



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति

Eastern Regional Power Committee

14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033



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NO. ERPC/PROTECTION/2021/ 877

DATE: 05/10/2021

To,

As per list enclosed,

Sub: Notice for 107th Protection Coordination sub-Committee (PCC) Meeting of ERPC

Sir,

Notice is hereby given that **107th PCC meeting** of ERPC will be held on **22nd October 2021(Friday)** from **10:30 hrs** through **online Microsoft Teams meeting platform**. The meeting link will be forwarded through e-mail or message. You are requested to enter the participant name and designation and organisation name while joining the meeting. The following coordinator may be contacted for any assistance:

Kumar Satyam, Asst. Director-II, ERPC, Mob: 7355225072, E-mail: satyam.24365@gov.in

The tentative agenda items for discussion will be as follows:

- 1) Confirmation of the minutes of 106th Protection sub-Committee Meeting of ERPC.
- 2) Analysis of following grid disturbances of September 2021:
 - Total Power Failure at 220 kV Ramchandrapur (JUSNL) Substation on 03/09/2021 at 21:52 Hrs
 - Total Power Failure at 220/132 kV Patraru (JUSNL) Substation on 12/09/2021 at 16:01 Hrs
 - Disturbance at 220 kV Upper Kolab(OHPC/OPTCL) Substation on 18/09/2021 at 17:59 Hrs
 - Total Power Failure at 220 kV Garwah (JUSNL) Substation on 26/09/2021 at 15:31 Hrs
 - Disturbance at 220 kV Hazipur(BSPTCL) Substation on 28/09/2021 at 17:18 Hrs
 - Total Power Failure at 220 kV Ramgarh (DVC) Substation on 29/09/2021 at 01:24 Hrs
 - Total Power Failure at 220 kV Amnour(BSPTCL) Substation on 29/09/2021 at 11:28 Hrs
- 3) Status of Implementation of Islanding Schemes in Eastern Region.
- 4) Follow up of decision of previous Protection Coordination sub-Committee Meetings.
- 5) Single line tripping incidences of transmission elements for **September 2021** as 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 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 (www.erpc-protectiondb.in).

Your participation in the meeting is highly solicited.

Yours faithfully,

P. P. Jena
05/10/21

(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 Supeerintending 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, OHPCL, Orissa State Police Housing & Welfare Corpn. 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, Sasi Sekhar 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), WBPDC, OS Dept. Corporate Office, 3/C, LA 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., Loknaya 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	The Head Maithon Power Limited, Maithon Office, MA 5 Gogna, Dist. Dhanbad, Jharkhand State, PIN-828207
General Manager (AM), ER-II Power Grid Corporation of India Ltd., J-I-15, Block-EP, Sector-V, Salt Lake, Kolkata-91	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 (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 Corpn. 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 Sewa Bhawan, R. K. Puram, New Delhi-110066
Director (NPC), CEA, NRPC Building, Katwaria Sarai, New Delhi- 110016	President, Dans Energy Pvt. Ltd, 5th Floor, DLF Building No. 8, Tower-C, Gurgaon - 722002
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President , TPTL, Bhikaji Cama Place, New Delhi , 110066	

List of important transmission lines in ER which tripped in SEPTEMBER-2021

Annexure 1

S.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	LOCAL END UTILITY	REMOTE END UTILITY	Utility to update	Utility Response
1	220KV DARBHANGA (DMTCL)-LAUKAHI-2	01-09-2021	08:44	01-09-2021	09:24	Darbhangha: B_N, Z I, 68.56 km, 1.425 kA	Laukahi: B_N, 68.56 km, 1.425 kA	B-Earth	100	Three phase tripping for single phase fault from both ends.	DMTCL	BSPTCL		
2	400KV MERAMUNDALI-LAPANGA-1	01-09-2021	10:02	01-09-2021	12:46	Meramundali: B_N, 188 km, 2.5 kA	Lapanga: B_N, 3.582 km, 20.86 kA	B-Earth	100	A/r failed. But at Lapnaga end MCB & TCB are reclosing one after another within 100ms causing repeated fault feeding.	OPTCL	OPTCL		
3	220KV TENUGHAT-PATRATU-1	01-09-2021	11:01	01-09-2021	13:29	Tenughat: Y_N	Patratu: Y_N, 20.64 km, 7.07 kA	Y-Earth	100	Three phase tripping for single phase fault. A/r not in service	JUSNL	JUSNL		
4	220KV JODA-RAMCHANDRAPUR-1	01-09-2021	11:20	01-09-2021	12:20	Joda: Y_N, 1.55 kA	Ramchandrapur: 4.4 km, 0.75 kA	Y-Earth	700	Tripped on DEF protection from Joda in 700 msec F/c was 1.6ka why Distance did not picked at Joda end . Single phase tripping within 100 msec from Ramchandrapur	OPTCL	JUSNL		

