

## 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

Tel. No.: 033-24239651,24239659 FAX No.:033-24239652, 24239653 Web: www.erpc.gov.in

सं./NO. पू.क्षे.वि.स./PROTECTION/2024/065

दिनांक /DATE:05.04.2024

सेवा में / To.

संलग्न सूची के अनुसार / As per list enclosed.

विषय : पू.क्षे.वि.स. की 134 वीं संरक्षण समन्वय उप-समिति (पीसीसी) की बैठक हेतु सूचना 1

Sub: Notice for 134th Protection Coordination sub-Committee (PCC) meeting of ERPC.

Sir/Madam,

यह सूचित किया जाता है कि पू.क्षे.वि.स की 134वीं पीसीसी बैठक , 16 अप्रैल 2024 (मंगलवार) को ईआरपीसी सम्मेलन हॉल में 11:00 बजे पूर्वाह्न से भौतिक माध्यम से आयोजित की जाएगी।

Notice is hereby given that 134<sup>th</sup> PCC meeting of ERPC will be held on 16<sup>th</sup> April 2024 (Tuesday) at ERPC Conference Hall from 11:00 Hrs (Forenoon) in physical mode.

चर्चा हेतु अस्थायी कार्यसूची बिन्दुएं निम्नानुसार होंगे :

The tentative agenda items for discussion will be as follows:

- 1) Confirmation of the minutes of 133<sup>rd</sup> Protection sub-Committee Meeting of ERPC
- 2) Analysis of following grid disturbances of March 2024:
- > Total Power Failure at 220 kV Begusarai(BSPTCL) S/s on 05.03.2024 at 11:56 Hrs
- Disturbance at 220 kV Budhipadar (OPTCL) S/s on 09.03.2024 at 14:07 Hrs
- Disturbance at 220 kV Garhwa (JUSNL)S/s on 30.03.2024 at 22:27 Hrs and on 31.03.2024 at 07:29 Hrs
- Disturbance at 400 kV Barh (NTPC) S/s on 31.03.2024 at 07:29 Hrs
- > Total Power Failure at 220 kV Bantala S/s on 31.03.2024 at 21:49 Hrs
- 3) Follow up of decision of previous Protection Coordination sub-Committee Meetings.
- 4) Single line tripping incidences of transmission elements for March 2024 as attached at Annexure 1.

आपसे निवेदन है कि बैठक के दौरान अर्थपूर्ण विश्लेषण हेतु उपरोक्त ट्रिपिंग से संबंधित समस्त दस्तावेज (SLD, SOE, DR, Relay and schematic diagram of auxiliary supply, wherever applicable) सहित विस्तृत रिपोर्ट प्रस्तुत करें। आपसे अनुरोध किया जाता है कि संरक्षण डाटाबेस प्रबंधन प्रणाली में लागू ट्रिपिंग घटना सूचना प्रणाली का विवरण ऑन-लाइन में अपलोड करें <u>www.erpc-protectiondb.in</u>.

You are requested to kindly furnish the detail report along with all records (SLD, SOE, DR, Relay and schematic diagram of auxiliary supply, wherever applicable) related to above tripping well in advance for meaningful analysis. You are also requested to upload the details in on-line tripping incident reporting system implemented in Protection Database Management System( <a href="https://www.erpc-protectiondb.in">www.erpc-protectiondb.in</a>.)

बैठक में आपकी उपस्थिति महत्वपूर्ण है। Your participation in the meeting is highly solicited.

भवदीय / Yours faithfully,

(पी.पी. जेना / P.P.Jena) कार्यपालक अभियंता(पी.एस) Executive Engineer (**PS**)

14 गोल्फ क्लब रोड, टॉलीगंज, कोलकाता - 700 033 । 14 Golf Club Road, Tollygunge, Kolkata – 700 033. Tele: 24239657, 24239651, 24239650. Fax: 24239652, 24239653. <a href="https://www.erpc.gov.in">www.erpc.gov.in</a>, Email: mserpc-power@nic.in

