



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
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NO. ERPC/PROTECTION/2020/4924-67

DATE: 05.10.2020

To,

As per list enclosed,

Sub: Notice for 95th Protection Coordination sub-Committee (PCC) meeting of ERPC

Sir,

Notice is hereby given that **95th PCC meeting** of ERPC will be held on **15th October 2020 (Thursday)** 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:

Saswat Ranjan Swain, Asst. Director-II, ERPC, Mob: 9337791451, E-mail: saswatrj123@gmail.com

The tentative agenda items for discussion will be as follows:

- 1) Confirmation of the minutes of 94th Protection sub-Committee Meeting of ERPC.
- 2) Analysis of following grid disturbances of September 2020:

Sr. No (क्रमिक संख्या)	GD/ GI (जीडी/ जीआई)	Date (दिनांक)	Time (समय)	Affected System (प्रभावित क्षेत्र)	Summary (घटना का सारांश)	Load loss (MW) भार हानि	Gen loss (MW) उत्पादन हानि
1	GD-1	02-09- 2020	00:20	ISTS	At 00:20 hrs 400 kV Barh – Motihari – 2 tripped due to R phase to earth fault. The tripping led to total power failure at Motihari 400kV s/s.	280	0
2	GD-1	04-09- 2020	11:30	BSPTCL	220 kV MTPS - Gopalganj – 1 was under shutdown. At 11:02 hrs. 220 kV MTPS –Gopalganj - 2 tripped on B phase to earth fault resulting total power failure at 220kV Gopalganj. At same time 220 kV MTPS – Samastipur – 1 tripped from MTPS end.	202	0

3	GD-1	19-09-2020	16:37	BSPTCL	At 16:37 hrs, 220 kV Darbhanga (DMTCL)- Darbhanga(BSPTCL) – 2 tripped due to Y phase to earth fault. At the same time, 400/220 kV 500 MVA ICT 1 & 2 at Darbhanga (DMTCL) also got tripped on directional earth fault protection from 400 kV side and 220 kV Darbhanga (DMTCL) Mushari D/C tripped on the operation of distance protection from Mushari end. 220 kV Darbhanga (DMTCL)-Darbhanga (BSPTCL)- 1 also tripped from BSPTCL end. This had led to a total power failure at 220/132 kV Darbhanga (BSPTCL) S/s.	380	0
4	GD-1	23-09-2020	08:45	JUSNL	At 08:45 hrs, R phase to earth fault occurred at Patratu S/S due to snapping of Shield wire on R – Phase jumper of 50 MVA, 132/33 kV Power Transformer. Transformer relay sensed fault in Differential & REF protection and issued trip command instantly but breaker failed to operate due to problem in mechanism. Fault was not cleared from all remote ends due to low fault current. After 8s (approx.) R phase to earth fault got converted into Y phase to earth fault, due to snapping of 220 kV Bus -2 jumper at Patratu and subsequently all the 220 kV feeders connected to Patratu tripped in Zone - 2 from remote end.	0	0
5	GD-1	23-09-2020	13:49	JUSNL	At 13:49 hrs 220 KV Patratu-Hatia 2 (circuit-1 was already under breakdown since 08:45 Hrs) and 220 KV Tenughat-Biharshariff S/C tripped due to B phase to earth fault resulting total power failure at 220 kV Tenughat and Patratu thermal power station.	0	280
6	GD-1	24-09-2020	01:33	ISTS	At 01:33 Hrs, 400 kV Barh Motihari - 2 tripped due to R phase to earth fault resulting total power failure at 400/132 kV Motihari S/S along with interruption of power supply to downstream areas.	230	0
7	GD-1	24-09-2020	14:19	ISTS	400 kV Barh Motihari - 2 tripped due to R phase to earth fault, resulting another interruption of power supply at 14:19 hrs.	125	0

8	GD-1	30-09-2020	10:50	ISTS	At 10:50 hrs 220 KV Jorethang-New Melli - 2 tripped due to B phase to earth fault. 220 KV Jorethang-New Melli - 1 tripped at the same time from Jorethang end only. As a result, both the running units of Jorethang tripped due to loss of evacuation path and total power failure occurred at Jorethang Plant	0	100
9	GD-1	30-09-2020	11:40	ISTS	After tripping of 220 KV Jorethang-New Melli - D/C at 10:50 hrs, circuit-1 was restored at 11:00 hrs and JLHEP resumed generation from 11:06 Hrs. However, this circuit tripped again at 11:40 hrs resulting in tripping of both the running units and total power failure at Jorethang hydro power plant.	0	100

3) Single line tripping incidences of transmission lines 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 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.erpcc-protectiondb.in.

Your participation in the meeting is highly solicited.

