



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

75
Azadi Ka
Amrit Mahotsav



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

NO. ERPC/PROTECTION/2022/183

DATE: 06/05/2022

To
As per list enclosed,

Sub: Notice for 114th Protection Coordination sub-Committee (PCC) Meeting of ERPC

Sir/Madam,

Notice is hereby given that **114th PCC meeting** of ERPC will be held on **13.05.2022 (Friday)** at **10:30 hrs in physical mode at ERPC Conference Hall, Kolkata** as well as **virtual mode through MS Teams online platform.**

The tentative agenda items for discussion will be as follows:

- 1) Confirmation of the minutes of 113th Protection sub-Committee Meeting of ERPC.
- 2) Analysis of following grid disturbances of April 2021:
 - Total Power Failure at 220 kV Hajipur S/s on 05/04/22 at 18:03 hrs.
 - Total power failure at 220 kV Garhwa(JUSNL) S/s on 05/04/22 at 12:19 hrs.
 - Grid Disturbance at 220 kV Ramgarh S/s(DVC) on 09/04/22 at 12:31 hrs.
 - Grid disturbance at 220 kV Jorethang HEP on 08/04/22 at 10:18 hrs.
 - Grid disturbance at 400 kV Dikchu HEP on 17/04/22 at 16:15 hrs.
 - Grid disturbance at 220 kV Jorethang HEP on 26/04/22 at 20:05 hrs.
 - Grid Disturbances at 400 kV Teesta-V(NHPC) S/s on 23/04/22 at 12:37 hrs, on 26/04/22 at 18:20 hrs & on 26/04/22 at 18:59 hrs.
- 3) Follow up of decision of previous Protection sub-Committee Meetings.
- 4) Single line tripping incidences of transmission lines for month of April-2022 is enclosed at **Annexure -1.**

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 trippings well in advance for meaningful analysis during the meeting. You are also requested to upload the details in on-line tripping incident reporting system implemented in Protection Database Management System www.erpc-protectiondb.in.

Your participation in the meeting is highly solicited.

Yours faithfully,

P.P. Jena
06.05.22

(P. P. Jena)
Executive Engineer(PS)

LIST OF ADDRESSES:

Chief Engineer, Trans (O&M) Bihar State Power Transmission Limited, VidyutBhawan, Bailey Road, Patna-800021	Electrical Supeeerintending Engineer (CRITL) Bihar State Power Transmission Limited, VidyutBhawan, Bailey Road, Patna-800021
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 UrjaSancharan Nigam Limited Kusai Colony, Doranda, Ranchi-834002	Electrical Superintending 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, OHPCCL, Orissa State Police Housing & Welfare Corp. Bldg. Vanivihar Chowk, Janpath, Bhubaneswar-752022
Chief Load Dispatcher, SLDC OPTCL, P.O. Mancheswar Rly. Colony Bhubaneswar-751017	Chief Engineer (Testing), WBSETCL Central Testing Laboratory, Abhikshan, Salt Lake, Kolkata-700091 (Fax no. 2367-3578/1235)
Chief Engineer (CLD) WBSETCL, P.O. Danesh Sheikh Lane, Andul Road, Howrah-711109	Addl. Chief Engineer (ALDC) West Bengal Electricity Distribution Company Ltd Vidyut Bhavan, 7 th Floor, Bidhannagar, Sector-I Salt Lake City, Kolkata-700091 (Fax-033-2334-5862)
Dy. Chief Engineer (Testing)/ Sr. Manager (Testing) CESC Ltd., 4, SasiSekhar Bose Road, Kolkata-700025	General Manager (O&M) KhSTPS, NTPC Ltd., P.O. Deepti Nagar, Dist. Bhagalpur, Bihar-813203
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)
General Manager (O&M) Barh STPS, NTPC Ltd., P.O. NTPC Barh, Dist. Patna, Bihar-803213	General Manager (OS), ERHQ-II, NTPC Ltd., 3 rd flr. OLIC Building, Plot no. N 17/2, Nayapalli, Unit-8 Bhubaneswar- 751012 (Fax No. 0674-2540919)
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., Loknayak Jaiprakash Bhawan, (2 nd Floor), Dak Bunglow Chawk, 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, Tenughat Vidyut 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, Jharkhand 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, Angul, Odisha (FAX:011-26139256-65)
Shri D. P. Bhagava, Chief Consultant (O&M), TeestaUrja Limited, New Delhi (FAX:011- 46529744)	Director (GM Division), Central Electricity Authority SewaBhawan, R. K. Puram, 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 - 722002
Director, Shiga Energy Pw. Ltd., 5th Floor, DLF Building No. 8, Tower-C, Gurgaon - 722002	DGM (E&I), HALDIA ENERGY LIMITED, BARIK BHAWAN, KOKATA-700072, FAX: 033-22360955
President , TPTL, BhikajiCama Place, New Delhi , 110066	