## **LIST OF ADDRESSES:**

G11.07	CILLOR (CDYMY)
Chief Engineer, Trans (O&M)	Chief Engineer (CRITL)
Bihar State Power Transmission Limited, Vidyut	Bihar State Power Transmission Limited, Vidyut
Bhawan, Bailey Road, Patna-800021	Bhawan, Bailey, Road, Patna-800021
Chief Engineer (System Operation), SLDC,	
BSPTCL, Patna-800021	
Chief Engineer (SLDC)	Chief Engineer (CTC)
Damodar Valley Corporation, GOMD-I Premises,	Damodar Valley Corporation, P.O. Maithon Dam,
P.O DaneshSeikh Lane, Howrah- 711109	Dist. Dhanbad, Jharkhand-828207
Chief Engineer, (CRITL)	Chief Engineer (CLD)
Jharkhand Urja Sancharan Nigam Limited	Jharkhand UrjaSancharan Nigam Limited,
Kusai Colony, Doranda, Ranchi-834002	Kusai Colony, Doranda, Ranchi-834002
Chief General Manager (O&M),	Sr. General Manager (PPA), Technical Wing,
OPTCL, Janpath, Bhubaneswar,	OHPCL, Orissa State Police Housing & Welfare
Odisha – 751 022. FAX: 0674-2542932	Corpn. Bldg. VaniviharChowk, Janpath,
cgm.onm@optcl.co.in	Bhubaneswar-752022
Chief Load Dispatcher, SLDC	Chief Engineer (Testing), WBSETCL
OPTCL, P.O. Mancheswar Rly. Colony	Central Testing Laboratory, Abhikshan, Salt Lake,
Bhubaneswar-751017	Kolkata-700091 ( Fax no. 2367-3578/1235 )
Chief Engineer (CLD)	Addl. Chief Engineer (ALDC)
WBSETCL, P.O.Danesh Sheikh Lane,	West Bengal Electricity Distribution Company Ltd
AndulRoad, Howrah-711109	VidyutBhavan, 7 <sup>th</sup> Floor, Bidhannagar, Sector-I
Tinduixodd, Howrdii 711105	Salt Lake City, Kolkata-700091(Fax-033-2334-5862)
Dy. Chief Engineer (Testing)/ Sr. Manager (Testing)	General Manager (O&M)
CESC Ltd.,4, SasiSekhar Bose Road,	KhSTPS, NTPC Ltd., P.O. Deepti Nagar,
Kolkata-700025	Dist. Bhagalpur, Bihar-813203
General Manager(O&M)	Dy. General Manager (Engineering),
FSTPS, NTPC Ltd., P.O. Nabarun,	WBPDCL, OS Dept. Corporate Office, 3/C, L.A
Dist. Murshidabad, West Bengal-742236	Block,
Committee on (ORM)	Salt Lake-III, Kolkata-700098 (Fax-033-23350516)
General Manager (O&M)	General Manager (OS), ERHQ-II, NTPC Ltd., 3 <sup>rd</sup> flr.
Barh STPS, NTPC Ltd., P.O. NTPC Barh,	OLIC Building, Plot no. N 17/2, Nayapalli, Unit-8
Dist. Patna, Bihar-803213	Bhubaneswar- 751012 (Fax No. 0674-2540919)
General Manager(O&M), TSTPS, NTPC Ltd.,	General Manager (AM), POWERGRID, Odisha
P.O.Kaniha, Dist. Angul, Orissa-759117	Projects, Sahid Nagar, Bhubaneswar – 751 007
General Manager (OS), ERHQ-I, NTPC Ltd.,	Manager (Electrical), Adhunik Power & Natural
LoknayakJaiprakashBhawan, (2 <sup>nd</sup> Floor),	Resources Ltd. "Lansdowne Towers, Kolkata-700020
DakBunglowChawk, Patna-800001	(Fax No. 033-2289 0285)
Executive Director (O&M)	Electrical Superintending Engineer, TTPS,
NHPC Ltd., NHPC Office Complex, Sector-33,	TenughatVidyut Nigam Ltd.,Lalpania, Dist. Bokaro,
Faridabad, Haryana-121003 (Fax-01292272413)	Jharkhand-829149
Dy. General Manager (Electrical)	General Manager (AM), ER-I
IB Thermal Power Station, OPGCL	Power Grid Corporation of India Ltd.,
Banhapalli, Dist. Jharsuguda-768234, Orissa	Alankar Place, Boring Road, Patna-800001
Chief Engineer (Trans.)	Sr. Manager (CTMC)
Power Deptt., Govt. of Sikkim, Gangtok-731010	Durgapur Projects Limited, Durgapur-713201
Executive Director,	Head –Regulatory and contracts, IndiGrid Limited
ERLDC, POSOCO, Tollygunge, Kolkata-700033	, 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	The Plant Head, Maithon Power Limited, Maithon
Power Grid Corporation of India Ltd.,	Office, MA 5 Gogna, Dist. Dhanbad, Jhankand State,
J-I-15, Block-EP, Sector-V,Salt Lake,Kolkata-91	PIN-828207
General Manager (P&O), PTC Ltd.,	
Kanchanjunga Bldg.,18, Barakhamba Road,	
Junga Drug., 10, Darakhalilou Roud,	

