:25	20-06-2025	09:55	KHSTPP: Z1, R-Y, 45km, IR-10.5kA, Y-10.6kA,	Durgapur: R-Y, Z-1, 205km, IR-2.52kA, IY-2.43kA	R-Y-Earth	100 msec	Line tripped on phase to phase fault			YES	NO	PG-ER 2	NTPC	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.	1			1	1	1	NA									
37	400KV-JEERAT-SUBHASGRAM-2	18-06-2025	10:20	-	-	Jeerat: B-E, 33km, 6.39 kA	Subhasgram: B-E, 59.4 km, 5.36 kA	B-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PMJTL	PG-ER 2	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.	1			1	1	1	1			1	1	1	1			
40	400KV-ALIPURDUAR (PG)-JIGMELLING-2	16-06-2025	11:51	16-06-2025	14:17	No event recorded at APD end	Jigmeling end: Zone-I, Fault Dist: 114.2km, Y-N Fault	Y-Earth	120 msec	Line tripped on phase to ground fault from Jismelling end.			YES	YES	PG-ER 2	BHUTAN	Line tripped from Jigmeling end only. No event at Alipurduar end. Protection operated properly at Alipurduar end.	1			1	1	1	NA									
48	400KV-KISHANGANJ(PG)-RANGPO-1	12-06-2025	11:38	12-06-2025	16:56	Rangpo: Y-B ph, 14km,Iy: 8.957 kA, Ib: 8.429kA, Z-I	Kishanganj: Y-B Ph, Iy: 4.01kA, Ib: 4.01 kA, Z-II,	Y-B-Earth	100 msec	Line tripped on phase to phase fault			YES	YES	PG-ER 1	PG-ER 2	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.	NA						1			1	1	1			
53	400KV-BINAGURI-RANGPO-2	08-06-2025	13:16	08-06-2025	15:43	Z-2, Y-B fault, Iy-3.9 kA, Ib-3.8 kA, 106 km	-	Y-B	100 msec	Line tripped on phase to phase fault.			YES	YES	PG-ER 2	PG-ER 2	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.	1			1	1	1	1			1	1	1	1			
61	765KV-NEW RANCHI-MEDINIPUR-1	04-06-2025	16:59	04-06-2025	18:35	N Ranchi : B-N, B - 4.97 kA, 160.27 km;	Medinipur: Z1, B-N, 125km, 3.5kA	B-Earth	100 msec	A/r failed after 1 sec			YES	YES	PG-ER 1	PMJTL	Initially, fault was in B phase. After 900ms, fault evolved in R phase. Hence, 3 phase trip happened. Protection operated properly at PG ER-2 end.	NA						1			1	1	1			

WBSETCL

Protection Performance Indices for the month of JUNE'25 (In compliance of Clause 15(6) of IEGC 2023)

Sl. No.	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)	Analysis of the event
						End A	End B	End A	End B	End A	End B	End A	End B					
1	GOKARNA-SAGARDIGHI #1	02.06.25	20:42:00	02.06.25	21:29:00	Zone-1,B-phase, A/r optd., A/R L/O		1		0		0		1	1	1		
2	JEERAT-315 MVA TR#3	03.06.25	11:02:00	03.06.25	19:24:00	Tripped with HV REF		0		1		0		#	#	#	Causes of REF operation not idetified.	
3	KURSEONG-SILIGURI PG#2	03.06.25	11:19:00	03.06.25	12:10:00	Zone-1, Y-B Phase, CS ,3 Phase Trip		1		0		0		1	1	1		
4	MANIKCHAK-MALDA PG #2	04.06.25	11:10:00	04.06.25	11:48:00	Zone-1, R- Phase, CS ,3 Phase Trip		1		0		0		1	1	1		
5	MANIKCHAK-MALDA PG #1	04.06.25	11:10:00	04.06.25		No Tripping												
6	DURGAPUR-PPSP #1	04.06.25	23:21:00	05.06.25	01:05:00	Zone-1,B-phase, A/R L/O		1		0		0		1	1	1		
7	NEW PPSP-RANCHI #2	15.06.25	11:41:00	15.06.25	12:41:00	Gas Leakage, zone Trip		0		1		0		#	#	#	Due to ingress of moisture in Busduct gas Chember	
8	KHARAGPUR-MIDNAPORE #2	17.06.25	05:03:00	17.06.25		No Tripping												

9	BIRPAR-BIRPARA PG #1	17.06.25	16:45:00	17.06.25	17:22:00	LINE DIFF. TRIP, R-PHASE, 3PH TRIP		0		1		0		#	#	#	Remote End data missining causes diff. Trip	
10	MANIKCHAK-MALDA PG #1	19.06.25	19:23:00	19.06.25	20:00:00	Zone-1,Y-phase, CS , 3-PH Trip		1		0		0		1	1	1		