Yours faithfully,


05/10/2020

(D. K. Bauri)

Superintending Engineer

LIST OF ADDRESSES:

Chief Engineer, Trans (O&M) Bihar State Power Transmission Limited, Viduyt Bhawan, Bailey Road, Patna-800021	Electrical Superintending Engineer (CRITL) Bihar State Power Transmission Limited, Viduyt Bhawan, Bailey Road, Patna-800021
Chief Engineer (SLDC) Damodar Valley Corporation, GOMD-I Premises, P.O.- Danesh Seikh 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	Electrical Superintending Engineer (CLD) Jharkhand Urja Sancharan 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, 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 (O&M), 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 (OS), 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 Construction, ENCIL, Siliguri-7340051
General Manager (OS), ER-II Power Grid Corporation of India Ltd., J-I-15, Block-EP, Sector-V, Salt Lake, Kolkata-91	Shri A.K.Nayak/Shri Sumit S Ghosh 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	Vice President, Vedanta Ltd. 1 st Floor, Module C/2, Fortune Tower, C S Pur, Bhubaneswar- 751023
Managing Director, Bhutan Power Corporation Post Box no. 580, Thimpu, Bhutan.	Managing Director, Druk Green Power Corprn. P.O. Box-1351, Thimpu, Bhutan.
General Manager, Darbhanga (Bihar), Darbhanga Motihari Transmission Company Limited (DMTCL)	Shri Brajesh Kumar Pande, Plant Head, JITPL. (FAX:011-26139256-65)
Shri D. P. Bhagava, Chief Consultant (O&M), Teesta Urja 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
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