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

	List	t of imp	ortant 1	transmis	sion lin	es in ER v	which trippe	ed in	Marc	h-2024			
Sl. No.	LINE NAME	TRIP DATE	TRIP TIME	RESTORATI ON DATE	RESTORA TION TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reas on	Fault Cleara nce time in msec	Remarks	DR Configur ation Disc repa ncy	EL RE CEI VE D FR OM LO	EL RE CEI VE D FR
1	400KV-RANCHI- SIPAT-2	01-03-2024	11:41	01-03-2024	12:51	Ranchi Y-N, 179.13 km, 1.617 kA	-	Y-Earth		A/r successful after 1 second. Tripped again within reclaim time		Yes	NA
2	220KV- KHAGARIA-NEW PURNEA-2	01-03-2024	12:25	01-03-2024	16:37	Khagaria Y-B, Iy- 1.713 kA, Ib- 1.656kA, 88.89 km	New Purnea Y-B 7.8 km, Iy=11.48 kA, Iy=11.46 kA.	Y-B		Tripped in Zone- 2 time from Khagaria. No carrier received.		Yes	No
3	400KV-IBEUL- OPGC-1	01-03-2024	16:04	01-03-2024	17:08	IBEUL: Didn't trip	OPGC: DT received	No fault		OPGC may explain. DT not sent from IBEUL		NA	No

4	400KV- ALIPURDUAR (PG)- BONGAIGAON-1	02-03-2024	16:05	02-03-2024	17:05	Alipurduar: Didn't trip		No fault	NA	No fault observed from PMU. PG ER-2 may explain.	No	NA
5	400KV- MUZAFFARPUR- GORAKHPUR-2	03-03-2024	20:47	04-03-2024	02:18	Muzaffarpur: DT received	Due to earth fault in DC source-2 at Gorakhpur.	No fault	NA	DT received at Muzaffapur. DC earth fault at Gorakhpur end. No fault in line.	Yes	NA
6	220 KV CHANDIL SANTALDIH-1	04-03-2024	05:49	04-03-2024	23:26	Chandil: B_N, 89.5 km, 2.04 kA	Santaldih: B_N, 12.1 km, 6.5 kA	B-Earth	350	Tripped in Zone-2 time from Chandil. A/r failed after 1 second from Santaldih. Carrier signal was sent from Santaldih, still line tripped in Zone-2 from Chandil. JUSNL may explain.	Yes	Yes
7	400KV- BIDHANNAGAR- NEW CHANDITALA-1	04-03-2024	12:01	04-03-2024	12:40	Bidhannagar: R_N, 86.7 km	New Chanditala: R_N, 86 km, 3.66 kA	R-Earth	100	A/r successful after 1 second. Line tripped again within reclaim time.	Yes	Yes
8	400KV- BIDHANNAGAR- NEW CHANDITALA-1	04-03-2024	13:08	04-03-2024	18:25	nagar: R_N, 80 km, ?	New Chanditala: R_N, 86 km, 3.80 kA	R-Earth	100	A/r failed after 1 second	Yes	Yes

9	400 KV DSTPS- RAGHUNATHPU R-1	04-03-2024	16:26	04-03-2024	21:25	PS: B_N, 70.63 km, 4	RTPS: B_N, 16.3 km, 10.58 kA	B-Earth	100	A/r successful after 800 msec. Tripped again within reclaim time.	No	Yes
10	400KV-PPSP- BIDHANNAGAR- 2	04-03-2024	16:54	04-03-2024	17:57	PPSP: R-N	Bidhannagar: R-N, 4.03 kA, 46 km	R-Earth	100	A/r kept disabled as per OEM advise.	No	Yes
11	400KV-KHSTPP- BARH-1	04-03-2024	17:24	04-03-2024	18:07	Barh: DT received	KHSTPP: Didn't trip	No fault		Tripped on DT received at Barh. No fault in line. NTPC may explain.	No	Yes
12	220KV-NEW MELLI- TASHIDING-1	06-03-2024	11:34	06-03-2024	15:20	New Melli: Y-B , 7.8 km, Iy- 0.014 kA, Ib-0.734 kA	Tashiding: Y-B , 13.24 km, Iy-0.93 kA Ib- 0.833 kA	Y-B- Earth		Resistive fault in R_ph evolved to phase to phase fault. DT sent from Tashiding. Reason for the same may be explained.	Yes	Yes
13	220KV- SUBHASGRAM(P G)-BANTALA-1	08-03-2024	08:39	08-03-2024	08:56	Subhashgram: Didn't trip		No fault		WBSETCL may explain. No fault observed from PMU.	No	No