List of important transmission lines in ER which tripped in April-2022

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	PMU Location	LOCAL END UTILITY	REMOTE END UTILITY
1	220KV-TENUGHAT-BIHARSHARIF	01-04-2022	10:20	01-04-2022	10:54	Biharsharif : Y_N 98.72km, Ib:- 1.374kA	TTPS: Y_N, Z-1, 66.30 km, Ib-1.097kA	Y-Earth	200	Resistive fault. Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
2	400kV-ALIPURDUAR (PG)-PUNASANGCHUN-2	04-04-2022	05:03	04-04-2022	05:33	Alipurduar: R- N Z-1 ,90.2km, Ir-10.4kA	Punagsangchu: R-N, O/C, Ir-1.18kA	R-Earth	100	A/r successful from Alipurduar only	Alipurduar	PG ER-2	BHUTAN
3	400kV-PATNA-SAHARSA-1	04-04-2022	06:00	04-04-2022	06:38	Patna: Y_N, 3.09 kA	SAHARSA: Y-N 44.9 km Iy=4.307 kA	Y-Earth	100	A/r failed after 1 second (Fault appeared in R_ph immediately after A/r)	Patna	PG ER-1	PMTL
4	220kV-TENUGHAT-BIHARSARIF-1	04-04-2022	10:33	04-04-2022	11:35	Tenughat: B_N, Z1, 120.9km, 1.03kA	Biharsharif: B_N, 51.32km, 2.47kA	B-Earth	100	Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
5	400kV-PPSP-BIDHANNAGAR-1	04-04-2022	10:58	04-04-2022	11:12	PPSP: Y_N, Z1, 71km	Bidhannagar: Y_N, Z1, 123.7km, 2.09kA	Y-Earth	100	Three phase tripping for single phase fault	Bidhannagar	WBSEDCL	WBSETCL
6	220kV-DALTONGANJ-CHATRA-2	04-04-2022	11:06	04-04-2022	19:11	Daltonganj: Y-B, Z1 , 64.26 km, Iy=2.04 kA Ib= 2.02kA	Chatra : Y-B, 116km, 0.6 kA	Y-B	100	Phase-to-phase fault	Daltonganj	PG ER-1	JUSNL
7	400kV-NEW PPSP-ARAMBAGH-1	04-04-2022	13:54	04-04-2022	14:12	New PPSP: B-N, Z-1, 69.9 km, Ib-3.90 kA	Arambag : B-N, Z1, 121 km Ib-2.54 kA	B-Earth	100	A/r failed after 1 second	Arambag	WBSETCL	WBSETCL
8	400kV-ALIPURDUAR (PG)-JIGMELING-2	06-04-2022	04:50	06-04-2022	05:27	Alipurduar: R-N, Z1, 10.6km, 10.7kA	Jigmelling: R_N, Z1, 190.5km	R-Earth	100	A/r successful from Alipurduar only.	Alipurduar	PG ER-2	BHUTAN
9	220kV-DALKHOLA-PURNEA-2	05-04-2022	18:21	06-04-2022	14:51	Dalkhola: CT secondary metering core Ir=0 A			NA	Details maybe shared by PG ER-2	New Purnea	PG ER-2	PG ER-1
10	220kV-TENUGHAT-BIHARSARIF-1	06-04-2022	10:34	06-04-2022	11:24		Biharsharif: B_N, 52.13km, Ib-2.36 kA	B-Earth	100	Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
11	400kV-NEW PPSP-ARAMBAGH-1	06-04-2022	12:31	06-04-2022	13:00	New PPSP: B_N, 3.64 kA	Arambagh: B_N Z-1, 126.2 km, Ib-2.6 kA	B-Earth	100	A/r failed after 1 second	Arambag	WBSETCL	WBSETCL
12	400kV-NEW PPSP-ARAMBAGH-1	06-04-2022	13:02	06-04-2022	18:34	New PPSP: B_N, 2.76 kA	Arambagh: B_N, Zone-1, 130 km, 2.52 kA	B-Earth	100	A/r failed after 1 second	Arambag	WBSETCL	WBSETCL
13	220kV-JEYPORE-JAYNAGAR-2	06-04-2022	14:44	06-04-2022	15:28	Jepore: B-N , 2.5 km Ib- 10 kA	Jaynagar: B_N Z-1	B-Earth	260	A/r successful from Jeypore only	Jeypore	PG ODISHA	OPTCL