5	220KV TENUGHAT-PATRATU-1	02-09-2021	10:14	02-09-2021	18:04	Tenughat: B_N, 2.326 kA, 39.46 km		B-Earth	100	All three phases tripped from Tenughat within 100 msec for single phase fault.	JUSNL	JUSNL		
6	220KV JODA-RAMCHANDRAPUR-1	02-09-2021	10:20	02-09-2021	11:16	Joda: 41 km, 0.5 kA	Ramchandrapur: 97.4 km, 1.9 kA	R-Earth	900	R_ph opened from Joda within 100 msec, rest two phase opened after 500 msec.	OPTCL	JUSNL		
7	220KV BUDHIPADAR-KORBA-1	02-09-2021	12:18	02-09-2021	14:14	Budhipadar: B_N, 104.2 km		B-Earth	100	Three phase tripping for single phase fault	OPTCL	WR		
8	400KV MERAMUNDALI-LAPANGA-1	02-09-2021	14:36	02-09-2021	17:54		Lapanga: Y_N, 67.6 km, 4.5 kA	Y-Earth	100	A/r failed. But at Lapnaga end MCB & TCB are reclosing one after another within 100ms causing repeated fault feeding.	OPTCL	OPTCL		
9	220KV JODA-RAMCHANDRAPUR-1	03-09-2021	10:24	03-09-2021	11:10	Joda: R_N, Z I, 42.37 km, 1.377 kA	Ramchandrapur: R_N, 98.4 km, 1.89 kA	R-Earth	150	A/r not in service. Fault cleared within 150 msec from RCP.	OPTCL	JUSNL		
10	220KV TENUGHAT-BIHARSHARIF-1	03-09-2021	10:51	03-09-2021	11:41	Tenughat: R_N, Z I, 1.47 kA, 88.1 km	Biharsharif: R_N, Z I, 1.236 kA, 113.9 km	R-Earth	100	Three phase tripping for single phase fault	JUSNL	BSPTCL		
11	400KV PATNA-KISHANGANJ-2	03-09-2021	11:54	03-09-2021	13:43	Patna: R_N, Z I, 1.7 kA, 25 km	Kishanganj: R_N, 3.2 kA, 123 km	R-Earth	100	A/r failed	PG ER-1	PG ER-1		

12	220KV DALTONGUNJ-GARWAH(NEW)-2	03-09-2021	12:22	03-09-2021	20:13	Daltongunj: Y_B, Iy:2.8 kA, Ib: 2.9 kA, 27.6 km	Garwah: Y_B, Iy: 0.51 kA, Ib: 0.55 kA, 49.59 km	Y_B-Earth	100	R_ph breaker didn't open from Daltonganj for 3 seconds.Reason for same may be mentioned.	PG ER-1	JUSNL		
13	220KV BEGUSARAI-NEW PURNEA-1	03-09-2021	13:21	03-09-2021	18:41		New Purnea: B_N, Z I, 137.4 km, 1.7 kA	B-Earth	100	Time-length of DR is less at New Purnea. A/r operation cannot be ascertained.	BSPTC L	PG ER-1		
14	220KV CHANDIL-SANTALDIH(STPS)-1	03-09-2021	13:54	03-09-2021	14:21	Chandil: R_N, Z I, 1.75 kA, 101.1 km	Santal dih: R_N, 17.9 km, 4.007 kA	R-Earth	100	Z-1 from Chandil .	JUSNL	WBSE TCL		
15	220KV CHANDIL-SANTALDIH(STPS)-1	03-09-2021	17:50	03-09-2021	18:22	Chandil: R_N, Z I, 2.61 kA, 30.07 km	Santal dih: R_N, Z II, 93.282 km, 9.230 kA	R-Earth	350	Z-2 from Chandil .	JUSNL	WBSE TCL		
16	220KV CHANDIL-RANCHI-1	03-09-2021	23:15	04-09-2021	16:37	Chandil: B_N, 2.09 kA, 44.4 km, A/r failed	Ranchi: B_N, 4.316 kA, 36.893 km	B-Earth	350	Carrier signal sent from Ranchi but line tripped from Chandil in Z II time. A/r failed from Ranchi end	JUSNL	PG ER-1		
17	220KV BEGUSARAI-NEW PURNEA-1	04-09-2021	09:01	04-09-2021	21:34	Begusarai: B_N, Z I, 59.83 km, 2.981 kA	New Purnea: B_N, 117.26 km, 1.64 kA	B-Earth	100	Time-length of DR is less at New Purnea. A/r operation cannot be ascertained.	BSPTC L	PG ER-1		
18	220KV CHANDIL-SANTALDIH(STPS)-1	04-09-2021	09:50	04-09-2021	10:16		Santal dih: R_N, 18 km, 4.69 kA	R-Earth	200	3 phase tripping from chandil end for single phase fault	JUSNL	WBSE TCL		