14	400KV-KHSTPP- BARH-1	09-03-2024	16:18	09-03-2024	16:57	KhSTPP: Didn't trip	Barh: DT received	No fault	NA	NTPC Kahalgaon may explain.	No	Yes
15	400KV- RAJARHAT- GOKARNA-1	10-03-2024	15:32	10-03-2024	19:38	Rajarhat: B_N, 2.67 kA	Gokarna: B_N, 15.8 km, 12 kA	B-Earth	100	A/r failed after 1 second. DT received at both ends during A/r attempt . WBSETCL/PG ER-2 may explain	Yes	Yes
16	220KV- KHAGARIA-NEW PURNEA-2	11-03-2024	12:34	11-03-2024	17:08	Khagaria : Y-B, 70.97 km, Iy- 2.329 kA, Ib- 2.257 kA	New Purnea: Y_B, Iy- 7.107 kA, Ib- 7.107 kA, 25.67 km	Y-B	100	Phase to phase fault	Yes	Yes
17	400KV- DURGAPUR- BIDHANNAGAR- 1	12-03-2024	06:59	12-03-2024	08:03	Durgapur: Didn't trip	Bidhannagar: Tripped on Pole Discrepancy.	No fault	NA	R_ph opened from Bidhannagar without any fault. Other two phase tripped on PD after 1.6 seconds. WBSETCL may explain.	No	No

18	220KV- CHANDAUTI (PMTL)- SONENAGAR-1	12-03-2024	13:48	12-03-2024	14:50		Sonenagar - Y_B , Iy- 1.370 kA , Ib-1.447 kA, 58.61 km	Y-B- Earth	1100	Resistive fault evolved to phase to phase fault	Y	'es	Yes
19	400KV-RANCHI- RAGHUNATHPU R-2	13-03-2024	01:25	13-03-2024	02:35	Ranchi: R_N, 38.434 km, 10.965 kA, A/r successful	Raghunathpur: R_N, 155 km, 2.335 kA	R-Earth	500	Tripped in Zone- 2 time from Raghunathpur despite carrier sent from Ranchi. DVC may explain.	Y	'es	Yes
20	400KV- ARAMBAGH- BAKRESWAR-1	13-03-2024	06:03	13-03-2024	16:19	Arambagh: Y_N, 92 km, 4.65 kA	Bakreshwar : Y_N, 47 km, 4.29 kA	Y-Earth	100	Whether A/r attempt was successful at Arambagh? After 1.25 seconds, DT received at Arambagh. WBSETCL/WB PDCL may explain.	v	'es	No
21	400KV- MEERAMUNDAL I-MENDHASAL-1	13-03-2024	08:56	13-03-2024	09:09	Tripped during taking s/d of A/r	Mendhasal: DT received	No fault	NA	400 kV Meramundali- Mendhasal-1 and 400 kV			Yes

22	400KV- MEERAMUNDAL I-NEW DUBURI-2		08:56	13-03-2024	09:13	Tripped during taking s/d of A/r	New Duburi: DT received	No fault	NA	Meramundali- New Duburi-2 are in one dia at Meramundali. While availing A/r shutdown of Mendhasal-1, LBB of tie bay operated at Meramundali and DT sent to	Yes	Yes
23	400KV- MEERAMUNDAL I-MENDHASAL-1	13-03-2024	09:13	13-03-2024	09:36	Tripped during Charging of Tie Bay	Mendhasal: DT received	No fault	NA	While charging the tie bay at Meramundali, LBB operated	Yes	Yes
24	400KV- MEERAMUNDAL I-NEW DUBURI-2		09:13	13-03-2024	09:34	Tripped during Charging of Tie Bay	New Duburi: DT received	No fault	NA	again and DT sent to remote ends. OPTCL may explain.	Yes	No
25	765KV-NEW RANCHI- MEDINIPUR-2	13-03-2024	17:06	14-03-2024	05:23		Due to Y-Phase bus pipe connector broken between line Isolator to BPI (towards line side) at Medinipur End.	Y-Earth	500	Tripped in Zone- 2 from New Ranchi. PG ER-2 may explain the event.	Yes	Yes