14	400kV-RANCHI-ROURKELA-2	07-04-2022	02:52	07-04-2022	05:02	Ranchi: Y-N, 130.6km 2.943 kA	Rourkela : Y-N, 3.016 kA, 0 km	Y-Earth	100	DT received at Ranchi. Teed protection operated at Rourkela. PG Odisha may explain the event	Ranchi	PG ER-1	PG ODISHA
15	400kV JHARSUGUDA-ROURKELA-3	07-04-2022	02:52	07-04-2022	07:32	Jharsuguda: Y_N	Rourkela: Y_N, 2.943 kA, 130.6 km	Y-Earth	100	DT received at Jharsuguda. TEED and later LBB also operated.	Rourkela	PG ODISHA	PG ODISHA
16	400kV-BARIPADA-KEONJHOR(PG)-1	07-04-2022	14:24	07-04-2022	16:15	Baripada: B_N, 155.401km Ib= 2.541kA, Zone-2	Keonjhor: B_N, 4.155 kA, 0.899 km	B-Earth	100	Single phase fault. DT received at Baripada alongwith carrier signal and all three phase tripped	Baripada	PG ODISHA	PG ODISHA
17	400kV-RANCHI-RAGHUNATHPUR-2	08-04-2022	13:16	08-04-2022	14:12	Ranchi: Y_B_N, Z2, 159.6 km , Iy-2.22 kA, Ib-2.57 kA		Y-B	100	Phase-to-phase fault. DVC may explain	Ranchi	PG ER-1	DVC
18	400kV-DSTPS(ANDAL)-RAGHUNATHPUR-2	08-04-2022	13:16	08-04-2022	16:36	DSTPS: Y_B Z-1 , 10.54km, Iy=14.617kA, Ib=14.7854kA	RTPS: B_N, 53.55km ib=5.343 kA, ic= 5.171kA.	Y-B	100	Phase-to-phase fault. DVC may explain	DSTPS	DVC	DVC
19	220kV-SUBHASGRAM(PG)-SUBHASGRAM(WB)-2	09-04-2022	10:42	09-04-2022	11:01	Differential Protection operated		No fault	NA	Differential relay maloperated. WBSETCL may explain	Subhashgram	PG ER-2	WBSETCL
20	220kV-SUBHASGRAM(PG)-SUBHASGRAM(WB)-2	09-04-2022	11:40	09-04-2022	15:37	Differential Protection Operated		No fault	NA	Differential relay maloperated. WBSETCL may explain	Subhashgram	PG ER-2	WBSETCL
21	220kV-JODA-RAMCHANDRAPUR-1	09-04-2022	12:36	09-04-2022	13:13	Joda: O/c in all three phase	Ramchandrapur: O/c	No fault	NA	Tripped on O/c after total supply failure at Bokaro, Jamshedpur (DVC)	Jamshedpur	OPTCL	JUSNL
22	220kV-JSPL-JAMSHEDPUR(DVC)-1	09-04-2022	12:37	09-04-2022	13:35	-	-	No fault	NA	Tripped on O/c after total supply failure at Bokaro, Jamshedpur (DVC)	Bokaro	OPTCL	DVC
23	400kV-NEW PPSP-ARAMBAGH-2	09-04-2022	13:00	09-04-2022	13:10	New PPSP: Y-Earth,79km	Arambagh-Y-Earth,Z-1,144km, 2.15kA	Y-Earth	100	A/r successful. Tripped again within reclaim time	Arambag	WBSETCL	WBSETCL
24	400kV-MEERAMUNDALI-JSPL-2	09-04-2022	17:02	09-04-2022	18:02	Meeramundali: B_N DT Received , Ib= 1.6 kA	JSPL: B_N , Ib=6.7 kA	B-Earth	100	Three phase tripping for single phase fault	Meeramundali	OPTCL	OPTCL
25	220kV-CHUKHA-BIRPARA-1	09-04-2022	22:43	09-04-2022	23:02		Birpara: B_N A/R successful,	B-Earth	100	A/r successful from Birpara only	Binaguri	BHUTAN	PG ER-2
26	220kV-CHUKHA-BIRPARA-2	09-04-2022	22:43	09-04-2022	23:04		Birpara: B_N A/R successful,	B-Earth	100	A/r successful from Birpara only	Binaguri	BHUTAN	PG ER-2