BSPTCL

Protection Performance Indices for the month of June'25

S. No.	Name of the element	Tripping Date	Tripping time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)
						End A	End B	End A	End B	End A	End B	End A	End B				
1	220KV-SAHARSA(PMTL)-KHAGARIA(NEW)-1	28-06-2025	21:52	29-06-2025	16:24	Y_N, Iy- 12.987 kA, 4 km	Y_N, Z-1, Iy-2.675kA, Distance -50.90km		1		0		0	1	1	1	A/r failed after 1 sec.
2	220KV-SAHARSA(PMTL)-KHAGARIA(NEW)-1	20-06-2025	08:13	20-06-2025	17:29	Saharsha: 41.69km,3.52kA,B-Ph	Khagaria: Zone-1, Ir- 37.5A, Iy- 100.4A, Ib- 3.282kA, Vr- 138.6kV, Vy- 141.8kV, Vb-68.61kV,		1		0		0	1	1	1	A/r failed after 1 sec.
3	220KV-PATNA-KHAGAUL-1	15-06-2025	02:23	16-06-2025	20:27	Patna(PG): B-ph, 8.9km,12.76kA,Z-I	Khagul: Distance - 17.95 km,Ib-1.319KA, B-Ph		1		0		0	1	1	1	A/r failed after 1 sec.
4	220KV-KISHANGANJ(PG)-KISHANGANJ(BSPTCL)-3	13-06-2025	21:12	13-06-2025	21:58	Kishanganj(PG): Not tripped	Kisahnganj(Bh): Bus bar operated during testing of newly erected B phase CT of 160 MVA ATR-03 (Which was burst on 12/06/2025) at GSS Kishanganj (new)		0		1		0	0	0	0	Bus bar operated during testing.
5	220KV-KISHANGANJ(PG)-KISHANGANJ(BSPTCL)-1	13-06-2025	21:12	13-06-2025	21:58	Kishanganj(PG): Not tripped	Kisahnganj(Bh): Bus bar operated during testing of newly erected B phase CT of 160 MVA ATR-03 (Which was burst on 12/06/2025) at GSS Kishanganj (new)		0		1		0	0	0	0	Bus bar operated during testing.
6	220KV-DEHRI-GAYA-1	08-06-2025	19:29	10-06-2025	18:37	R-Y, Z-1	R-Y, Z-1, FC-Ir=3.79 kA, Iy=1.45 kA	1		0		0		1	1	1	Line tripped on phase to phase fault.
7	220KV-SAHARSA-BEGUSARAI-1	06-06-2025	14:16	06-06-2025	16:13	Saharsha: R ph, 25 km, 5.1 kA	Beg;-Z1,R phase		1		0		0	1	1	1	A/r failed after 1 sec
8	220KV-PATNA-KHAGAUL-3	06-06-2025	10:37	06-06-2025	15:11	Patna : FD 8.58 km,Ib 11.5 kA, B-N , Z-1	Khagaul :,Z- 1 , FD 16.15 km , IB- 5.733 KA		1		0		0	1	1	1	Line tripped on reclaim time

OPTCL

PROTECTION PERFORMANCE INDICES AS PER TRIPPING LIST OF PCC MEETING AGENDA FOR THE MONTH OF MAY 2025 FOR OPTCL ,SLDC,ODISHA