19	400KV PATNA-KISHANGANJ-2	04-09-2021	10:41	04-09-2021	11:38		Kishanganj: R_N, 134.33 km, 2.79 kA	R-Earth	100	A/r failed. DR of A/r instance uploaded	PG ER-1	PG ER-1		
20	220KV CHANDIL-SANTALDIH(STPS)-1	04-09-2021	11:49	04-09-2021	12:27	Chandil: B_N, 50.1 km, 1.5 kA	Santal dih: AR successful	B-Earth	100	3 Phase tripping from Chnadil END ,A/R successful from STPS end.	JUSNL	WBSE TCL		
21	400 KV KHARAGPUR-KOLAGHAT-1	04-09-2021	11:57	04-09-2021	12:23	Kharagpur: R_N, Z I, 15.7 km, 9.338 kA	Kolaghat: R_N, Z I, 77.67 km, 4.534 kA	R-Earth	100	A/R unsuccessful ,fault at same location	WBSET CL	WBSE TCL		
22	400 KV KHARAGPUR-KOLAGHAT-1	04-09-2021	12:26	04-09-2021	16:39	Kharagpur: R_N, Z I, 15 km,	Kolaghat: R_N, Z I, 77 km, 4.5 kA	R-Earth	100	A/R unsuccessful ,fault at same location	WBSET CL	WBSE TCL		
23	220KV MUZAFFARPUR-HAJIPUR-1	04-09-2021	12:54	04-09-2021	13:31		Hajipur: B_N, Z I, 20.5 km, 2.82 kA	B-Earth	100	Three phase tripping from Muzaffarpur for single phase fault	PG ER-1	BSPTC L		
24	220KV NEW PURNEA-MADHEPURA-1	05-09-2021	11:08	06-09-2021	15:20	New Purnea: Y_B, Z I, Iy=Ib=13.37 kA		Y_B	130	A/r operated from Madhepura but at the A/R instance Phase to phase fault in zone-2 sensed and tripped after 350 ms due to non receipt of carrier .This may be looked.. Y_ph conductor snapped at loc. 42	PG ER-1	BSPTC L		

25	220KV BUDHIPADAR-RAIGARH-1	05-09-2021	11:37	05-09-2021	14:49	Budhipadar: B_N, 27.8 km, 3.46 kA	Raigarh: B_N, 64.84 km, 2.79 kA	B-Earth	100	Three phase tripping for single phase fault	OPTCL	WR		
26	220KV DALTONGUNJ-GARWAH(NEW)-2	06-09-2021	09:16	06-09-2021	09:52		Garwah: B_N, .48 kA, 60.5 km	B-Earth	100	single phase fault but A/r attempt not taken at Garwah. PD time also maybe checked at garwa .A/R seems successful fromDaltonganj end.	PG ER-1	JUSNL		
27	400KV PPSP-BIDHANNAGAR-2	06-09-2021	14:06	06-09-2021	14:37	PPSP: R_N, Z I, 101.9 km	Bidhannagar: R_N, Z I, 47.5 km, 5.325 kA	R-Earth	100	No A/R .	WBSET CL	WBSE TCL		
28	400/220 KV ICT-1 AT JAMSHEDPUR	06-09-2021	17:43	06-09-2021	19:50	Tripped from 220kV side while working on main bus-1 PT of Ramchandrapur				Reason of tripping maybe shared by JUSNL	PG ER-1	NA		
29	220KV CHANDAUTI-SONENAGAR-1	06-09-2021	17:44	06-09-2021	18:06		Sonenagar: R_N, Z I, 1.957 kA, 32.83 km	R-Y-B	100	Three phase fault	PMTL	BSPTCL		
30	400 KV KISHANGANJ-TEESTA III-1	07-09-2021	02:31	07-09-2021	02:56	Kishanganj: B_N, Z III, 130.9 km, 2.14 kA	Teesta III: B_N, Z I, 1.2 kA	B-Earth	1200	Tripped on DEF protection from Kishanganj and DT sent to Teesta III.	PG ER-1	TUL		
31	220 KV MAITHON-DHANBAD-1	07-09-2021	12:48	07-09-2021	13:18	Maithon: R_N, 62 km, 3.14 kA, A/r successful	Dhanbad: R_N, 3.63 kA, 11.60 km	R-Earth	100	A/r successful from Maithon end only.From Dhanbad 3 phase tripping occurred	PG ER-2	DVC		