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	PMU Location	LOCAL END UTILITY	REMOTE END UTILITY
27	400kV-ALIPURDUAR (PG)-PUNASANGCHUN-2	10-04-2022	00:01	10-04-2022	00:25	Alipurduar: R-N, Z-1, 72.3km, Ir=5.929kA		R-Earth	100	Single phase fault. DT received from Bhutan, all three phase at Alipurduar tripped.	Alipurduar	PG ER-2	BHUTAN
28	400kV-MEERAMUNDALI-MENDHASAL-2	10-04-2022	13:49	10-04-2022	17:43	MEERAMUNDALI: R-N, 25km, Ir= 5.6kA	Mendhasal: R_N, 4.31 kA	R-Earth	100	A/r attempt failed after 1 sec	Meramundali	OPTCL	OPTCL
29	400kV-KODERMA-BOKARO-1	11-04-2022	14:33	11-04-2022	15:57	Koderma: Y_B Z1 , 81.9 km	Bokaro: Y_B, Z-1, 4.79 km Iy = 8.384 kA , Ib = 8.480kA	Y-B	100	Phase to phase fault	Bokaro	DVC	DVC
30	400kV-MALDA(PG)-NEW PURNEA-1	12-04-2022	08:53	12-04-2022	13:23	Malda : Y-N, 56.4km, Iy= 4.8 kA	New Purnea: Y_B_N, 79.3km, Iy:3.93 kA, Ib: 4.06 kA	Y-B-Earth	100	Single phase fault from Malda end, DT received at Malda after 1 second. Phase to phase fault from New Purnea end. PG may share the findings if any	New Purnea	PG ER-2	PG ER-1
31	400kV-TEESTA-III-DIKCHU-1	12-04-2022	12:48	12-04-2022	15:50	Teesta-III, B_N, Z-2, 15.8km Ib :2.74kA,	Dikchu: B_N, 4.94 kA	B-Earth	500	Highly resistive fault	Rangpo	TUL	DIKCHU
32	220kV-TTPS-TSTPP-1	12-04-2022	17:19	12-04-2022	20:34	TTPP: B_N, 5.64 kA	TSTPP: B_N, 4.9 km	B-Earth	160	Three phase tripping for single phase fault	TSTPP	OPTCL	NTPC TSTPP
33	220kV-KHAGARIA-NEW PURNEA-1	14-04-2022	12:03	14-04-2022	12:40	Khagaria: B_N, Z-1, 25.1km, Ib=2.72 kA		B-Earth	100	A/r successful after 800 msec from Khagaria end only	New Purnea	BSPTCL	PG ER-1
34	400kV-LAKHISARAI-KHSTPP-2	14-04-2022	14:40	14-04-2022	15:19	Lakhisarai: R-N , 79.05 km Ir= 3.38 kA	kahalgaon: R_N 326.7km Ir=3.40 kA	R-Earth	100	A/r successful from Lakhisarai only	Lakhisarai	PG ER-1	NTPC KHSTPP
35	400kV-MEERAMUNDALI-MENDHASAL-2	14-04-2022	12:23	14-04-2022	16:52	Meramundali: R-N, 15.6km, Ir=6.18 kA	Mendhasal: R-N, 67.2km Ir=3.66 kA	R-Earth	100	A/r failed after 1 sec	Meramundali	OPTCL	OPTCL
36	400kV-RAJARHAT-GOKARNA-1	14-04-2022	17:10	14-04-2022	19:59	RAJARHAT: R_Y Z-1, 182km,Ir=3.109kA,Iy=3.15kA	Gokarna: R_Y Z-1, 56.73km Ir: 8.348 kA, Iy: 7.904 kA	R-Y-Earth	100	Phase to phase fault	Rajarhat	PG ER-2	WBSETCL
37	400kV-ALIPURDUAR (PG)-PUNASANGCHUN-2	14-04-2022	18:58	15-04-2022	14:29	APD: R-N, 27.8km Ir=7.4kA		R-Earth	100	A/r failed after 1 second	Alipurduar	PG ER-2	BHUTAN
38	400kV-ALIPURDUAR (PG)-BONGAIGAON-2	14-04-2022	19:13	14-04-2022	20:33	Alipurduar=DT sent, Directional Earth Fault		R-Earth	4500	Highly resistive fault, persisted for 4.5 seconds (As per PMU)	Alipurduar	PG ER-2	NER
39	400kV-ALIPURDUAR (PG)-PUNASANGCHUN-1	15-04-2022	01:45	15-04-2022	02:30	APD: R-N, 4.3 kA, 68 km	Punatsangchun: R_N	R-Earth	100	A/r successful from Alipurduar end	Alipurduar	PG ER-2	BHUTAN
40	400kV-DURGAPUR-JAMSHEDPUR-1	15-04-2022	12:06	15-04-2022	12:37	Durgapur: Y_N, 65.3km, 2.87 kA	Jamshedpur: Y_N, 104km, Iy= 3.5 kA	Y-Earth	100	A/r failed after 1 sec	Durgapur	PG ER-2	PG ER-1
41	400kV-JAMSHEDPUR-MEJIA-1	15-04-2022	12:06	15-04-2022	12:38	In same dia of Durgapur-Jamshedpur, main bay at Jamshedpur was under		No fault	NA	No fault	Jamshedpur	PG ER-1	DVC
42	400kV-PUSAULI(PG)-DALTONGANJ-2	15-04-2022	12:37	15-04-2022	13:06	Pusauli : B-N ,54.16km, Ib=5.06kA,	Daltonganj: B_N, 1.71 kA	B-Earth	100	A/r failed after 1 second	Pusauli	PG ER-1	PG ER-1
43	400kV-BIDHANNAGAR-NEW CHANDITALA-1	15-04-2022	12:42	15-04-2022	13:13	Bidhannagar : Y_N Z1, 7.1 km, Iy=16.49 kA	N.Chanditala: Y_N Z2, 131.6km, Iy=2.477 kA	Y-Earth	100	A/r successful from both ends. Line tripped again within reclaim time	Bidhannagar	WBSETCL	WBSETCL
44	765kV-GAYA-VARANASI-1	15-04-2022	14:58	15-04-2022	15:40	Gaya: R-N, 98.38km, Ir=4.7kA.	Varanasi: R-N,168.48 km, Ir=3.6kA	R-Earth	100	A/r failed after 1 sec	Gaya	PG ER-1	NR