SL.NO	NAME OF THE ELEMENT	TRIPPING DATE	TRIPPING TIME	RESTORATION DATE	RESTORATION TIME	REASON(RELAX INDICATION)		NC		NU		NF		DEPENDABILITY INDEX (NC/NC+NF)	SECURITY INDEX (NC/NC+NU)	RELIABILITY INDEX(NC/NC+NU+NF)	REMARKS
						END-A	END-B	END-A	END-B	END-A	END-B	END-A	END-B				
2	220KV BARIPAGA PG-BALASORE-II	30/06/25	14:20	30/06/25	14:58	A/R SUCCESS	DT RECEIVED	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	A/R SUCCESS AT BARIPADA PG END. SPURIOUS DT SIGNAL RECEIVED AT BALASORE END
16	220KV JODA-RAMACHANDRAPUR-1	27/06/25	02:44	27/06/25	03:12	A/R SUCCESS	Z-1/B-N/8.19 KA/14.44 KM	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	A/R SUCCESS AT JODA END BUT 3-PHASE TRIPPED AT RAMCHANDRAPUR END
20	220KV KATAPALI-BOLANGIR PG-1	26/06/25	09:00	26/06/25	10:00	Z-2/R-N/1.58 KA/115 KM	Z-1/R-N/1.98 KA/34.6 KM	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	LINE TRIPPED IN Z-1 FROM BOLANGIR END AND Z-2 FROM KATAPALI END DUE TO NON-AVAAILABILITY OF CARRIER COMMUNICATION.
22	220KV BARIPAGA PG-BALASORE-II	26/06/25	03:27	26/06/25	05:33	-	DT RECEIVED	0	1	0	1	0	1	END A=0,END B=1/2	END A=0,END B=1/2	END A=0,END B=1/3	NO FAULT BUT LINE TRIPPED DUE TO DT RECEIVED AT BALASORE END
23	220KV BARIPAGA PG-BALASORE-II	25/06/25	21:07	25/06/25	21:53	-	DT RECEIVED	0	1	0	1	0	1	END A=0,END B=1/2	END A=0,END B=1/2	END A=0,END B=1/3	NO FAULT BUT LINE TRIPPED DUE TO DT RECEIVED AT BALASORE END
26	400kv Lapanga-Aditya Alumina -I	24/06/25	13:17	24/06/25	16:45	DT RECEIVED	-	1	0	1	0	1	0	END A=1/2,END B=0	END A=1/2,END B=0	END A=1/3,END B=0	NO FAULT BUT LINE TRIPPED DUE TO DT RECEIVED AT LAPANGA END
38	220 KV BUDHIPADAR-KORBA-II	17/06/25	12:00	17/06/25	22:49	A/R SUCCESS	TRIPPED	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	A/R SUCCES AT BUDHIPADAR END BUT LINE TRIP AT KORBA END
50	400 KV MRDL-LAPANGA-1	06-10-2025	15:35	06-10-2025	16:30	Z-2/R-N/21.14 KA/A/R SUCCESS	Z-1/R-N/2.07 KA/64 KM	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	A/R SUCCESSFUL AT MERAMUNDALI END
51	220 KV JODA-RAMACHANDRAPUR-1	06-09-2025	14:12	06-09-2025	18:06	Z-2/1.024 KA/146.9 KM/B-N/A/R LOCK OUT	/Ir=0.26KA/Iy=2.6 KA/Ib=2.35 K	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	B-PHASE JUMPER SNAPPED BETWEEN CT AND ISOLATOR AT RAMCHANDRAPUR END
54	220 KV TTPS-TSTPP-1	06-07-2025	17:53	06-07-2025	18:54	Z-1/R-N/4.21 KA/22.83 KM	Z-3/7.39 KA/9.2 KM	1	1	0	0	0	0	END A=1 ,END B=1	END A=1 ,END B=1	END A=1 ,END B=1	3 PHASE TRIPPED OCURRED FOR SINGLE PHASE TO GROUND FAULT.

Performance Indices of Darlipali STPP for Jul'25

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of failures to operate at internal power system faults(Nf)	The Dependability Index(D=Nc/(Nc+Nf)
1	1	0	1

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of unwanted operations (Nu)	The Security Index(S=Nc/(Nc+Nu)
2	1	0	1

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of incorrect operations (Ni=Nf+Nu)	The Reliability Index (R=Nc/(Nc+Ni)
3	1	0	1

NOTE for reference of deciding parameters:

1) Nc = The number of correct operation of switchyard breakers (220kV and above) on protection to be counted i.e if the breaker has operated correctly on internal protection operation

2) Nf = The number of failure of switchyard breaker (220kV and above) to operate on its protection to be counted i.e if the breaker has not operated on internal protection operation (includes LBB operation etc)

3) Nu = The number of unwanted operation of switchyard breaker (220kV and above) without its own protection operation to be counted i.e if the breaker has opened without operation of its protection leading to tripping of other breaker or grid connected equipments

CESC

		CESC 220kV Network Protection Performance Indices for the month of June'2025																
Station Name	**Feeder Name**	**Tripping Date/Time**	**Restoration/ Re-commission Date**	**Restoration/Re-commission Time**	**Reason (Relay indication)**		**Nc**		**Nu**		**Nf**		**Dependability index (Nc/(Nc+N f))**	**Security Index (Nc/(Nc+Nu))**	**Reliability Index (Nc/(Nc+ Nu+Nf))**	**Remarks (Reason for performan ce indices less than 1)**	**Analysis of the event**
					End A(EMSS)	End B(Princep St SS)	End A(EMSS)	End B(Princep St SS)	End A(EMSS)	End B(Princep St SS)	End A(EMSS)	End B(Princep St SS)					
EMSS	**220kV F. Princep St GIS**	16-06-2025/05:16hrs	24-06-2025	12.12hrs	Line differential (Y phase), I/T receive	Line differential (Y phase), I/T receive	1	1	1	1	1	1	1	1	1	NA	Cable fault occurred (Yph to earth) at 7.2 km from EMSS and 0.7km from Princep street end.