26	220KV- PUSAULI(PG)- DURGAUTI-1	14-03-2024	12:31	14-03-2024	17:42	Pusauli : Y_B_N, 3.7 km, 13.29 kA		Y-B-Eart	100	Phase to phase fault	Yes	No
27	220KV-PARULIA- PARULIA(PG)-1	14-03-2024	13:42	14-03-2024	15:50	DVC: Broken conductor trip	Parulia(PG): Didn't trip	No fault	NA	DVC may explain	No	No
28	220KV-PARULIA- PARULIA(PG)-2	14-03-2024	13:42	14-03-2024	15:50	DVC: Broken conductor trip	Parulia(PG): Didn't trip	No fault	NA	DVC may explain	No	No
29	400KV-NEW PPSP- ARAMBAGH-1	14-03-2024	20:32	14-03-2024	20:56	NEW PPSP: B_N, 86 km, 3.5 kA	Arambagh: B_N, 105 km, 3.3 kA	B-Earth	100	A/r failed after 1 second	Yes	Yes
30	220KV-MAITHON- DUMKA-1	15-03-2024	13:34	15-03-2024	14:22	Maithon: B-N, Zone 1,1.98 kA, 13 km	Dumka: B_N, 46.04 km	B-Earth	1600	Three phase tripping from Maithon when it	Yes	Yes
31	400KV-JEERAT- SAGARDIGHI-2	15-03-2024	11:57	15-03-2024	23:11	Jeerat: Z1, B-N, 75.406 km, 3.5 kA	Sagardighi: Z1, B-N, 113 km	B-Earth	100	A/r attempted from Sagardighi after 700 msec and failed. From Jeerat, A/r	Yes	No

32	220KV-RANCHI- MTPS(DVC)-1	16-03-2024	15:43	16-03-2024	16:26	Ranchi: R_N, 10.5 kA, A/r successful	Mejia: R_N, 1.11 kA. Line taken in service at MTPS end through Bus Coupler bay due to issue in Main CB	R-Earth	100		DR length less at Mejia	Yes	Yes
33	400KV- JAMSHEDPUR- MEJIA-1	16-03-2024	17:36	16-03-2024	18:33	Jamshedpur: B_N, 7.15 km, 16.83 kA, A/r successful	Mejia: B_N, Zone-2, 166.3 km, 2.402 kA	B-Earth	100	Other two phase at Mejia opened after 1.5 seconds. No A/r attempted. DVC may explain		Yes	Yes
34	400KV- DHANBAD- MAITHON RB-2	16-03-2024	18:31	16-03-2024	20:56	Dhanbad: Y_N, A/r successful	MPL: Y_N, 9.68 kA	Y-Earth	100	BCU defective at MPL, hence A/r was not in service. However, only faulty phase tripped during fault other two phase opened on pole discrepancy after 3 seconds instead of three phase tripping. A/r successful from Dhanbad		No	No

35	400KV-NEW PPSP- ARAMBAGH-1	16-03-2024	18:32	16-03-2024	18:52	New PPSP end- B Ph, Z-1, 90.2 km. 3.4 kA	Arambagh end- B Ph, Z 1, 108.6 km, 3.0 kA	B-Earth	100	A/r failed after 1 second		Yes	Yes
36	220KV-PARULIA- PARULIA(PG)-1	16-03-2024	18:58	16-03-2024	19:35	DVC: Broken conductor trip	Parulia(PG): Didn't trip	No fault	NA	DVC may explain	I	No	NA
37	220KV-PARULIA- PARULIA(PG)-2	16-03-2024	18:58	16-03-2024	19:35	DVC: Broken conductor trip	Parulia(PG): Didn't trip	No fault	NA	DVC may explain	I	No	NA
38	400KV-NEW PPSP- ARAMBAGH-1	16-03-2024	19:37	16-03-2024	19:51	New PPSP end - B Ph, Z-1, 86.4 km. 3.4 KA.	Arambagh end- B Ph, Z- 1, 117 km, 3.21 kA	B-Earth	100	A/r failed after 1 second	,	Yes	Yes
39	400KV-JEERAT- SAGARDIGHI-1	16-03-2024	20:48	16-03-2024	21:18	Jeerat: Y-N, Z1, 132KM, 2.6 KA	Sagardighi: Z1, Y-N, 89KM, Y-ph, 1.4KA (A/R successful)	Y-Earth	100	A/r successful from Sagardighi only. Other two phase at Jeerat tripped after 2.2 seconds. WBSETCL may explain.	,	Yes	No