Annexure-I

List of important transmission lines in ER which tripped in SEPTEMBER-2020

S.NO	LINE NAME	TRIP DATE	TRIP TIME	Relay Indication	LOC	Relay Indication	Reason	Fault Clear	Remarks	LIVED FROM	LIVED FROM RE
1	765KV-JHARSUGUDA-DHARAMJAIGARH-3	01-09-2020	23:22	B_N, 38.4 KM, 11.5 kA (Jharsuguda)		B_N, 118 KM, 6.9 kA (Dharar	B-N FAULT	<100	AR UNSUCCESSFUL.		
2	400KV-JHARSUGUDA-ROURKELA-3	01-09-2020	22:50	JHA: R_N, 50 KM, 7.3 KA, Z1		ROUR: R_N, 4.3 KA, 68.48 KM	R-N FAULT	<100	AR UNSUCCESSFUL.		
3	400KV-SUBHASGRAM-HALDIA-2	01-09-2020	07:00	B_N, Z I, 57.7 KM, 3.3 kA (Haldia)		R_N, 4.67 KA, 49.7 KM	R-N FAULT	<100	At Haldia end at the time of failed auto reclose	YES	YES
4	400KV-ALIPURDUAR (PG)-JIGMELLING-1	01-09-2020	10:15	Y-B , F/C- Y-1.8KA , B-2.25,F/D-220 KM			Y-B FAULT	500	Permanent Fault was in the jigmelling - Mand	YES	NO
5	400KV-ALIPURDUAR (PG)-JIGMELLING-2	01-09-2020	10:15	Y-B , F/C- Y-1.8KA , B-2.25,F/D-220 KM			Y-B FAULT	500	Permanent Fault was in the jigmelling - Mand	YES	NO
6	220KV-JAMSHEDPUR-JINDAL-1	02-09-2020	14:23	JINDAL: Y-N,886A		y-n z1,48.242 km,1.4 kA from	Y-N FAULT	<160		NO	NO
7	400KV-MOTIHARI-BARH-2	02-09-2020	00:20	BARH: 146 KM, 3 KA, R_N		MOTI: 23 KM, 0.6 KA, R_N	R-N FAULT	<100	In DR frame A/R was successful.	YES	NO
8	400KV-MERAMUNDALI-LAPANGA-2	03-09-2020	16:30	..		at lapanga:r-n,z-1,30.09km,	R-N FAULT		A/R priority scheme not proper , MCB &TCB a	YES	YES
9	220KV-BEGUSARAI-NEW PURNEA-1	03-09-2020	19:58	r-n , f/d-153 , f/c-1.18 , A/r successful from purnea			R-N FAULT	<100	A/R successful from Purnea end .	YES	NO
10	400KV-KHARAGPUR-CHAIBASA-1	03-09-2020	11:33	ZONE 1, RN FAULT, 20KM, 10KA AT KH		ZONE 1, RN FAULT, 128KM, 3	R-N FAULT	<100	A/R unsuccessful , Reactor ringdown observe	NO	YES
11	400KV-BARH-PATNA-4	04-09-2020	19:05	dt sent from Barh		dt receipt at patna and tripp	NO FAULT	NA	Reason of DT?	NO	YES
12	400KV-PATNA-BARH-3	04-09-2020	19:05	dt sent from Barh		dt receipt at patna and tripp	NO FAULT	NA	Reason of DT?	NO	YES
13	220KV-JSPL-JAMSHEDPUR(DVC)-1	04-09-2020	14:03	T le>> Earth le> phase C(BLUE-phase)		86 operated Carrier fail Phase	B-N FAULT	200	NO A/R .	NO	NO
14	220KV-FSTPP-LALMATIA-1	04-09-2020	13:16	MAIN 2 (P442) Z1, R, Y, B. DIST 49.98 KM		Ph A 158 A, 131.5 KM	Y-B FAULT	200	NO A/R AT LALMATIA .		
15	400KV-PPSP-NEW RANCHI-1	04-09-2020	11:35	B-N,Z1,47 KM,2.43 ka AT PPSP		62.5 KM ,B-N ,3 ka FROM NE	B-N FAULT	500	Initially only z-3 strted then after 300 ms z-1 s	NO	YES
16	220KV-MAITHON-DUMKA-2	04-09-2020	11:34	B-N,2.176 KA AT MAITHON		1.63 KA,36.7 km at dumka	B-N FAULT	<160	NO A/R.	YES	YES
17	220KV-DALTONGUNJ-GARWAH (NEW)-2	05-09-2020	17:34	DALTONGANJ: Y_N, 1.99 KA, 65.88 KM			Y-N FAULT	<100	A/R unsuccessful.	YES	YES
18	400KV-MERAMUNDALI-LAPANGA-2	05-09-2020	11:44	Y_N, 105.2 KM, 5.88 ka			Y-N FAULT	<100	In the past mont events problem of A/R prid	YES	YES
19	220KV-CHUKHA-BIRPARA-2	05-09-2020	03:56	BIRPARA: R-Y, IR- 3.19KA, IY-3.66KA, 3		CHUKHA: R-Y, IR-4.14KA, IY-	R-Y FAULT	<100		NO	YES
20	400KV-ARAMBAGH-NEW CHANDITALA-1	05-09-2020	14:12	R_N, 24.73 KM, 5. 8 kA (Arambagh)		R_N, 29.2 KM, 6.228 kA (Cha	R-N FAULT	<100		NO	NO
21	400KV-KHARAGPUR-CHAIBASA-1	05-09-2020	14:08	R_N, 157 KM, 3.05 kA (Chaibasa)		R_N, 27.98 KM, 6.214 kA (K)	R-N FAULT	<100	A/R was successful from chaibasa end ,why A	NO	YES