DMTCL

Protection Performance Indices for the month of June'2025																		
Sr.No.	Name of the Element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc	Nc	Nu	Nu	Nf	Nf	Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)	Analysis of the event
						End A	End B	End A	End B	End A	End B	End A	End B					
	No-Tripping in June'2025 Month																	

Tashiding

Tashiding Hydro Electric Project 2 X 48.5 MW

Protection Performance Indices for the JUNE -2025 (In compliance of Clause 15(6) of IEGC 2023)

Sl. No.	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+N f))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+ Nu+Nf))	Remarks (Reason for performance indices less than 1)	Analysis of the event
						End A	End B	End A	End B	End A	End B	End A	End B					
1	220KV Tashiding- New Melli Line-2	22-06-2025	23:03:56			B,C Phase Z1 ,fault location 1.920km Fault Current IB 4.066kA,IC-4.021kA	B,C Phase Z2 fault location 18.65km Fault Current IB- 4.354kA,IC - 4.397kA	--	--	--	--	--	--	--	--	--	Tashiding-New Melli Ckt-2 tripped due to punctured Insulators on Tower No 5 & 6.	For replacing of punctured Insulators on Tower No 5 & 6 by new piece and work in under progress

Nc - is the number of correct operations at internal power system faults.

Nf - is the number of failures to operate at internal power system faults.

Nu - is the number of unwanted operations.

TVNL

Protection Performance Indices for the month of JUNE 2025(In compliance of Clause 15(6) of IEGC 2023)

Sl. No.	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)
						End A	End B	End A	End B	End A	End B	End A	End B				
1	400 KV ICT-2	06.06.2025	20:45 HRS	06.06.2025	22:20 HRS	OTI TRIP		0		1		1		0.0000	0.0000	0.0000	CONTROL CABLE CORE FAULTY
2	400 KV ICT-2	07.06.2025	02:07 HRS	07.06.2025	16:48 HRS	OTI TRIP		0		1		1		0.0000	0.0000	0.0000	CONTROL CABLE CORE FAULTY
3	400 KV ICT-2	10.06.2025	05:06 HRS	10.06.2025	09:09 HRS	OTI TRIP		0		1		1		0.0000	0.0000	0.0000	CONTROL CABLE CORE FAULTY
4	400 KV ICT-2	20.06.2025	13:46 HRS	20.06.2025	17:25 HRS	IDIFF TRIP OPTD		1		0		0		1.0000	1.0000	1.0000	-
5	400 KV ICT-2	28.06.2025	07:57 HRS	28.06.2025	11:12 HRS	PRV 1 TRIP		0		1		1		0.0000	0.0000	0.0000	MALOPERATION

NOTE:
Nc is the number of correct operations at internal power system faults
Nf is the number of failures to operate at internal power system faults.
Nu is the number of unwanted operations.
Ni is the number of incorrect operations and is the sum of Nf and Nu

APNRL

ADHUNIK POWER AND NATURAL RESOURCES LIMITED 2 X 270 MW

Protection Performance Indices for the JUNE 2025 (In compliance of Clause 15(6) of IEGC 2023)

Sl.No	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration on Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability (Nc/(Nc+Nf)	Security Index (Nc/Nc+Nu)	Reliability Index (Nc/Nc+Nu+Nf)	Remarks (Reason for performance indices less then 1	Analysis of the Event
						End A	End B	End A	End B	End A	End B	End A	End B					
1	ADHUNIK LINE-1 (404) BREAKER OFF	20.06.2025	02.50 Hrs	20.06.2025	10.20 Hrs	Y' Phase open & All 3 Phase Open	No Alarm / indicaton	1	0	0	0	1	0	1	1	1	-	Water ingress to Y-phase 404 breaker mechanism box which resulted to Y-Phase opened.Consequently PD operated and all phase opened.

Nc - is the number of correct operations at internal power system faults

Nf - is the number of failures to operate at internal power system faults.

Nu- is the number of unwanted operations.