40	765KV- DHARAMJAIGAR H-JHARSUGUDA- 1	16-03-2024	23:27	17-03-2024	21:17	Dharamjaigarh:-Y- N, 6.329 kA,91.962km (60.700%)	Jharsugudada:-Z-1,Y- N,11.9kA,50kM, DT recipt.	Y-Earth	100	A/r successful from Jharsuguda after 1.5 seconds. Tripped again within reclaim time. Later DT also received at Jharsuguda. Reason for DT receipt may by clarified.	NA	Yes
41	220KV- DARBHANGA(D MTCL)-LAUKAHI- 1	17-03-2024	12:42	17-03-2024	17:46	Darbhanga: Y_B, Iy-10.78kA, Ib- 10.69kA, 9.7km, Z- I	Laukhai: Y_B, zone - 2, 76.47 km, Iy-1.783 kA,Ib-1.883 kA	Y-B	100	Phase to phase fault	No	No
42	400KV- BINAGURI- MALBASE-3	17-03-2024	17:58	17-03-2024	19:02		Binaguri : Y-N, Z-2, 3.175 kA, 113.2 km	Y-Earth	500	Tripped in Zone-2 time from Binaguri. No carrier received.	Yes	Yes
43	220KV- DARBHANGA(D MTCL)-LAUKAHI- 1	17-03-2024	18:30	17-03-2024	21:49		Laukahi: Bus bar protection operated to Y_ph CT blast of Darbhanga-Laukahi-2 at Laukahi end	B-Earth	100	Bus bar protection operated at Laukahi. BSPTCL may explain.	No	Yes

44	220KV- DARBHANGA(D MTCL)-LAUKAHI- 2	17-03-2024	18:30	20-03-2024	17:56		Laukahi: Bus bar protection operated to Y_ph CT blast of Darbhanga-Laukahi-2 at Laukahi end	B-Earth	100	Bus bar protection operated at Laukahi. BSPTCL may explain.	И	ĺo.	Yes
45	765KV-NEW RANCHI- DHARAMJAIGAR H-1	17-03-2024	23:20	18-03-2024	00:32	New Ranchi: R-N, 4.17 kA, 120 km;	Dharamjaigarh: R-N, 3.6 kA, 190 km	R-Earth	100	A/r attempt failed	Y	es	NA
46	765KV- JHARSUGUDA- RAIPUR PS (DURG)-1	18-03-2024	00:48	18-03-2024	10:22	Jharsuguda:- Dirction: E/F, Ib- 1.1 kA	Raipur: Bus-2 out due to CT blast at Raipur	B-Earth	1500	DEF operated at Jharsuguda	Y	es	NA
47	220KV- BUDHIPADAR- RAIGARH-1	18-03-2024	01:40	18-03-2024	02:25	Budhipadar: A/r successful	RAIGARH:-R-N, 2.78 kA, 83.8 km	R-Earth	100	A/r successful from Budhipadar only. As per PMU data, R & B_ph both opened during fault at Budhipadar and A/r operated successfully after 1 second.	N	ĺo.	NA
48	220KV- DALTONGANJ- CHATRA-1	18-03-2024	12:16	18-03-2024	20:46	Daltonganj: Y_B, FD-3.39 km, Iy- 4.68 kA, Ib 4.62 kA, Z-1		Y-B	100	Phase to phase fault	Y	es	Yes
49	220KV-RANCHI- MTPS(DVC)-1	18-03-2024	16:24	18-03-2024	17:38	Ranchi - R_N, 15.12 km, 9.05 kA, A/r successful	Mejia: R_N, 210.92 km, 914.03 A	R-Earth	100	A/r kept disabled at Mejia	Y	es	Yes