32	220 KV MAITHON-DHANBAD-2	07-09-2021	12:48	07-09-2021	13:18	Maithon: R_N, 49.3 km, 3.19 kA, A/r successful	Dhanbad: R_N, 3.56 kA, 17 km	R-Earth	100	A/r successful from Maithon end only. From Dhanbad 3 phase tripping occurred	PG ER-2	DVC		
33	220 KV BARIPADA-BALASORE-1	07-09-2021	13:46	07-09-2021	14:46	Baripada: A/r successful	Balasore: R_N, 6.5 kA, 2.36 km	R-Earth	100	A/r successful from Baripada only	PG Odisha Projects	OPTCL		
34	400 KV NEW PSSP-NEW RANCHI-1	07-09-2021	13:54	07-09-2021	14:30	New PPSP: Y_B, Z I, Iy:5.61 kA, Ib: 5.5 kA, 58.2 km	New Ranchi: Y_B, Z I, Iy=Ib=9.3 kA, 58.2 km	Y_B	100	Phase to phase fault	WBSET-CL	PG ER-1		
35	220 KV DALTONGANJ-GARWAH(NEW)-2	07-09-2021	14:43	07-09-2021	15:54	Daltonganj: R_Y, Ir=Iy=1.8 kA, 64.4 km, Z II	Garwah: R_Y, Ir=Iy=1.1 kA, 25.2 km	R_Y	100	Phase to phase fault	PG ER-1	JUSNL		
36	400 KV FSTPP-MALDA(PG)-2	07-09-2021	15:37	09-09-2021	18:00	LBB of its main bay maloperated and Bus II at FSTPP also tripped		No Fault	NA	Reason for maloperation may be shared.	NTPC FSTPP	PG ER-2		
37	400KV FSTPP-KHSTPP-4	09-09-2021	11:43	09-09-2021	12:37	FSTPP: DT received	KhSTPP: Didn't trip	No Fault	NA	Reason for maloperation may be shared.	NTPC FSTPP	NTPC KHSTPP		
38	400KV NEW PSSP-NEW RANCHI-1	09-09-2021	15:27	09-09-2021	18:15	New PPSP: Spurious DT sent	New Ranchi: DT received	No Fault	NA	Reason for maloperation may be shared.	WBSET-CL	PG ER-1		

39	400KV BINAGURI-RANGPO-1	10-09-2021	21:58	10-09-2021	22:13	Binaguri: R_N, 89.58 km, 3.359 kA	Rangpo: R_N, 25.485 km, 4.395 kA	R-Earth	100	Tripped in reclaim time from Binaguri. But at the time of fault in reclaim time 3 phase TCB opened but only R phase MCB opened and after 1.5 second of that Y and B phase MCB opened . While at Rangpo end 3 phase tripping occurred directly without any A/R attempt.	PG ER-2	PG ER-2		
40	400KV BINAGURI-TALA-1 (Idle Charged)	10-09-2021	22:17	10-09-2021	22:47	Binaguri: B_N, 39.22 km, 7.84 kA		B-Earth	100		PG ER-2	Bhutan		
41	400 KV JEYPORE-GAZUWAKA-1	10-09-2021	03:58	10-09-2021	05:44	Jeyapore:DT received	Gazuwaka: CT burst	Y-Earth	100		PG Odisha Projects	SR		
42	400KV JEYPORE-GAZUWAKA-2	10-09-2021	04:02	10-09-2021	07:39	Jeyapore:DT received	Gazuwaka: CT burst	Y-Earth	100		PG Odisha Projects	SR		
43	400KV BINAGURI-RANGPO-1	11-09-2021	07:56	11-09-2021	07:56	Binaguri: R_N, 2.963 kA, A/r unsuccessful	Rangpo: R_N, 19.54 km, 4.1 kA	R-Earth	700	Tie CB at Binaguri attempted AR after failure of main CB AR also. Delayed clearanc at the time of A/R of MCB as it did not open . While No AR attempt at Rangpo	PG ER-2	PG ER-2		