ENICL, OGPTL, PKTCL

Protection Performance Indices for the month of June-25 (In compliance of Clause 15(6) of IEGC 2023)

S. No.	Name of Utility	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)
							End A	End B	End A	End B	End A	End B	End A	End B				
1	EAST NORTH INTERCONNECTION LIMITED	400 kv (Quad) D/C Bongaigaon - Alipurduar line CKT- 1(BNG- ALIP #1)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kv (Quad) D/C Bongaigaon - Alipurduar line CKT- 2(BNG- ALIP #2)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kv (Quad) D/C Purnia-Biharshrif Line CKT-1 (NPRN-BSF#1)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kv (Quad) D/C Purnia-Biharshrif Line CKT-2(NPRN-BSF# 2)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kv (Quad) D/C Alipurduar - Siliguri line CKT- 1(ALIP- SLG #1)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kv (Quad) D/C Alipurduar - Siliguri line CKT- 2(ALIP- SLG #2)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
2	ODISHA GENRATION PHASE - II LIMITED	765kV D/C Jharsuguda(Sundargarh)-Raipur pool CKT-2							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400kV D/C IB-OPGC-Jharsuguda(Sundargarh) Ckt-1							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400kV D/C IB-OPGC-Jharsuguda(Sundargarh) Ckt-1							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		765kV D/C Jharsuguda(Sundargarh)-Raipur pool CKT-1							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400kV D/C LILO POINT (T. No. - 130) - Sundargarh							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400kV D/C OPGC-LILO POINT (T. No. - 130)							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
3	PURULIA KHARAGPUR TRANSMISSION COMPANY LIMITED	400 kV Chaibasa-Kharagpur D/C line CKT- 1							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 kV Chaibasa-Kharagpur D/C line CKT- 2							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 KV,D/C New Ranchi-New Purulia Line: CKT-1							-	-	-	-	-	-	-NA-	-NA-	-NA-	No events in the month of June'25
		400 KV,D/C New Ranchi-New Purulia Line: CKT-2	########	11:41:00	######	#####	DT received at New Ranchi end	DT send from New PPSP end	1.00	1.00	-	-	-	-	-NA-	1	1	Tripped due DT send from New PPSP end and DT received at New Ranchi end

MPL

Protection Performance Indices for the month of June-25 (In compliance of Clause 15(6) of IEGC 2023)

S. No.	Name of the element	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason (Relay indication)		Nc		Nu		Nf		Dependability index (Nc/(Nc+Nf))	Security Index (Nc/(Nc+Nu))	Reliability Index (Nc/(Nc+Nu+Nf))	Remarks (Reason for performance indices less than 1)
						End A	End B	End A	End B	End A	End B	End A	End B				
1	No Tripping																

Annexure B.11

List of important transmission lines in ER which tripped in June-2025																	
Sl. No.	LINE NAME	TRIP DATE	TRIP TIME	RESTORATION DATE	RESTORATION TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reason	Fault Clearance time in msec	Remarks	DR Configuration Discrepancy(Local End)	DR Configuration Discrepancy (Remote End)	DR/EL RECEIVED FROM LOCAL END	DR/EL RECEIVED FROM REMOTE END	LOCAL END UTILITY	REMOTE END UTILITY	UTILITY RESPONSE
1	400KV-BIHARSARIFF(PG)-SAHUPURI(CHANDAULI)-1	30-06-2025	11:34	30-06-2025	13:52	A/R succesful at Biharshariff end: Y-ph, FD:36.79 km, FC:7.753 kA, Z-1	-	Y-Earth	100 msec	A/r successful from Biharsariff end and line tripped from Sahupuri end.			YES	NO	PG-ER 1	NRLDC	Problem at Sahupuri (UPPTCL) End
2	400KV-BINAGURI-MALBASE-1	30-06-2025	02:07	-	-	Binaguri end: RN fault, FC-3.593 ka, FD-103.8 km	Malbase end: Zone I, Fault location: 20.38km, Fault values; Ia= 6.055kA, Ib= 521.4A, Ic= 310.9A,	R-Earth	100 msec	A/r failed after 1 sec.			YES	NO	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.
3	400KV-NEW JEERAT-SUBHASGRAM(PG)-1	29-06-2025	03:03	29-06-2025	15:56	B_N, F Current : Ib 8.774 kA, Dist 25.90 km	B-N, FC- 4.072 kA, FD-69.3 km.	B-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PMJTL	PG-ER 2	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.
4	400KV-BINAGURI-MALBASE-1	28-06-2025	00:29	29-06-2025	13:53	Binaguri - R-N, F/C 3.544 KA, F/D: 104.2. KM	Malbase - Zone 1 tripped. Dist=20.1km R_N FC - 6.058 KA ,	R-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.
5	400KV-ALIPURDUAR (PG)-JIGMELLING-1	27-06-2025	21:02	27-06-2025	21:28	DT receipt	Not Tripped	No Fault	NA	DT Received at Alipurduar end.			YES	NO	PG-ER 2	BHUTAN	No fault was present in line. DT received at Alipurduar end and 3 phase trip happened. Protection operated properly at Alipurduar end.
6	220KV-DALTONGANJ-CHATRA-1	27-06-2025	19:12	27-06-2025	21:32	No tripping at Daltongunj	Chatra : Distance-706.44 km, Ia=78 A, Ib=74.4 A, Ic=81.6 A	No Fault	NA	No fault reported. Spurious tripping occurred at Chatra end . JUSNL may explain.			YES	YES	PG-ER 1	JUSNL	Problem at Chatra (JUSNL) End
7	220KV-DALTONGANJ-CHATRA-1	27-06-2025	15:55	27-06-2025	16:51	CHATRA: R-PH ,Z-1 , FD=49.78 KM , FC: 1.044 KA :	Daltonganj :R-N , Ir 1.616 kA, FD 72.03 km	R-Earth	100 msec	Three phase tripping for phase to ground fault. PG and JUSNL may explain.			YES	YES	PG-ER 1	JUSNL	A/R was disabled with ERLDC Code on request of NKTL
8	220KV-RANCHI-HATIA-1	27-06-2025	05:01	27-06-2025	06:24	Ranchi end Auto reclosure successful R/i: R_N, FD: 13.68 km, FC: 10 kA	Hatia end: Ia= 3.977 KA Zone-1 Distance- 26.72 km	R-Earth	100 msec	R phase to ground fault occurred and R phase tripped from Hatia end and after 2 sec pole discrepancy relay operated and remaining phase tripped. JUSNL may explain.			YES	YES	PG-ER 1	JUSNL	Problem at Hatia (JUSNL) End
9	400KV-BIHARSARIFF(PG)-SAHUPURI(CHANDAULI)-1	26-06-2025	15:45	26-06-2025	18:22	Not tripped	Tripped from Sahupuri end only	No Fault	NA	As per PMU no fault observed, Line tripped from Sahupuri end.			NA	NO	PG-ER 1	NRLDC	Problem at Sahupuri (UPPTCL) End