50	220KV- BUDHIPADAR- KORBA-2	18-03-2024	19:15	03-04-2024	17:49	Budhipadar: Didn't trip	Tripped from Korba only on Earth fault. R_ph current became zero.	No fault	NA			No	NA
51	400KV- JHARSUGUDA- RAIGARH-3	18-03-2024	21:39	19-03-2024	00:00	Jharsuguda: DT received		No fault	NA	DT received at Jharsuguda. PG Odisha may explain.		Yes	NA
52	400KV-NEW PPSP- ARAMBAGH-1	18-03-2024	23:37	18-03-2024	23:59	New PPSP: B_N, Zone-1, 86.8 km, 3.39 KA	Arambag : B-N, Z1, 109.4 km, 3.363 kA, SOTF	B-Earth	100	A/r failed after 1 second		Yes	Yes
53	400KV-NEW PPSP- ARAMBAGH-1	19-03-2024	18:14	19-03-2024	18:31	Arambagh: B-N, Z1, 110.9 km, 2.97 KA	New PPSP : B_N, Z1, 86 km, 3.47 KA	B-Earth	100	A/r failed after 1 second		No	Yes
54	400KV-KHSTPP- LAKHISARAI-1	20-03-2024	00:28	20-03-2024	21:31	Kahalgaon: R_B, IR-3.901 KA, IB- 4.337 KA, Z2, FD- 126.2 km	Lakhisarai: R_N, 7.700 kA, 16.043 km	R-Earth	100	Fault struck R_ph first and A/r was successful. During reclaim time, a phase to phase fault struck the line.		No	Yes
55	220KV-RANCHI- MTPS(DVC)-1	20-03-2024	18:55	20-03-2024	20:02	Ranchi: R_N, A/r successful	MTPS: R_N, Zone-1, 177.91 km,1.045 kA	R-Earth	100	A/r kept disabled at Mejia	time synchro nized at Mejia and DR	Yes	Yes

5	56	400KV-TSTPP- RENGALI-1	21-03-2024	13:53	21-03-2024	14:37	Tripped on zone 1 R-ph distance 8.8kms from Talcher end only	Rengali: Didn't trip	No fault	NA	R_N fault struck 400 kV Talcher- Rourkela-1 at this instance which was cleared within 100 msec and	DR length less at TSTPP	Yes	No
5	57	400KV-TSTPP- RENGALI-2	21-03-2024	13:53	21-03-2024	14:52	Tripped on zone 1 R-ph distance 8.8kms from Talcher end only	Rengali: Didn't trip	No fault	NA	A/r was also successful. NTPC may explain the reason of	length less at	Yes	No
5	58	220KV- SUBHASGRAM(P G)-BANTALA-1	21-03-2024	15:26	22-03-2024	20:52	Subhasgram: R-N, Z1, 14.6 km, 8.8 kA	Bantala:R-N, Z1, 2.25 km, 7.8 kA	R-Earth	100	Three phase tripping at Bantala. Carrier fail signal high in DR			Yes

59	400KV- SUBHASGRAM(P G)-RAJARHAT-1	21-03-2024	15:37	21-03-2024	15:52	Subhasgram: B-N, Z1, 11.5 kA, 8.6 km	Rajarhat: B-N, Z1, 6.8 kA, 18.9 km (A/R successful)	B-Earth	100	A/r lockout appeared at Subhashgram during the fault. Still only faulty pahse opened. Other two phase of main CB opened after 1.6 second and of tie CB oepened after 2.3 second. PG ER-2 may explain.	Yes	Yes
60	220KV- DALTONGUNJ- GARWAH (NEW)- 2	23-03-2024	12:26	23-03-2024	13:30	Daltonganj: B_N, 2.9 kA		B-Earth	100	A/r successful. Tripped again in reclaim time	Yes	Yes
61	220KV- DALTONGANJ- CHATRA-1	23-03-2024	13:32	23-03-2024	14:05	Daltonganj: Y_B, Iy: 5.57 kA, Ib: 5.52 kA		Y-B	100	Phase to phase fault	Yes	No
62	220KV- DALTONGUNJ- GARWAH (NEW)- 2	23-03-2024	14:09	23-03-2024	19:03	Daltonganj:B-N, Ib= 3.57 KA, 22.85 km	Garhwa : Z-1.72.28 km,Ib-0 kA	B-Earth	100	DR of another instance uploaded. Whether A/r attempted or not from both ends. PG ER-1/JUSNL may confirm	No	Yes