45	400kV-MEERAMUNDALI-MENDHASAL-2	15-04-2022	10:44	15-04-2022	16:41	Meeramundali: R-ph, 9.2 km, Ir=16 kA;	Mendhasal: R-ph, 76.1 km, Ir= 3.83 kA	R-Earth	100	A/r failed after 1 sec	Meramundali	OPTCL	OPTCL
46	400kV-BIDHANNAGAR-NEW CHANDITALA-1	15-04-2022	13:18	15-04-2022	17:51	Bidhannagar : Y_N Z1, Iy=15.5 kA	New Chanditala: SOTF	Y-Earth	100	A/r failed after 1 sec	Bidhannagar	WBSETCL	WBSETCL
47	220kV-BOLANGIR (PG)-KESINGA-1	15-04-2022	18:27	15-04-2022	19:06	Bolangir: Y-B, Iy: 1.03kA, DT received	Kesinga: R_N Z1, 28.3km, Ir=2.48kA, A/R successful	R-Earth	1000	Fault persisted for 1 second. DT received at Bolangir end. OPTCL may explain	Bolangir	PG ODISHA	OPTCL
48	220kV-BOLANGIR (PG)-KESINGA-1	16-04-2022	10:30	16-04-2022	11:11	Bolangir- DT received		No fault	NA	DC Earth fault in carrier protection cable at Kesinga	Bolangir	PG ODISHA	OPTCL
49	220kV-BOLANGIR (PG)-KESINGA-1	16-04-2022	11:12	16-04-2022	13:44	Bolangir: DT received		No fault	NA	DC Earth fault in carrier protection cable at Kesinga	Bolangir	PG ODISHA	OPTCL
50	220kV-CHANDIL-STPS(WBPDCL)-1	16-04-2022	13:55	16-04-2022	14:27	Chandil: R_N Z-1, 52km, IR= 1.66kA	Santaldih TPS: R-N, Z-1,71 km, Ir=1.88 kA	R-Earth	100	A/r attempt failed at Santaldih. A/r operation can't be ascertained at Chandil	Ranchi	JUSNL	WBPDCL
51	220kV-CHUKHA-BIRPARA-1	16-04-2022	15:16	16-04-2022	15:44		Birpara: R-Y-N , 70.2km Ir=2.3kA Iy=1.2kA	R-Y-Earth	160	Phase-to-phase fault	Binaguri	BHUTAN	PG ER-2
52	220kV-BARIPADA-BALASORE-2	16-04-2022	17:19	16-04-2022	17:48	Baripada: R-N , 25.07km Ir= 5kA		R-N	100	Three phase tripping at Baripada end. Pole discrepancy appeared at Baripada after 100 msec and other two phase tripped.A /r successful at Balasore end	Baripada	PG ODISHA	OPTCL
53	220kV-MAITHON-DUMKA-1	17-04-2022	11:25	17-04-2022	12:17	Maithon: Y-B , Z-2, 67.4km Iy=3.4kA, Ib=3kA	Dumka: Y-B, 4.645km, Iy:4.292kA, Ib:4.64kA	Y-B	500	Tripped after 500 msec from Maithon end. Carrier protection status may be checked.	Maithon	PG ER-2	JUSNL
54	220 KV-TENUGHAT-BIHARSHARIF	17-04-2022	16:08	17-04-2022	16:46	Tenughat: R_N 119.5km, Ir= 1.197 kA	Biharsariff : R_N , Ir= 2.3 kA	R-Earth	100	Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
55	400kV-MEERAMUNDALI-MENDHASAL-2	17-04-2022	18:46	17-04-2022	19:58	MRDL:-R-N, Z1 12.6km, Ir=8.66 kA, A/R Unsuccessful	Mendhasal:-R-N, Z1, 112km Ir=4.05 kA	R-Earth	100	A/r successful from both ends. Line tripped again within reclaim time	Meramundali	OPTCL	OPTCL
56	400kV-GAYA-CHANDWA-1	17-04-2022	23:41	18-04-2022	00:03	Gaya: R_N, 11.7 kA	Chandwa: R_N, 95.55 km, 4.16 kA	R-Earth	100	A/r failed after 1 sec	Gaya	PG ER-1	PG ER-1
57	220kV-JODA-RAMCHANDRAPUR-1	18-04-2022	10:25	18-04-2022	11:00	Joda: Y_N Z-1, 17.84 km Iy= 3.817kA	Ramchandrapur: Y_N Z-1, 120 km 1.7kA	Y-Earth	100	A/r successful from Joda end only	Jamshedpur	OPTCL	JUSNL
58	220kV-CHANDIL-STPS(WBPDCL)-1	18-04-2022	12:24	18-04-2022	16:15	Chandil:B_N Z-1,3.8km,Ib=5.04kA	STPS:B_N Z-2,107.8km,Ib=1.56kA	B-Earth	350	Tripped in Zone-2 time from Santaldih. Carrier not received	Ranchi	JUSNL	WBPDCL
59	220kV-CHANDIL-RANCHI-1	18-04-2022	12:44	18-04-2022	12:44	Chandil- B-N, Z-1, 48km, FC: 0.89kA	Ranchi: B-N, Z-1, 53km , Ib=2.9kA	B-Earth	100	A/r attempt successful at Ranchi end only	Ranchi	JUSNL	PG ER-1
60	220kV-KARAMNASHA (NEW)-SAHUPURI-1	18-04-2022	14:13	18-04-2022	16:40	Karmansha: B_N, Z1, 3.66km Ib=4.99kA	Sahupuri: B_N,Z2, 38.99km Ib- 2.978kA	B-Earth	100	As per PMU, A/r successful. Tripped again within reclaim time	Pusauli	BSPTCL	NR
61	220kV-KATAPALLI-BOLANGIR(PG)-1	19-04-2022	14:31	21-04-2022	15:10	Katapalli: Y-N, Z-2, 105km, Iy=1.32 kA		Y-Earth	500	Y_ph insulator decapped at loc. 4. Tripped in Zone-2 time from Bolangir. A/r attempt failed at Katapalli	Bolangir	OPTCL	PG ODISHA