44	400KV ANGUL-JITPL-1	12-09-2021	18:33	12-09-2021	19:45	Angul: R_N, 33 km, 7.7 kA, A/r successful	JITPL: R_N, 4.69 kA, 39.4 km	R-Earth	100	A/r attempt successful at Angul end	PG Odisha Projects	JITPL		
45	220KV NEW PURNEA-MADHEPURA-1	12-09-2021	19:48	12-09-2021	20:01	New Purnea: R_N, 28 km, 4.92 kA, A/r successful		R-Earth	100	A/r attempt not taken from Madhepura	PG ER-1	BSPTCL		
46	220KV BIRPARA-MALBASE-1	13-09-2021	12:31	13-09-2021	12:58	Birpara: B_N, Z I, 4.511 kA, 39.8 km, A/r successful		B-Earth	100	A/r successful from Birpara only	PG ER-2	Bhutan		
47	220 KV DALTONGANJ-GARWAH(NEW)-2	13-09-2021	18:38	13-09-2021	19:10	Daltonganj: B_N, 137.7 km, 0.978 kA	Garwah: B_N, 18.07 km, 0.916 kA	B-Earth	100	A/r successful from Daltonganj end. Single phase tripping from Garwah, no A/r attempt. PD time maybe checked at Garwah, other two phase didn't open even after 2.5 seconds	PG ER-1	JUSNL		
48	220KV TENUGHAT-PATRATU-1	14-09-2021	15:11	14-09-2021	16:00	Tenughat: R_N, 1.689 kA, 55.58 km	Patratu: R_N, 8.095 km	R-Earth	100		JUSNL	JUSNL		
49	220KV DALTONGANJ-CHATRA-1	14-09-2021	22:57	16-09-2021	11:43	Daltonganj: Y_B, 31.55 km, Iy: 3.1 kA,		Y-B	100	Phase to phase fault	PG ER-1	JUSNL		
50	400KV MEDINIPURA-NEW CHANDITALA-2	15-09-2021	04:43	15-09-2021	05:08	Medinipur: Y_B, 42.5 km, Iy: 7.9 kA, Ib: 7.2 kA	New Chanditala: Y_B, 60.01 km, Iy: 6.63 kA, Ib: 7.2 kA	Y-B	100	Phase to phase fault	PMJTL	WBSE TCL		

51	220KV DALTONGANJ-CHATRA-2	15-09-2021	12:30	15-09-2021	14:46	Daltonganj: R_N, 239 km, Z III, 0.96 kA	Bus bar protection operated at Chatra	R-Earth	400	DT received at Daltonganj	PG ER-1	JUSNL		
52	400KV MUZAFFARPUR-DHALKEBAR-2	15-09-2021	20:11	15-09-2021	21:39	Muzaffarpur: PLCC maloperated		No Fault	NA	Reason may be shared. No fault observed from PMU	PG ER-1	Nepal		
53	400 KV JEERAT-NEW JEERAT-1	16-09-2021	05:39	16-09-2021	07:42	Jeerat: Y_N, Z III, 51 km, 2.84 kA		Y-Earth	100	Anti theft setting wasnt revised.	WBSET CL	PMJTL		
54	400KV JEERAT-NEW JEERAT-2	16-09-2021	05:39	16-09-2021	07:42	Jeerat: Y_N, Z III, 51 km, 2.8 kA		Y-Earth	100	Anti theft setting wasnt revised.	WBSET CL	PMJTL		
55	220KV NEW PURNEA-KHAGARIA-2	16-09-2021	14:08	16-09-2021	15:35			B-Earth	100	Three phase tripping for single phase fault	PG ER-1	BSPTCL		
56	220KV SANTALDIH (STPS)-CHANDIL-1	17-09-2021	10:35	17-09-2021	11:50	Santaldih: R_N, Z II, 101 km, 1.33 kA	Chandil: R_N, Z I, 24 km, 2.12 kA	R-Earth	100	3 phase tripping	WBSET CL	JUSNL		
57	220KV JODA-RAMCHANDRAPUR-1	17-09-2021	11:13	17-09-2021	11:38	Joda: A/r successful	Ramchandrapur: R_N, Z I, 16 km, 2.28 kA	R-Earth	100	A/r from Joda end only. PD time at Ramchandrapur end may be checked. Other two phase didn't open even after 2.5 seconds	OPTCL	JUSNL		