22	220KV-CHUKHA-BIRPARA-1	05-09-2020	06:08	TRIPPED ON OVERLOAD			O/C TRIPPING	NA		NO	YES
23	220KV-BIRPARA-MALBASE-1	05-09-2020	06:08	MALBASE: B-N, Z1, 2.9KA, 25KM		A/R SUCCESSFUL FROM BIRP	B-N FAULT	<160	A/R successful from Birpara only.	YES	NO
24	400KV-DARBHANGA (DMTCL)-MUZAFFARPUR-2	05-09-2020	11:45	Darbhangha: B-N, Z1, 39.19Km, 3.8KA			B-N FAULT	<100	A/R was successful from ,Muzzaffrepur end ,y	NO	YES
25	220KV-BARIPADA-BALASORE-2	06-09-2020	20:45	y-n,12.28 KA,3.317 KM z1 3 sec earlie		y-n 633 A ,B-n 6.99 ka 26.8 k	B-N FAULT	<160	No A/R at Balasore	NO	NO
26	220KV-DARBHANGA (DMTCL)-DARBHANGA-2	06-09-2020	21:46	R ph,back up overcurrent,undervoltage		no trip at darbhangha side ;bu	R-N FAULT	<160			
27	220KV-CHANDIL-STPS(WBPDCL)-1	06-09-2020	15:40	Chandil: Z1		Line did not trip from STPS	R-N FAULT	<160	No auto reclose at STPS .		
28	400KV-DARBHANGA (DMTCL)-MUZAFFARPUR-1	06-09-2020	12:13	DMTCL- Z1 B-N FC-4.74ka Dist-36.8km			B-N FAULT	<160	A/R was successful from ,Muzzaffrepur end ,y	NO	YES
29	400KV-DURGAPUR-SAGARDIGHI-2	07-09-2020	17:03	R_N, 144 KM, 2.21 kA (Sagardighi)		R_ph LA failure at Durgapur	R-N FAULT	<100	R_ph LA failure at Durgapur end.After 1 seco	YES	NO
30	400KV-RAJARHAT-FSTPP-1	07-09-2020	16:09	R_N, Z I, 151.3 KM, Ir: 3.8 kA		R_N, 2.29 KA, 158.8 KM, Z I	R-N FAULT	<100	R phase breaker opened at the instant of fault	YES	NO
31	220KV-MAITHON-DHANBAD-2	07-09-2020	14:57	R_N, 6.8 KM, 16.12 kA (Maithon)		R_N, 33 KM, 2.44 kA (Dhanb	R-N FAULT	<100	R Phase fault encountered then after 200 ms	YES	NO
32	220KV-BUDHIPADAR-KORBA-2	07-09-2020	02:19	BUDHIPADAR: Z1, R-N, 0.4 KM, 19.96		R_N,Z2,26.8 KM,926 A AT KO	R-N FAULT	<160	NOA/R AT BUDIPADAR END	YES	NO
33	220KV-BUDHIPADAR-RAIGARH-1	07-09-2020	02:18	BUDHIPADAR: Z 1, R-N, 1.75 KA, -1.4		Z1,R-n,1.75 KA,1.4 KM AT RA	R-N FAULT	<160	NOA/R AT BUDIPADAR END	YES	NO
34	220KV-BUDHIPADAR-RAIGARH-1	08-09-2020	17:39	Budhi: R-n, 24.09 kA, -1.2 km		Charging code on 09/09/20:	R-N FAULT	600	oc no-5 R phoase conductor sanpped on Y ph	YES	NO
35	220KV-BUDHIPADAR-KORBA-3	08-09-2020	17:23	Korba: R-n, z2, 195.2 km, 1.085 kA		Budhi: Not tripped	R-N FAULT	<160	NOA/R AT BUDIPADAR END	NO	NO
36	400KV-SUBHASGRAM-HALDIA-2	08-09-2020	22:37	R_Y, 25.56 KM, IR 7.1 KA, IY 7.6 KA		R_Y, Z1, 54.5 KM, IR 3.9 KA,	R-Y FAULT	<100		YES	YES
37	220KV-ATRI-PANDIABILI-1	08-09-2020	15:00	PANDIABILI-Z1 B-N 9.2KA.FD- 0.2KM			B-N FAULT	<160	Auto reclose successful from atri end only	NO	NO
38	765KV-DHARAMJAIGARH-JHARSUGUDA-1	08-09-2020	14:44	Jharsugra-Z1 B-N FC-4.62ka FD-124.1		D'garh end-M1:FD-19.1km,	B-N FAULT	<100		NO	NO
39	220KV-DARBHANGA(DMTCL)-LAUKAHI-1	08-09-2020	12:55	DMTCL-Z1 Y-N Dist-49.1km		Laukahi-B-N FC-0.63ka FC-6	B-N FAULT	800		NO	NO
40	220KV-DARBHANGA (DMTCL)-DARBHANGA-1	08-09-2020	11:14	Darbhangha BSPHCL: D.E.F.		DMTCL: Line did not trip	B-N FAULT	500	DEF setting may be checked .Operating befor	NO	YES
41	400KV-PPSP-BIDHANNAGAR-1	08-09-2020	11:56	Bidhannagar-B-N, Z- 1, 187 KM, 2.5 KA		PPSP end are:- 86 A, 86B, Z-1	B-N FAULT	<100	NO A/R AT PPSP END .	NO	NO
42	220KV-FSTPP-LALMATIA-1	08-09-2020	10:56	FSTPP-Z2 B-N FC-1.725ka Dist-93.3km			B-N FAULT	<100	No A/R in line	NO	NO
43	220KV-DARBHANGA (DMTCL)-DARBHANGA-2	08-09-2020	11:14	DMTCL-DT received		Darbhangha-Master trip oper	B-N FAULT	500	DEF setting may be checked .Operating befor	NO	YES