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	PMU Location	LOCAL END UTILITY	REMOTE END UTILITY
62	220KV-DARBHANGA(DMTCL)-LAUKAHI-1	19-04-2022	22:22	22-04-2022	13:39	Darbhanga: Y_N, Z1, 45.2km, lb=2.23kA.	.Laukahi: Y_N, Z-1, ly=1.387kA	Y-Earth	100	A/r successful at Laukahi	Muzaffarpur	DMTCL	BSPTCL
63	220KV-NEW PURNEA-MADHEPURA-1	20-04-2022	00:35	20-04-2022	01:25	New purnea: Y-B, 13.9km , 10.26kA	Madhepura: Y_B, ly=lb=2.29 kA	Y-B	400	Tripped in Zone-2 time from Madhepura	New Purnea	PG ER-1	BSPTCL
64	220KV-KHAGARIA-NEW PURNEA-1	20-04-2022	01:02	20-04-2022	01:40	khagaria: Y_B, 39.03km, ly=3.623kA, lb: 3.717kA	New Purnea: Y-B 56.5km , ly=5.8kA, lb=3.48kA	Y-B	100	Phase-to-phase fault	New Purnea	BSPTCL	PG ER-1
65	400KV-TEESTA-III-DIKCHU-1	20-04-2022	07:58	20-04-2022	10:38	Over voltage at Teesta III, DT sent to Dikchu.	Dikchu: DT received	R_N	100	Bus bar differential operated at Teesta-3 during desynchronization of U#3. TUL may explain	Rangpo	TUL	DIKCHU
66	220KV-TENUGHAT-BIHARSARIFF-1	20-04-2022	11:50	20-04-2022	12:28	Tenughat: Z3 , 273km	BSF: R-N, Ir=0.9kA Trip time-501.1msec,	R-N	3900	Highly resistive fault. DEF operated at Biharsharif in 800 msec. DEF didn't operate at Tenughat. TVNL may check	Tenughat	TVNL	BSPTCL
67	220KV-TENUGHAT-PATRATU-1	20-04-2022	11:50	20-04-2022	12:13	Tripped from Tenughat only		R-N	1200	Tripped from Tenughat end only in 1200 msec on DEF	Tenughat	TVNL	JUSNL
68	220KV-RENGALI(PH)-TSTPP-1	20-04-2022	14:52	20-04-2022	15:38	Rengali(PH): R_N, Z-2, 34.88km Ir=0.5 kA	Talcher: R_N, Z-1, 5.6km	R-Earth	400	Tripped in Zone-2 time from Rengali	TSTPP	OHPC	NTPC TSTPP
69	220KV-DALTONGANJ-CHATRA-1	20-04-2022	20:07	21-04-2022	01:18	DT RECEIVED AT DALTONGANJ		No fault	NA	DT received at Daltonganj. JUSNL may explain	Daltonganj	PG ER-1	JUSNL
70	765KV-NEW RANCHI-MEDINIPUR-1	21-04-2022	17:49	21-04-2022	18:36	New Ranchi : B ph, 137 km, 4.16 kA	Medinipur : B ph, Z-1, 139 km, lb=3.287 kA	B-Earth	100	A/r failed after 1 sec	New Ranchi	PG ER-1	PMJTL
71	765KV-NEW RANCHI-DHARAMJAIGARH-2	21-04-2022	21:41	23-04-2022	22:19	NEW RANCHI: B-N, 100% DISTANCE, 1.7KA (DT RECEIVED)		R-Earth	100		New Ranchi	PG ER-1	WR
72	765KV-DHARAMJAIGARH-JHARSUGUDA-2	21-04-2022	21:41	24-04-2022	01:10		JHARSUGUDA: R-N, 145km, 5.2kA (DT received)	R-Earth	100	R_ph CT failure at Dharamjaigarh.DT received at New Ranchi, Jharsuguda	Jharsuguda	WR	PG ODISHA
73	765KV-DHARAMJAIGARH-JHARSUGUDA-1	21-04-2022	21:41	22-04-2022	05:21	CT faliure at Dharamjaigarh	Jharsuguda: R-N, 151km, 2.6kA (DT received)	R-Earth	100		Jharsuguda	WR	PG ODISHA
74	765KV-NEW RANCHI-DHARAMJAIGARH-1	21-04-2022	21:41	22-04-2022	03:56	Didn't Trip at New Ranchi		No fault	NA	Tripped from Dharamjaigarh only	New Ranchi	PG ER-1	WR
75	400KV-RANCHI-SIPAT-2	21-04-2022	23:51	22-04-2022	01:30	Ranchi: DT received		No fault	NA	DT received from Sipat. Details may be shared by PG	Ranchi	PG ER-1	WR
76	400KV-KOLAGHAT-KHARAGPUR-2	22-04-2022	08:49	22-04-2022	09:16	Kolaghat: R_Y Z-1, 58.23 km, Ir - 5.352 kA, ly - 5.32 kA.	Kharagpur: R_Y Z-1, 36.26 km, Ir- 7.997 kA, ly - 8.041 kA.	R-Y	100	Phase-to-phase fault	Kolaghat	WBPDC	WBSETCL
77	220KV-ATRI-PANDIABILI-2	22-04-2022	13:38	22-04-2022	17:32	Atri: R_N, 21.8 km	Pandiabili: R-N, 2km 5.8kA	R-Earth	800	Highly resistive fault. Distance protection operated. 120 msec DEF also operated	Pandiabili	OPTCL	PG ODISHA
78	400KV-BINAGURI-RANGPO-1	23-04-2022	12:37	23-04-2022	13:20	Binaguri: DT received	Rangpo: DEF, R-2.7 kA	R-Earth	1800	Highly resistive fault.	Rangpo	PG ER-2	PG ER-2
79	220KV-DALTONGANJ-CHATRA-1	23-04-2022	12:56	23-04-2022	13:49	DALTONGUNJ: Y-B , Z-1 11.38km, ly=lb= 4.39kA,	Chatra:- Y-B, 207.14 km, ly= 182.4A, lb=171.6A	Y-B	100	Phase-to-phase fault	Daltonganj	PG ER-1	JUSNL