10	220KV-KATAPALLI-BOLANGIR(PG)-1	26-06-2025	09:00	26-06-2025	10:00	Katapalli, R_N, Z-2, F Dist 115 km, F Current Ir 1.58 kA,	Bolangir : R_N, F Dist 34.6 km, F Current Ir 1.98 kA, Z-1	R-Earth	350 msec	Line tripped in Z-1 from Bolangir end and in Z-2 protection from Katapalli end. Carrier signal not received at Katapalli end. PG and OPTCL may explain.			YES	NO	OPTCL	PG ODISHA	As there is no carrier available between Katapali and PG circuit tripped with Zone 2 Single phase fault. AR is made enabled for Zone 1 Single phase fault only without Carrier Signail.
11	220KV-DALTONGANJ-CHATRA-1	25-06-2025	03:43	25-06-2025	06:50	Chatra: Tripped on Distance protection	Not Tripped	No Fault	NA	As per PMU no fault observed. Spurious tripping at Chatra end. JUSNL may explain			NO	NO	PG-ER 1	JUSNL	Problem at Chatra (JUSNL) End
12	400KV-LAPANGA-ADITYA ALUMINIUM(AA)-1	24-06-2025	13:17	24-06-2025	16:45	DT recieved at lapanga end	-	No Fault	NA	As per PMU no fault observed. Line tripped due to DT received. OPTCL may explain.			NA	NA	OPTCL	OPTCL	DT received at Lapanga end for the above tripping. No fault in line. When checked with Aaditya Control room, it was informed that due to some internal testing activity DT extended unknowingly by them. During the tripping Circuit was under No load.
13	220KV-NEW MELLI-TASHIDING-2	22-06-2025	23:03	-	-	Tashiding: Y-B Ph, Z-1, 1.894 km, 138.54A	New Melli: Y-B Ph, Z-II, 4.35kA, 18.65km	Y-B	100 msec	Line tripped on phase to phase fault			YES	YES	PG-ER 2	DANS POWER	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.
14	220KV-CHANDIL-RANCHI-1	22-06-2025	16:20	23-06-2025	16:12	Ranchi End: FD: 13.5 km, R-Y, FC:16.05 kA, Z-1		R-Y	100 msec	Line tripped on phase to phase fault at Ranchi end only and at Chandil end no CB opening occurred even after tripping comand issue. JUSNL may explain.			YES	YES	JUSNL	PG-ER 1	Problem at Chandil (JUSNL) End
15	400KV-ALIPURDUAR (PG)-JIGMELLING-1	22-06-2025	13:45	22-06-2025	14:05	Alipurduar: DT Received	Jigmelling: Not tripped.	No Fault	NA	DT Received at Alipurduar end.			YES	NO	PG-ER 2	BHUTAN	No fault was present in line. DT received at Alipurduar end and 3 phase trip happened. Protection operated properly at Alipurduar end.
16	400KV-BINAGURI-MALBASE-1	21-06-2025	04:27	27-06-2025	18:06:00	Binaguri :R_N, Z-1, F Dist 100.7 km, F Current 2.56 kA	Malbase:R_N, Main 1 opted, F Dist=20.57km F Current Ir 6.112kA;	R-Earth	100 msec	A/r failed after 1 sec.			YES	NO	PG-ER 2	BHUTAN	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.
17	400KV-DURGAPUR-KHSTPP-2	19-06-2025	16:25	20-06-2025	09:55	KHSTPP: Z1, R-Y, 45km, IR-10.5kA, Y-10.6kA,	Durgapur: R-Y, Z-1, 205km, IR-2.52kA, IY-2.43kA	R-Y-Earth	100 msec	Line tripped on phase to phase fault			YES	NO	PG-ER 2	NTPC	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.
18	400KV-JEERAT-SUBHASGRAM-2	18-06-2025	10:20	-	-	Jeerat: B-E, 33km, 6.39 kA	Subhasgram: B-E, 59.4 km, 5.36 kA	B-Earth	100 msec	A/r failed after 1 sec.			YES	YES	PMJTL	PG-ER 2	A/R attempted and tripped on persisting fault. Protection operated properly at PG ER-2 end.
19	400KV-ALIPURDUAR (PG)-JIGMELLING-2	16-06-2025	11:51	16-06-2025	14:17	No event recorded at APD end	Jigmeling end: Zone-I, Fault Dist: 114.2km, Y-N Fault	Y-Earth	120 msec	Line tripped on phase to ground fault from Jismelling end.			YES	YES	PG-ER 2	BHUTAN	Line tripped from Jigmeling end only. No event at Alipurduar end. Protection operated properly at Alipurduar end.
20	400KV-NEW PPSP-NEW RANCHI-2	15-06-2025	11:41	15-06-2025	12:41	Three phase tripping.	New Ranchi end: DT received	No Fault	NA	Three phase tripping occurred at PPSP and DT send to remote end. WB may explain.			YES	YES	WBSE TCL	PG-ER 1	Problem at PPSP (WB) End