44	220KV-DARBHANGA (DMTCL)-SAMASTIPUR-1	08-09-2020	11:14	DMTCL-Z2 B-N Ib-1.86kA Dist-41.09km	B-N FAULT	500	No carrier aided protection worked fault cle	NO	YES	
45	220KV-DARBHANGA (DMTCL)-SAMASTIPUR-1	09-09-2020	13:05	B-N , 5.5 KA , F/D-20 KM FROM DMTCL	B PHASE JUMPER WAS SNAP	<160	A/R successful from DMTCL end ,but B phase	NO		
46	400KV-PATNA-KISHANGANJ-1	09-09-2020	18:00	Y-N , 70 KM FROM PATNA , F/C-5KA	KISHANGANJ : Y-N, 265KM,	<100	A/R unsuccessful , Reactor ringdown observe	YES	YES	
47	220KV-CHANDIL-RANCHI-1	09-09-2020	16:57	R-N, F/C-3.3KA,F/D-53KM		<160	A/R successful at ranchi.3 phase tripping at cl	YES	YES	
48	220KV-TTSP-TSTPP-1	09-09-2020	15:03	TSTPP: B-N, 13KA, 5KM	TTSP: B-N, 6KA, 23KM , CHA	<160	No A/r .	NO	NO	
49	220KV-BINAGURI-BIRPARA-1	09-09-2020	05:07	Binaguri: R-B-N, Ir-5.068KA, Ib-5.882	Birpara: R-B-N, Ir-2.63KA, Ib-	<160		YES	YES	
50	400KV-MUZAFFARPUR-GORAKHPUR-2	09-09-2020	00:40	B-N, 2.2 KA, 254 KM (MUZ)	B-N, 33.56 KM, 2.073 KA(GK)	<100	A/r unsuccessful .Abrupt current in R&Y phas	YES	NO	
51	400KV-ALIPURDUAR (PG)-JIGMELLING-1	10-09-2020	20:48	Line did not trip from Alipurduar End	Line only tripped from only J	NO FAULT		YES	NO	
52	220KV-BEGUSARAI-NEW PURNEA-1	10-09-2020	13:48	Z1,B-N,116.96 KM(200 KM LENGTH),	135 KM , 1.27 KA.B-N,Z1 at n	<160	High resistive fault slowly increasing current	YES	NO	
53	220KV-DARBHANGA (DMTCL)-MOTIPUR-2	10-09-2020	10:53	Z-1, 1.5 KA, 82 Km, B-N at dmtcl		<160	A/R successful from motipur end .Why A/R n	YES	YES	
54	400KV-RANCHI-RAGHUNATHPUR-1	11-09-2020	17:18	Y_N, Zone1, 145KM from RANCHI, 2.53KA		<100	Tripped in reclaim time.	YES	NO	
55	220KV-CHUKHA-BIRPARA-2	11-09-2020	20:20	Birpara-Z1 Y-B ly-3.84KA Ib-2.47ka F	Chukha-Z1, Y-B FD-22.35km	<100		YES	YES	
56	220KV-ARRAHA-KHAGAU-1	11-09-2020	08:47	Y,F/17.7KA, F/D-0.5KM		<160	Conductor snapped at loc no-3.No A/r from a	YES	NO	
57	220KV-RENGALI(PH)-TSTPP-1	11-09-2020	12:25	R-N , 6KM FROM TSTPP , F/C-6KA	R-N , 34KM FROM RENGALI	<160	No A/R	NO	NO	
58	400KV-PATNA-BALIA-4	11-09-2020	10:44	DT RECEIVED , REACTOR REF OPERATED AT BALIA		NA		NO	NO	
59	220KV-JODA-RAMCHANDRAPUR-1	11-09-2020	14:11	JODA-Z1, 56KM, 1.9KA	B , F/C-2.2KA . F/D-50.8	<160	A/R successful from Ramchandrapur end .No	NO	YES	
60	220KV-KATAPALLI-BOLANGIR(PG)-1	11-09-2020	10:28	YB , Y-8B 3.3 KA , 4KM FROM BOLANGIR		<160		NO	NO	
61	220KV-DALKHOLA (PG)-GAZOLE-1	11-09-2020	08:34	R-B , F/D-28, Z-1 FRM DALKOLA , F/C-	R-B , Z-1,74 KM FROM GAZOL	<160		YES	YES	
62	400KV-PATNA-BALIA-4	11-09-2020	07:13	Patna-R-N FD-83.3km FC-4.64kA		<100		NO	NO	
63	220KV-KHAGARIA-NEW PURNEA-2	12-09-2020	02:59	New Purnea : Y-B ph, 49.7 km, Z-1, ly - 4.38 KA, Ib - 4.17 KA		<160		NO	YES	
64	220KV-PUSAULI-SAHUPURI-1	13-09-2020	17:48	LBB operated at Pusauli end		<160	LBB of 220 KV Pusauli Sahupuri operated at P	NO	NO	
65	400KV-TEESTA-III-DIKCHU-1	13-09-2020	18:06	B_N Fault		<100	Busbar differential operated (as reported due	YES	YES	
66	220KV-PUSAULI-NADHOKAR-1	13-09-2020	17:48	Tripped due to operation of LBB of 22	Line charged through TBC at	<160	LBB of 220 KV Pusauli Sahupuri operated at P	NO	NO	
67	220KV-PUSAULI-SAHUPURI-1	13-09-2020	15:20	R_N, Z IV (Sahupuri)	Didn't trip from Pusauli	<160	No A/R , 3 phase tripping occurred from pus	YES	NO	
68	220KV-MUZAFFARPUR-HAJIPUR-2	13-09-2020	15:59	Bus bar protection operated @ Hajipur		NO FAULT		NO	NO	
69	400KV-GAYA-KODERMA-2	13-09-2020	12:00	Gaya: R-N, 87.8Km, 4.8KA	Kod: R-N, 61.9Km, 7.45KA	<100	A/R unsuccessful	YES	NO	