80	400KV-PATNA-SAHARSA-1	24-04-2022	18:23	24-04-2022	19:43	MASTER RELAY OPERATED AT PATNA	DT RECEIVED AT SAHARSA	No fault	NA	PRV-2 trip at Patna. PG ER-1 may explain	Patna	PG ER-1	PMTL
81	400KV-KHARAGPUR-CHAIBASA-1	25-04-2022	10:17	25-04-2022	10:30	Kharagpur: Yph, Z2, 72.9km, ly=2.52kA	Chaibasa: A/R Successful	Y-Earth	550	Highly resistive fault. Tripped in Zone-2 time from Kharagpur	Kharagpur	WBSETCL	PG ER-1
82	220KV-KHAGARIA-NEW PURNEA-1	25-04-2022	11:35	25-04-2022	12:14	New Purnea: B-N 29.9 km, lb=1.71 kA	Khagaria: B-N , 25.76 km, lb= 3.370kA	B-Earth	100	A/r successful. Line tripped again within reclaim time	New Purnea	BSPTCL	PG ER-1
83	400KV-ARAMBAGH-BAKRESWAR-1	25-04-2022	12:24	25-04-2022	12:55	Arambag : B-Ph, Z1, 77.1km, lb= 4.76kA	BKTPP: B-Ph, Z1, 65.8km, lb= 6.04kA	B-Earth	100	A/r failed after 1 sec	Arambag	WBSETCL	WBPDC
84	220KV-DEHRI-GAYA-1	25-04-2022	12:42	25-04-2022	13:00	Dehri: B-Ph, Z-1, 53.8km, lb=1.288kA	GAYA:B-Ph, 32.107km, lb=3.55kA	B-Earth	265	Highly resistive fault. A/r failed after 1 sec	Gaya	BSPTCL	PG ER-1
85	220KV-BUDHIPADAR-KORBA-1	25-04-2022	13:05	25-04-2022	14:10	Budhipadar: B_N, Z-1, 60.6 km, lb=1.63 kA		B-Earth	100	A/r attempt failed after 1 sec (As per PMU)	Budhipadar	OPTCL	WR
86	400KV-NEW PPSP-ARAMBAGH-1	25-04-2022	13:05	25-04-2022	13:56	N.PPSP: B-Ph, Z1, 69.5km, lb=3.9kA	Arambag : B-Ph, Z1, 118km, lb= 2.86kA	B-Earth	150	A/r attempt failed after 1 sec	Arambag	WBSETCL	WBSETCL
87	400KV-MEERAMUNDALI-MENDHASAL-II	25-04-2022	13:18	25-04-2022	14:50	Meramundali : R-Ph; 18.8 km, Ir= 10 kA		R-Earth	100	No A/r attempt at Meramundali. Other two phase might have tripped in PD after 2.5 seconds. A/r successful from Mendhasal	Meramundali	OPTCL	OPTCL
88	400KV-TSTPP-MEERAMUNDALI-1	25-04-2022	12:41	25-04-2022	15:20	TSTPP: B-Ph, Z-1,21.2 km	Meramundali: B-Ph,7.11kA,45.8km	B-Earth	100	A/r failed after 1 second	Meramundali	NTPC TSTPP	OPTCL
89	220KV-BUDHIPADAR-KORBA-1	26-04-2022	12:57	26-04-2022	15:11	Budhipadar: Y_B		Y-B	100	Phase to phase fault	Budhipadar	OPTCL	WR
90	220KV-BUDHIPADAR-RAIGARH-1	26-04-2022	13:02	26-04-2022	18:18	Budhipadar: B-N , 23.8km , lb=2.93 kA	Raigarh: Y-B ly=3.24kA, lb=3.17kA	Y-B	800	Highly resistive fault.	Budhipadar	OPTCL	WR
91	220KV-TENUGHAT-BIHARSARIFF-1	27-04-2022	13:27	27-04-2022	14:11	Tenughat: R_N , 69.92 km , Ir= 1.171 kA	Biharsharif: R_N , 97.29 km, 1.43 kA	R-Earth	160	Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
92	220KV-BUDHIPADAR-KORBA-1	27-04-2022	13:25	27-04-2022	19:05	Budhipadar: R_N 23.7km 2.87 kA		R-Earth	550	Tripped in Zone-2 time	Budhipadar	OPTCL	WR
93	220KV-TENUGHAT-BIHARSARIFF-1	27-04-2022	14:23	27-04-2022	19:37	Tenughat: B_N, 1.89 kA		B-Earth	100	Three phase tripping for single phase fault	Tenughat	TVNL	BSPTCL
94	220KV-DALKHOLA (WB)-DALKHOLA (PG)-1	28-04-2022	01:08	28-04-2022	01:59		PG: DT received	No fault	NA	WBSETCL may explain	Malda	WBSETCL	PG ER-2
95	765KV-MEDINIPUR-NEW JEERAT-1	28-04-2022	05:57	28-04-2022	07:00	Medinipur:DT received	Jeerat: OV Stage-1	O/V	NA	O/V settings maybe shared (Y_ph voltage touched 808 kV).	Medinipur	PMJTL	PMJTL
96	220KV-PARULIA-PARULIA(PG)-2	28-04-2022	05:58	28-04-2022	18:48	DVC: R_N , 27.1 kA	R phase to earth fault. BPI failed at PG end	R-Earth	450	Tripped in Zone-2 time (450 msec) from DVC end	Durgapur	DVC	PG ER-1
97	220KV-PARULIA-PARULIA(PG)-1	28-04-2022	05:58	28-04-2022	07:40	DVC: R_N , 10.7 kA	PG: Didn't trip	R-Earth	450	Tripped from DVC end in Zone-1 time. Zone settings maybe checked	Durgapur	DVC	PG ER-1
98	220KV-DALTONGANJ-CHATRA-2	28-04-2022	10:46	28-04-2022	13:01	Daltonganj: B_N Z1, 35.6km lb=2.71kA	Chatra:B_N, 60.20km	B-Earth	300	Three phase tripping for single phase fault	Daltonganj	PG ER-1	JUSNL