21	400KV-ROURKELA-CHAIBASA-1	15-06-2025	06:09	15-06-2025	19:22	Rourkella: B-Ph, 4.635kA,81.045km Z-I	Chaibasa: B-Ph, 39.8km,8.07kA	B-Earth	100 msec	A/r failed after 1 sec from Rourkela end and three phase tripping from Chaibasa end. PG ER-1 may explain.			NO	YES	PG Odisha	PG-ER 1	Fault Started wth Sigle Phase and after 30 ms converted into 3-ph fault at Chaibasa end.
22	400KV-MERAMUNDALI-LAPANGA-1	10-06-2025	15:35	10-06-2025	16:30	LAPANGA,zone-1 ,R-N, 64kM ,2.07KA	A/r successful from Meramundali end.	R-Earth	100 msec	A/r successful from Meramundali end and three phase tripping from Lapanga end. OPTCL may explain.			YES	YES	OPTCL	OPTCL	Due to unhealthy Carrier channels at the time of tripping AR gone to Lockout mode.Healthiness of Carrier signals were ensured after the tripping.AR scheme checked on dt.12.06.25 during shutdown .No abnormality observed.
23	400KV-BINAGURI-RANGPO-2	08-06-2025	13:16	08-06-2025	15:43	Z-2, Y-B fault, Iy-3.9 kA, Ib-3.8 kA, 106 km	-	Y-B	100 msec	Line tripped on phase to phase fault.			YES	YES	PG-ER 2	PG-ER 2	3 phase trip happened due to ph-ph fault in line. Protection operated properly at PG ER-2 end.
24	765KV-NEW RANCHI-MEDINIPUR-1	04-06-2025	16:59	04-06-2025	18:35	N Ranchi : B-N, B - 4.97 kA, 160.27 km;	Medinipur: Z1, B-N, 125km, 3.5kA	B-Earth	100 msec	A/r failed after 1 sec			YES	YES	PG-ER 2	PMJTL	Initially, fault was in B phase. After 900ms, fault evolved in R phase. Hence, 3 phase trip happened. Protection operated properly at PG ER-2 end.