70	220KV-KISHANGANJ(PG)-DALKHOLA (PG)-2	14-09-2020	03:50	Dalkhola: B-N, 23km, 4KA	Kishanganj: B-N,6km, 12.9KA	<160	Mo A/R from kishanganj end .3 pole tripp	YES	YES	
71	220KV-NEW PURNEA-MADHEPURA-1	15-09-2020	18:18	B_N, 40 KM, 3.05 kA (Madhepura)		<160	A/R unsuccessful	NO	YES	
72	220KV-ALIPURDUAR (PG)-SALAKATI-2	15-09-2020	10:47	R_Y_B, Ir:3.08 KA, ly: 4.74 kA, Ib: 4.64	R_B_N, 51.4 KM, 4.9 kA	<160		YES	NO	
73	220KV-DARBHANGA (DMTCL)-SAMASTIPUR-1	15-09-2020	15:07		B-N , Z-2	B-N FAULT	500	No carrier aided protection worked fault clea	NO	NO
74	220KV-DARBHANGA (DMTCL)-DARBHANGA-2	15-09-2020	15:07	DT received (DMTCL)	DEF OPERATED	NO FAULT	NA		NO	NO
75	220KV-DARBHANGA (DMTCL)-DARBHANGA-1	15-09-2020	15:07	DT received	DEF OPERATED	NO FAULT	NA		NO	NO
76	220KV-BUDHIPADAR-RAIGARH-1	15-09-2020	12:50	Budi:Z1, B_N, 3.15 KA, 32.6 KM		B-N FAULT	<160	NO A/R AT BUDIPADAR	NO	NO
77	400KV-KISHANGANJ(PG)-RANGPO-1	15-09-2020	14:26	Kishanganj: R-Y, Ir-4.6KA, ly-5KA, 123	Rangpo: Z1, R-Y, 72.6Km, Ir-	R-Y FAULT	2000	At Rangpo end Y phase current was incre	NO	YES
78	400KV-NEW DUBURI-MERAMUNDALI-2	15-09-2020	09:00	Mera: B_N, Z1, 51.6 KM, 6.57 KA	NDubri: B_N, 67 KM, 4.03 KA	B-N FAULT	500	From N dubri end B phase breaker openec	YES	YES
79	220KV-MUZAFFARPUR(PG)-HAZIPUR-2	16-09-2020	10:11	Muzaffarpur: Y-B FAULT. FD-51.26KM	Hazipur: Y-B, ly 3.5 kA Ib 3.4	Y-B FAULT	500	earance means carrier aided protection didn'	NO	NO
80	220KV-HAZIPUR-MUZAFFARPUR-1	16-09-2020	10:11	Muzaffarpur: Y-B FAULT. FD-48.04KM	Hazipur: Y-B, FD 728 mtr, Z1	Y-B FAULT	500	some villagers were cutting bamboos under	NO	NO
81	400KV-PPSP-BIDHANNAGAR-2	17-09-2020	09:51	Bidhannagar: Z1, R-N, 47km, 6kA	PPSP: Z1, R-N, 173 km	R-N FAULT	<100	NO A/R AT PPSP END .	NO	NO
82	220KV-DARBHANGA (DMTCL)-MOTIPUR-2	17-09-2020	08:22	TRIPPING FROM DMTCL ONLY	b_n, 89.50 KM, Ib: 1.1 KA,	NO FAULT	NA		NO	NO
83	220KV-CHUKHA-BIRPARA-1	17-09-2020	02:08	y_b, 63.36 KM, ly: 1.796 kA, Ib: 1.737	O/C E/F at Chuhka	Y-B FAULT	<160		NO	YES
84	400KV-BAHARAMPUR-BHERAMARA-1	17-09-2020	16:13	BAHARAMPUR: A/R SUCCESSFUL, R-N, Z1, 10.9KA, 20KM		R-N FAULT	<100	n behrampur end , but high voltage spike appe	YES	NO
85	400KV-MERAMUNDALI-LAPANGA-2	17-09-2020	10:31	MRMDL:DP,Z1,Y-N,10.42KA,40.5KM	LAPANGA:DP Z1 Y-N 152.5K	Y-N FAULT	<100	In the past mont events proplem of A/R prie	YES	YES
86	220KV-DALTONGUNJ-GARWAH (NEW)-2	17-09-2020	13:50	DALTONGANJ : B-N, 78.19KM,1.6 KA	GARWAH NEW: B-ph, Ib:- 1.8	B-N FAULT	<100	A/R unsuccessful	YES	YES
87	220KV-DALTONGUNJ-GARWAH (NEW)-2	18-09-2020	16:10	109 km,1.08 kA,B- N,zone 2 from daltonganj		Y-B FAULT	500	At garwa end R-Y fault tripped within 100 ms	YES	YES
88	220KV-KHAGARIA-NEW PURNEA-2	18-09-2020	16:09	R-N,34.4 km ,4.68 km from new purne	Z1 73.2 km,R-N,1.17 KA	R-N FAULT	<160	No A/R at khagaria end .	YES	NO
89	220KV-PUSAULI-SAHUPURI-1	18-09-2020	12:46	B-N,59.31 km,0.5 KA from pusauli we	B phase Zone I E/F 86A,86B	R-N FAULT	<160		NO	NO
90	400KV-PATNA-BARH-1	18-09-2020	12:02	B-n fault ,81.402 km,7.258 kA(line len	z1,b-n,28.45 km,13.6 KA from	B-N FAULT	<100	A/R Successful from Patna end .	NO	YES
91	400KV-KHARAGPUR-CHAIBASA-1	18-09-2020	10:17	afaS:Y-N,102.4 KM,(162 K LINE LENGT	a/t successfull at kgp:Follow	Y-N FAULT	<100	to reclose from chaibasa , reasaon may be sh	NO	YES
92	400KV-BARIPADA-KHARAGPUR-1	18-09-2020	05:47	BPD: Z1, Y-N,78.79KM,3.56KA	KGP:Z1,Y-N,16.40KM,8.803K	Y-N FAULT	<100		NO	NO