58	220KV DALTONGANJ-GARWAH(NEW)-2	17-09-2021	11:23	17-09-2021	12:00	Daltonganj: A/r successful	Garwah: B_N, Z I, 0.88 kA, 54.25 km	B-Earth	100	A/r successful from Daltonganj end. Single phase tripping from Garwah, no A/r attempt. PD time maybe checked at Garwah, other two phase didn't open even after 2.5 seconds	PG ER-1	JUSNL		
59	400KV KHARAGPUR-MEDINIPUR-2	17-09-2021	11:53	17-09-2021	12:15	Kharagpur: B_N, Z I, 16.5 km, 9.9 kA	Medinipur: B_N, 74.2 km, 2.919 kA	B-Earth	100	A/r attempt failed	WBSET CL	PMJTL		
60	400KV NEW PURNEA-MUZAFFARPUR-1	17-09-2021	15:13	17-09-2021	15:45	New Purnea: B_N, Z I, 123.3 km, 4.03 kA	Muzaffarpur: B_N, Z I, 125.58 km, 3.97 kA	B-Earth	100	Three phase tripping for single phase fault. Issue of A/r not resolved yet	PG ER-1	PG ER-1		
61	400KV BINAGURI-MALBASE-1	17-09-2021	18:25	17-09-2021	19:37		Malbase: B_N, Z I, 44.8 km, 1.157 kA	B-Earth	100	A/r not observed in PMU	PG ER-2	BHUTAN		
62	400KV BIHARSHARIF-MUZAFFARPUR-1	18-09-2021	02:56	18-09-2021	23:14	Biharsharif: R_N, 64.89 km, 4.59 kA	Muzaffarpur: R_N, Z I, 56.17 km, 4.78 kA	R-Earth	100	A/r attempt failed	PG ER-1	PG ER-1		
63	220KV SITAMARHI-MOTIPUR-1	18-09-2021	07:39	18-09-2021	09:03	Sitamarhi: B_N, 62.1 km, 3.646 kA	Motipur: E/F	B-Earth	100	First b phase fault then after 400ms Y phase fault also appeared .	PMTL	BSPTCL		
64	220KV SUBHASHGRAM (PG)-NEWTOWN-1	18-09-2021	10:24	18-09-2021	10:38	Subhashgram: Y_N, Z I, 4.5 km, 14.3 kA	NewTown: Y_N, Z I, 14.6 km, 6.2 kA	Y-Earth	100	Bus bar operated at Subhashgram	PG ER-2	WBSE TCL		

65	400KV PPSP-BIDHANNAGAR-1	18-09-2021	12:29	18-09-2021	12:49	PPSP: B_N, Z I, 47.9	Bidhannagar: B_N, Z I, 156.4 km, 2.159 kA	B-Earth	100	A/r attempt not taken. Three phase tripping for single phase fault	WBSET CL	WBSE TCL		
66	400KV FSTPP-SAGARDIGHI-1	18-09-2021	13:21	18-09-2021	13:56	FSTPP: R_N, 58.08 km, 4.338 kA	Sagardighi: R_N, 0.8 km	R-Earth	500	A/r attempt successful at Sagardighi after 650 msec	NTPC FSTPP	WBSE TCL		
67	400KV BAHARAMPUR-BHERAMARA-4 (AntiTheft Charged)	18-09-2021	13:37	18-09-2021	15:34	Baharampur: Y_N, 90.25 km, 3.99 kA		Y-Earth	100	Idle charged line tripped on single phase fault	PG ER-2	BANG LADE SH		
68	220KV CHANDIL-SANTALDIH(STPS)-1	18-09-2021	14:50	18-09-2021	15:08	Chandil: R_N, 2.77 kA, 43 km		R-Earth	100	Three phase tripping at Chandil for single phase fault. Bus PT input taken at Chandil.	JUSNL	WBSE TCL		
69	220KV BEGUSARAI-NEW PURNEA-1	19-09-2021	15:30	19-09-2021	16:34	Begusarai: B_N, Z II, 150.84 km, 1.07 kA	New Purnea: B_N, Z I, 33.6 km, 6.83 kA	B-Earth	100	Other two phase tripped after 400 msec from New Purnea. PD time may be checked	BSPTC L	PG ER-1		
70	220KV BUDHIPADAR-RAIGARH-1	20-09-2021	09:43	20-09-2021	10:58	Budhipadar: R_N, Z I, 35 km, 2.64 kA		R-Earth	100	Three phase tripping for single phase fault	OPTCL	WR		

71	400KV PPSP-BIDHANNAGAR-2	20-09-2021	10:10	20-09-2021	10:46	PPSP: R_N, 139.6 km	Bidhannagar: R_N, Z I, 44.12 km, 5.93 kA	R-Earth	100	A/r attempt not taken. Three phase tripping for single phase fault	WBSET CL	WBSE TCL		
72	400KV PPSP-BIDHANNAGAR-2	20-09-2021	14:05	20-09-2021	14:27	PPSP: R_N, Z I, 144.5 km	Bidhannagar: R_N, 44.5 km, 5.8 kA	R-Earth	100	A/r attempt not taken. Three phase tripping for single phase fault	WBSET CL	WBSE TCL		
73	400KV MUZAFFARPUR-DHALKEBAR-2	20-09-2021	15:08	20-09-2021	17:25	Muzaffarpur: R_Y, 60.09 km, Ir: 7.024 kA, Iy: 6.99 kA		R-Y	100	Phase to phase fault	PG ER-1	Nepal		
74	400KV KHSTPP-MAITHON-1	20-09-2021	15:47	20-09-2021	16:31	LBB of tie bay at Maithon operated		No Fault	NA	No fault signature in PMU. Reason for LBB operation may be shared	NTPC KHSTPP	PG ER-2		
75	400KV MAITHON-MAITHON RB-2	20-09-2021	15:47	20-09-2021	17:49	LBB of tie bay at Maithon operated		No Fault	NA		PG ER-2	MPL		
76	400KV NEW DUBURI-MERAMUNDALI-2	20-09-2021	19:52	20-09-2021	21:13	New Duburi: R_N, Z I, 3.94 kA, 63.3 km		R-Earth	100	A/r dead time at New Duburi is 350 msec. Line tripped again within reclaim time	OPTCL	OPTCL		
77	220KV RENGALI(PH)-TSTPP-1	20-09-2021	20:31	20-09-2021	23:34	Rengali(PH): Y_N, 18.65 km, 4.843 kA	TSTPP: Y_N, Z II, 26.5 km, 5.0 kA	Y-Earth	120		OHPC	NTPC TSTPP		
78	765KV JHARSUGUDA-RAIPUR PS(DURG)-2	21-09-2021	04:48	21-09-2021	12:16	Jharsuguda: R_B, Ir: 6.06 kA, Ib: 6.22 kA, 182.4 km		R-B	100	Phase to phase fault	PG Odisha Projects	WR		