ANNEXURE C.4

Sl No.	Name of the incidence	PCC Recommendation	Latest status
148th PCC Meeting			
1.	Disturbance at 220 k V Chatra (JUSNL) S/s on 1st May 2025 at 13:04 Hrs	JUSNL was advised to take necessary action to check and maintain the clearance of the lines as per the standard. PCC advised JUSNL representative to take shutdown of line on weekly basis preferably on weekends and clear the vegetation issues at the earliest.	*Discussed in Item No B.2.*
2.	Disturbance at 220 k V Garhwa (JUSNL) S/s on 4th May 2025 at 15:36 Hrs	PCC advised JUSNL for thorough testing of healthiness of lines, jumpers etc. and ensure proper maintenance of lines including tightening of jumpers, tightening of nut bolts etc.	*JUSNL representative informed that maintenace work of line is in progress.*
3.	Disturbance at 220 k V Joda (OPTCL) S/s on 31st May 2025 at 12:07 Hrs	PCC suggested that GPS based time synchronization shall be installed in the substation.	*OPTCL representative informed that requisition for GPS clock is already placed and it will be implemented at earliest.*
4.	Tripping of 400KV/220KV 315 MVA ICT 1 and 2 AT MEERAMUNDALI on 8th May 2025 at 13:16 Hrs	PCC suggested OPTCL to increase the time delay of high set protection to 100 msec	*OPTCL representative informed that time delay for high set protection had been revised.*
5.	Tripping of 400KV/220KV 315 MVA ICT 3 AT JAMSHEDPUR on 1st May 2025 at 16:08 Hrs	PCC advised PG representative to share DR for the event to ERPC/ERLDC.	*PG representative was not present in the meeting.*
6.	Repeated Tripping of 220KV-KARAMNASHA (NEW)-SAHUPURI-1 in May 2025	PCC suggested BSPTCL to send a communication to Sahupuri end & UP SLDC regarding the overcurrent settings and corresponding drawal limit so that the drawal can be monitored and frequent tripping can be avoided.	*BSPTCL representative said that communication regarding overcurrent settings is already given to Sahupuri end.*
147th PCC Meeting			

7.	Repeated disturbance at 400 kV PVUNL S/s	PVUNL representative replied that update regarding implementation of week infeed protection will be shared to ERPC/ERLDC after consultation with protection team. ERLDC representative said that in case of disturbance held on 5th April 2025, after auto-recloser attempt at Tenughat side, line must have tripped in SOTF at Tenughat end instead of pickup in zone 2 protection. PCC advised TVNL representative to review protection settings at their end for 400KV Tenughat-PVUNL line in consultation with CRITL, JUSNL.	*In 149th PCC,PVUNL representative was not present in the meeting.*
8.	Disturbance at 220/132 kV Fatuha (BSPTCL) S/s on 9th April 2025 at 16:20 Hrs	PCC advised BSPTCL representative that backup overcurrent protection settings of ICTs should be reviewed for faster clearing of fault. Further, as per ERPC protection philosophy, backup overcurrent protection should not be kept for 220 k V and above lines hence overcurrent protection settings for 220 k V and above lines should be disabled.	In 148th PCC Meeting, BSPTCL representative said that overcurrent settings for lines is disabled. He further added that communication is already done with agency for reviewing overcurrent protection settings of ICTs and will be done at earliest. *In 149th PCC Meeting BSPTCL representative said that overcurrent protection settings of ICTs is revised.*
9.	Repeated tripping of 220kV-PATNA-KHAGAUL-1,	PCC advised BSPTCL representative to take appropriate action for rectifying clearance issue caused due to dumping. It further advised BSPTCL representative to test auto-recloser of 220kV-PATNA-KHAGAUL-1 at their end and share observation report to ERPC/ERLDC. PCC advised BGCL to test auto-recloser of 220kV-PATNA-KHAGAUL-3 at	In 148th PCC Meeting, BSPTCL representative informed rectification work for clerance issue is in progress. *In 149th PCC Meeting, BSPTCL representative said that estimate for commissioning of tower is already proposed from site. Further necessary actions of rectifying clerance issue due to dumping is already done for temporary basis.*

		their end and share observation report to ERPC/ERLDC.	
136th PCC Meeting			
10.	Disturbance at 220 kV Tenughat (TVNL) S/s on 29.05.2024 at 12:57 Hrs	PCC advised JUSNL representative to rectify auto-reclose issue at Govindpur end by next week and intimate to ERPC/ERLDC. TVNL representative informed that settings at their end had been implemented by CRITL, JUSNL team and he further assured that O/C E/F settings will be revised at the earliest after consultation with CRITL, JUSNL team. PCC advised CRITL, JUSNL team to test auto-reclose and carrier at both Govindpur as well as Tenughat end.	*In 147th PCC, TVNL representative informed that engineer from SLDC has visited the site for installation of battery bank however JUSNL, CRITL team had not visited till date.* *In 149th PCC, TVNL representative informed that no update is received from JUSNL.* *PCC advised TVNL representative to coordinate with JUSNL site and CRITL JUSNL in order to rectify this issue at earliest.*