93	400KV-JAMSHEDPUR-ANDAL-1	18-09-2020	03:56	Master trip relay 86 operated at Andal		NO FAULT	NA		YES	NO
94	220KV-PARULIA-PARULIA(PG)-2	18-09-2020	02:55	PG: Z3, R-N, 5.280Km, 6.233KA		R-N FAULT	<160	NO A/R OBSERVED	YES	NO
95	220KV-PARULIA-PARULIA(PG)-1	18-09-2020	02:55	PG: Z3 R-N, 4.586Km, 7.023KA		R-N FAULT	<160	NO A/R OBSERVED	NO	NO
96	400KV-PPSP-BIDHANNAGAR-1	18-09-2020	02:06	R-N, FAULT, Z1, 43KM FROM BIDHANNAGAR	R-N, FAULT, Z1, 130KM FROM	R-N FAULT	<100	NO A/R AT PPSP END .	NO	NO
97	400KV-PPSP-BIDHANNAGAR-2	19-09-2020	11:53	BIDHANNAGAR: Rph, Z1, 50.4km, Ir=5	PPSP end: Rph, Z1, 134.3km	R-N FAULT	<100	NO A/R AT PPSP END .	NO	NO
98	400KV-KHARAGPUR-KOLAGHAT-1	20-09-2020	13:34	KTTP: Zone-1, B-N, soft, 29.17 km, 5 K	Kharagpur: Zone-1, B-N, 34k	B-N FAULT	<100	A/R unsuccessful	NO	NO
99	220KV-DARBHANGA(DMTCL)-LAUKAHI-1	20-09-2020	09:53	Laukahi: Zone -1, Distance:- 35.7 km	B-pahse fault current : 2.17 k	B-N FAULT	<160	No A/R observed at Laukahi	NO	NO
100	220KV-GAYA-SONENAGAR-2	20-09-2020	03:55	Sonnagar: Z1, FD 31.51 km, R-N, Ir 2.1	Gaya: 46.1km, R-N, Ir 3.54 kA	R-N FAULT	<160	perated at Dehri end ,why ?Whether carrier p	YES	YES
101	220KV-KHAGARIA-NEW PURNEA-2	21-09-2020	15:51	R_N, 2.32 kA, 80.6 KM, A/r successful (New Purnea)		R-N FAULT	<160	No A/R at khagaria end .	NO	YES
102	220KV-KHAGARIA-NEW PURNEA-2	21-09-2020	03:03	NEW PURNEA: Y-B, IY-5.6KA, IB-5.6KA, 93KM		Y-B FAULT	<160	No A/R at khagaria end .	NO	YES
103	220KV-DALTONGUNJ-GARWAH (NEW)-2	21-09-2020	02:59	Daltonganj: B-N,93KM,FC 1.4KA	GARWAH NEW: IR- 1.26KA, I	B-N FAULT	<160		YES	YES
104	220KV-GAYA-SONENAGAR-2	21-09-2020	02:09	Gaya: R-N,FD 56.3KM,FC 3.13KA..A/R	Son'gr:R-N,27.96KM,1.94KA	R-N FAULT	<160	d ,NO A/R at sonnagar , whether week infeed	YES	YES
105	220KV-DEHRI-GAYA-1	21-09-2020	02:06	Gaya: R-N,3.43KA,47.9KM		R-N FAULT	<160	A/R disabled at Dehri , No A/R ,master tr	YES	YES
106	400KV-KODERMA-BIHARSARIFF(PG)-1	21-09-2020	01:09	Tripped from koderma end only	Spurious DT received at Koderma	NO FAULT	NA		NO	NO
107	220KV-SUBHASGRAM(PG)-BANTALA-1	22-09-2020	09:55	LBB operated		NO FAULT	NA		NO	NO