79	220KV DALTONGANJ-CHATRA-1	21-09-2021	09:03	21-09-2021	16:51	Daltonganj: DT received	Chatra: operator mistake	No Fault	NA	Three phase tripping. No fault present.	PG ER-1	JUSNL		
80	220KV CHUKHA-BIRPARA-1	21-09-2021	11:16	21-09-2021	11:52		Birpara: Y_B, 66.03 km, Iy: 3.25 kA, Ib: 3.241 kA	Y_B-Earth	500	Delayed fault clearance. Carrier protection scheme not operated successfully	Bhutan	PG ER-2		
81	220KV CHUKHA-BIRPARA-1	21-09-2021	14:38	21-09-2021	15:19		Birpara: Y_B, 38.24 km, Iy: 5.11 kA, Ib: 3.2 kA, A/r successful	B-Earth	100	Carrier protection operated successfully	Bhutan	PG ER-2		
82	400KV RENGALI-INDRAVATI-1	21-09-2021	15:55	21-09-2021	16:58		Indravati: O/v	B-Earth	100	No A/r observed in PMU. Around 50 kV dip in B_ph	PG Odisha Projects	PG Odisha Projects		
83	400KV TSTPP-ROURKELA-1	21-09-2021	15:55	21-09-2021	18:14	TSTPP: R_N, Z I, 3.271 km, 26.96 kA		R-Earth	100	No A/r observed in PMU	NTPC TSTPP	PG Odisha Projects		
84	220KV TTPS-TSTPP-1	21-09-2021	16:42	21-09-2021	18:54	TTPS: B_N, 22.64 km, 5.9 kA	TSTPP: B_N, 4.817 km, 12.98 kA	B-Earth	100		OPTCL	TSTPP		
85	220KV DEHRI-GAYA-2	21-09-2021	16:45	21-09-2021	17:29		Gaya: Didn't trip	No Fault	NA		BSPTCL	PG ER-1		
86	220KV DEHRI-GAYA-2	21-09-2021	17:49	21-09-2021	20:53			No Fault	NA		BSPTCL	PG ER-1		

87	220KV DALTONGANJ-CHATRA-1	22-09-2021	12:09	25-09-2021	13:21	Daltonagnj: Y_B, 31.49 km, Iy: 3.204 kA, Ib: 3.207 kA		Y-B	100	Phae to phase fault	PG ER-1	JUSNL		
88	765KV JHARSUGUDA-DHARAMJAIGARH-1	23-09-2021	06:23	23-09-2021	11:04	Jharsuguda: B_N, 126.6 km, 4.33 kA	Dharamjaigarh: B_N, 19.5 km	B-Earth	100		PG Odisha Projects	WR		
89	220KV KISHANGANJ(PG)-KISHANGANJ-1	23-09-2021	11:26	23-09-2021	12:00	Kishanganj (PG): Didn't trip	Bus bar operated at BSPTCL end	No Fault	NA	Bus bar protection operated at BSPTCL end. Line didn't trip from PG end	PG ER-1	BSPTCL		
90	220KV KISHANGANJ(PG)-KISHANGANJ-4	23-09-2021	11:26	23-09-2021	12:00	Kishanganj (PG): Didn't trip	Bus bar operated at BSPTCL end	No Fault	NA		PG ER-1	BSPTCL		
91	400KV JEYPORE-INDRAVATI-1	23-09-2021	12:02	23-09-2021	12:46	Jeypore: R_N, 72 km, 1.8 kA	Indravati: R_N, 27.25 km, 10.1 kA	R-Earth	100	A/r attempt failed	PG Odisha Projects	PG Odisha Projects		
92	220KV MAITHON-DHANBAD-2	24-09-2021	05:43	24-09-2021	06:18	Maithon: R_N, 33.7 km, 4.414 kA, A/r successful		R-Earth	100	A/r successful from Maithon end only. From Dhanbad 3 phase tripping occurred	PG ER-2	DVC		
93	400KV FSTPP-KHSTPP-4	24-09-2021	11:53	24-09-2021	12:55	FSTPP: DT received		No Fault	NA	No fault observed in PMU	NTPC FSTPP	NTPC KHSTPP		
94	220KV KATAPALLI-BOLANGIR(PG)	24-09-2021	12:21	24-09-2021	12:34	Katapalli: Didn't trip	Bolangir: R_N, Z II, 83.6 km, 1.64 kA	R-Earth	100		OPTCL	PG Odisha Projects		