63	400KV-BARH- PATNA-3	24-03-2024	10:55	24-03-2024	12:04		Patna: B_N, 59.42 km, 8.57 kA, A/R successful	B-Earth	100	A/r successful from Patna only. Other two phase at Barh tripped after 2.2 seconds. NTPC may explain.	DR length less at Barh	Yes	Yes
64	220KV- DALTONGUNJ- GARWAH (NEW)- 2	24-03-2024	12:47	24-03-2024	13:21	DALTONGANJ: B- N, 23.512 Km, 3.286 KA	Garhwa: B_N, 2.2 kA	B-Earth	100	A/r failed after 1 second	DR not time synchro nized at Garhwa	Yes	Yes
65	400KV- KHARAGPUR- CHAIBASA-1	24-03-2024	13:59	24-03-2024	14:57	IV N 62 10 km	Chaibasa: Y_N, 135.33 km, 2.99 kA	Y-Earth	100	A/r successful. Tripped again within reclaim time		Yes	Yes
66	400KV- KOLAGHAT- KHARAGPUR-2	25-03-2024	18:28	25-03-2024	19:23	33.43 Km, 7.819	Kharagpur: B_N, Zone- 1, 58.73 Km, 4.562 KA	B-Earth	100	A/r successful. Tripped again within reclaim time		No	Yes
67	400KV- ARAMBAGH- NEW CHANDITALA-1	25-03-2024	18:45	25-03-2024	19:21	Z1, 28.62 km, Ir=7.507 kA,	New Chanditala : R-Y- N, Z1, 23.5 km,Ir=11.08 kA, Iy=11.17 kA	R-Y	100	Phase to phase fault. DT sent from New Chanditala. WBSETCL may explain.		No	Yes
68	400KV-NEW JEERAT- SUBHASGRAM(P	25-03-2024	19:52	25-03-2024	21:33		Subhashgram: R-B, IR=5.2 KA IB=5.5 KA, 67 Km	R-B- Earth	100	Phase to phase fault		Yes	Yes
69	220KV- BOLANGIR (PG)- KESINGA-1	26-03-2024	14:26	26-03-2024	14:56	Bolangir- R_N , FD - 80.59 Km, FC - 1.723 KA	Kesinga: R_N, 6.2 km, 2.7 kA	R-Earth	200	Resistive fault. A/r failed after 1 second		Yes	No

70	400KV- BARIPADA- TISCO-1	27-03-2024	13:24	27-03-2024	14:17	Baripada: Didn't trip	Direct trip signal received at TISCO end.	No fault	NA	DT sent from Baripada. PG Odisha may explain.		No	No
71	400KV- KODERMA- BOKARO-1	31-03-2024	00:22	31-03-2024	03:40	Koderma: B_N, 15.65 km, 9.6 kA	Bokaro: B_N, A/r successful	B-Earth	100	A/r not attempted at Koderma. Other two phase tripped on PD	DR not time synchro nized and DR length less at Koderm a	Yes	No
72	220KV- TENUGHAT- BIHARSARIFF-1	31-03-2024	00:35	31-03-2024	00:54			Zone 1, Ib: 310.9 A	3500	Highly resistive fault.		No	No
73	220KV-MAITHON DUMKA-1	31-03-2024	02:17	31-03-2024	03:37	Maithon: B_N, 6.33 kA	Dumka : B_N, 46.39 km, 2.139 kA	B-Earth	100	Three phase tripping at both ends. PG ER- 2/JUSNL may explain		Yes	Yes
74	400KV-PPSP- BIDHANNAGAR- 1	31-03-2024	02:20	31-03-2024	02:44	PPSP: Y_N, Z1, 124 Km	Bidhannagar: Y_N, Z1, 43.53 Km, 6.123 KA	Y-Earth	100	A/r kept disabled as per OEM advise.		No	Yes

75	400KV- DARBHANGA (DMTCL)- MUZAFFARPUR- 1	31-03-2024	13:46	31-03-2024	14:06	Darbhanga: B- N, Z-2, 4.2 kA, 64 km		B-Earth	100	Three phase tripping at Darbhanga. A/r successful at Muzaffapur. DMTCL may explain.	Yes	Yes
76	400KV- ALIPURDUAR (PG)- BONGAIGAON-2	31-03-2024	15:48	31-03-2024	17:50	Alipurduar: Y-N, Z-1, 13 KA, 1 km	Bongaigaon: Y-N , Z-2, 4.93 KA, 105.7 Km	Y-Earth	100	Three phase tripping for single phase fault	Yes	NA
77	220KV- DALTONGANJ- CHATRA-1	31-03-2024	18:42	31-03-2024	19:46	N,12.45 Km,4.4 kA	Chatara:Ia-42A, Ib-99.6 A, Ic-127. 2 A, Distance protection operated, Z-1.	B-Earth	100	A/r successful. Tripped again within reclaim time	Yes	Yes