108	220KV-GAYA-KHIZERSARAI-2	22-09-2020	16:01	Gaya-Z1 R-N FC-2.37kA FD-33.32	Khiza-	R-N FAULT	<160	No A/R at Khezesarai	NO	NO
109	220KV-JODA-RAMCHANDRAPUR-1	22-09-2020	11:59	Joda-Z1- Y-N FC-.09kA FD-84.86km	RCP-Z2- Y-N, FC-1.07kA FD-1	Y-N FAULT	400	OPENING FROM RCP , NO CARRIER BASED TR	YES	NO
110	400KV-KHARAGPUR-CHAIBASA-2	22-09-2020	11:20	Chaibasa-R-N FC-1.9kA	KGP-DT received only	R-N FAULT	2000	Seems High resistive Fault,high fault clearance		
111	400KV-BIHARSARIFF(PG)-MUZAFFARPUR(PG)-1	23-09-2020	19:16	BSF: B-N,28.1KA,1.1Km	MFR: B-N,3.9KA,132Km	B-N FAULT	<100	ping occurred from both sides for 1 phase fau	YES	YES
112	400KV-MERAMUNDALI-LAPANGA-1	23-09-2020	11:24	B_N, 169.6 KM, 2.46 kA, AR Unsuccess	B_N, 25.29 KM, 9.53kA (Lapa	B-N FAULT	<100	in reclaim time.No auto reclose from lapanga	YES	YES
113	400KV-BIHARSARIFF(PG)-VARANASI-2	23-09-2020	18:19	B_N, 2.8 KM, 27.6 kA		B-N FAULT	<100	gh voltage after 3 pole tripping oberved due t	YES	NO
114	400KV-BIHARSARIFF(PG)-BALIA-2	23-09-2020	12:46	Y_N, 241.8 KM, 2.8 kA, A/r successful	Y_N, 26.7 KM, 1.88 kA (Balia)	Y-N FAULT	<100	A/R successful from BSF end	YES	NO
115	220KV-TENUGHAT-BIHARSARIFF-1	23-09-2020	13:49	BSF: Z1,B-N,128.2Km,1.09KA	TENU: Z1, B_N, 108.6 KM 0.5	B-N FAULT	350	No A/R in line	NO	NO
116	400KV-MALBASE-BINAGURI-1	23-09-2020	14:00	BINA: B_N, 3.32 KA, 126 KM		B-N FAULT	500	A/r unsuccessful from Binaguri	NO	YES
117	220KV-JODA-RAMCHANDRAPUR-1	23-09-2020	10:52	Y_N, 4.36 KM, 5.81 kA	A/r successful from Ramchar	Y-N FAULT	<160	NO A/R AT JODA END	YES	YES
118	220KV-BEGUSARAI-NEW PURNEA-1	23-09-2020	09:58	N.Purnea: Z1, B-N,70.3Km,2.8KA	Beg: Z1, B-N,195.25Km, 0.9k	B-N FAULT	<160	A/R successful from purnea end .	YES	NO
119	400KV-TEESTA-III-DIKCHU-1	24-09-2020	12:46	Teesta- Z1 Y-B FC-Iy- 6.838 KA Ib 6.321 KA		Y-B FAULT	<100	ductor snapped in between loc no. 3 and 4	YES	YES
120	400KV-BIHARSARIFF(PG)-VARANASI-1	24-09-2020	04:01	overvoltage stage 1(110%,5 sec) at bil	DT receipt at varanasi			kv higher than rest 2 phases which caused o/v stg-1 operation ,reason for such unbal	YES	NO
121	220KV-BIHARSARIFF-TTPS-1	24-09-2020	17:48	TTPS:Zone-2, FC- Ir:- 201.7A, Iy:- 318	BSF- Z1 B-N Ib-6.179KA FD-2	B-N FAULT	<100	NO A/R .	YES	YES