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	PMU Location	LOCAL END UTILITY	REMOTE END UTILITY
99	220KV-DALTONGUNJ-GARWAH (NEW)-2	28-04-2022	13:45	28-04-2022	16:33	Daltongunj: Y-B, 8.9 km I _y =I _b = 4.2 kA	Garwah:Y-B I _y =1.231 kA, I _b = 1.81 kA	Y-B	100	Phase to phase fault	Daltonganj	PG ER-1	JUSNL
100	220KV-BUDHIPADAR-RAIGARH-1	28-04-2022	13:40	28-04-2022	22:56	BUDHIPADAR B_N , 31.9 km I _b = 4.01 kA	RAIGARH : B_N 57.8 km , I _b = 2.5 kA	B-Earth	100	Three phase tripping for single phase fault	Budhipadar	OPTCL	WR
101	400KV-BINAGURI-TALA-4	29-04-2022	07:39	29-04-2022	09:46	Binaguri - R-B 138 km I _r =4.3kA, I _b = 4.57kA		R-B-Earth	100	Phase-to-phase fault. DT being received at Binaguri instead of carrier	Binaguri	PG ER-2	BHUTAN
102	400KV-MERAMUNDALI-MENDHASAL-1	29-04-2022	14:01	29-04-2022	15:02	Meramundali: B_N, 19.6 km, 8.29 kA	Mendhasal: B_N, 105.3 km, 5.8 kA	B-Earth	100	A/r successful. Tripped again within reclaim time	Meramundali	OPTCL	OPTCL
103	220KV-RENGALI-TTPS-1	29-04-2022	14:07	29-04-2022	15:54	Rengali: R_N, Zone-2, 40 km, 0.6 kA	TTPS: R_N, 22.2 km, 3 kA	R-Earth	500	Tripped in Zone-2 time from Rengali	Rengali	OPTCL	OPTCL
104	400KV-NEW PURNEA-GOKARNA-1	29-04-2022	17:25	30-04-2022	20:12	New Purnea: R_N, 40 km, 2.5 kA	Gokarna: R_N, 4 km, 14.75 kA	R-Earth	100	A/r failed after 1 sec	New Purnea	PG ER-1	WBSETCL
105	400KV-RANCHI-RAGHUNATHPUR-3	30-04-2022	15:57	30-04-2022	17:00	Ranchi: R_N, 127.7 km, 3.13 kA	Raghunathpur: R_N, 14.4 km, 8.295 kA	R-Earth	100	A/r successful. Line tripped again within reclaim time	Ranchi	PG ER-1	DVC
106	220 KV JSPL-JAMSHEDPUR-1	30-04-2022	17:16	30-04-2022	17:59	JSPL: R_N, Zone-2, 123.7 km, 1.187 kA	Jamshedpur: R_N, 25.9 km, 3.15 kA	R-Earth	100	Three phase tripping for single phase fault	Bokaro	OPTCL	DVC
107	400 KV BARIPADA-TISCO-1	30-04-2022	17:17	30-04-2022	17:46	Baripada: B_N, 4.03 kA	TISCO:B_N, 13.2 km, 8 kA	B-Earth	100	A/r successful from Baripada end only	Baripada	PG ODISHA	OPTCL
108	400KV-TEESTA 3-RANGPO-1	30-04-2022	17:44	30-04-2022	18:06	Teesta 3: R_N, Zone-2, carrier received, 67.55 km, 2.471 kA	Rangpo: R_N, 3.129 km, 14.23 kA	R-Earth	100	A/r successful. Tripped again within reclaim time	Rangpo	TUL	PG ER-2
109	400KV-MEDINIPUR-KHARAGPUR-2	30-04-2022	18:27	30-04-2022	18:54	Medinipur: Y_N, Zone-1, 87.6 km, 2.442 kA	Kharagpur: Y_N, 23 km, 8.8 kA	Y-Earth	100	A/r failed after 1 sec	Medinipur	PMJTL	WBSETCL
110	400KV-HALDIA-SUBHASHGRAM-1	30-04-2022	19:08	30-04-2022	21:15	Haldia: B_N, 66.57 km, 3.94 kA	Subhashgram: B_N, 87 km, 3.67 kA	B-Earth	100	Bus bar protection also operated. HEL may explain	Subhashgram	CESC	PG ER-2