95	400KV FSTPP-KHSTPP-4	24-09-2021	16:10	24-09-2021	18:23	Tripped from Farakka only. Spurious DT sent from KHSTPP during testing of main bay		No Fault	NA	No fault observed in PMU	NTPC FSTPP	NTPC KHSTPP		
96	220KV CHANDIL-RANCHI-1	24-09-2021	16:56	24-09-2021	17:45	O/c, E/F	Didn't trip		NA	No fault observed in PMU. Reason for tripping from Chandil may be shared	JUSNL	PG ER-1		
97	220KV PUSAULI-SAHUPURI	25-09-2021	11:05	25-09-2021	12:25	Pusauli: B_N, Z I, 8.86 km, 9.1 kA	Sahupuri: B_N, 54.94 km, 2.577 kA	B-Earth		Three phase tripping for single phase fault. A/r attempt not taken	PG ER-1	BSPTCL		
98	500 MVA 400/220 KV ICT 1 AT DARBHANGA (DMTCL)	25-09-2021	12:38	25-09-2021	13:56	Directional O/c			100	BackUp Directional O/c operated within 100 msec for an external fault	DMTCL	NA		
99	500 MVA 400/220 KV ICT 2 AT DARBHANGA (DMTCL)	25-09-2021	12:38	25-09-2021	13:59	Directional O/c			100	BackUp Directional O/c operated within 100 msec for an external fault	DMTCL	NA		

100	220KV TENUGHAT-BIHARSHARIF-1	25-09-2021	14:46	25-09-2021	15:29	Tenughat: R_N, Z I, 116 km, 0.627 kA	Biharsharif: R_N, Z I, 58 km, 1.130 kA	R-Earth	500	Three phase tripping for single phase fault. Tripped in Z II time from Biharsharif	JUSNL	BSPTCL		
101	220KV JODA-RAMCHANDRAPUR-1	25-09-2021	18:42	15-09-2021	19:33	Joda: B_N, Z II, 128 km, 1.28 kA	Ramchandrapur: B_N, 9.6 km, 10 kA	B-Earth	400	Three phase tripping for single phase fault	OPTCL	JUSNL		
102	220KV BUDHIPADAR-KORBA-1	26-09-2021	09:24	26-09-2021	10:19	Budhipadar: B_N, Z I, 12.8 km, 4.2 kA	Korba: B_N, Z II, 163.3 km, 0.972 kA	B-Earth	100	Three phase tripping for single phase fault	OPTCL	WR		
103	220KV PUSAULI-DEHRI-1	26-09-2021	12:32	26-09-2021	13:30	Pusauli: Y_N, Z II, 51.4 km, 2.8 kA	Dehri: Y_N, Z I, 10.9 km, 3.6 kA	Y-Earth	100	A/r successful at Dehri only. No A/r attempt at Pusauli end	PG ER-1	BSPTCL		
104	220KV Jamshedpur-Jindal (JSPL)	26-09-2021	14:33	26-09-2021	15:45	Jamshedpur: Y_N, 0.348 kA	Jindal: Y_N, 0.91 kA	Y-Earth	100		DVC	OPTCL		
105	220KV DALTONGANJ-GARWAH(NEW)-1	26-09-2021	15:31	26-09-2021	17:11	Daltonganj: B_N, 56 km, 1.7 kA	Garwah: B_N, 59 km, 1.4 kA	B-Earth	100	A/r failed after 1 sec	PG ER-1	JUSNL		
106	220KV DALTONGANJ-GARWAH(NEW)-2	26-09-2021	15:31	26-09-2021	16:26	Daltongunj: Didn't trip	Garwah: B_N, 1.4 kA, 65 km	B-Earth	100	A/r failed after 1 sec	PG ER-1	JUSNL		
107	220KV BUDHIPADAR-RAIGARH-1	27-09-2021	13:19	27-09-2021	15:59	Budhipadar: B_N, Z I, 33.5 km, 2.7 kA	Raigarh: B_N, Z I, 63.14 km, 2.70 kA	B-Earth	100	Three phase tripping for single phase fault	OPTCL	WR		

