



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/ 3265 - 3308

DATE: 07.08.2020

To,

As per list enclosed,

Sub: Notice for 93rd Protection Coordination sub-Committee (PCC) meeting of ERPC

Sir,

Notice is hereby given that 93rd PCC meeting of ERPC will be held on 17th August 2020 (Monday) from 10:30 hrs through online WEBEX meeting platform.

The tentative agenda items for discussion will be as follows:

- 1) Confirmation of the minutes of 92nd Protection sub-Committee Meeting of ERPC.
- 2) Analysis of following grid disturbances of July 2020:

SI No	GD/ GI	Date	Time	Affected System	Summary	Load loss (MW)	Gen loss (MW)
1	GD-1	01-07-2020	05:50	ISTS	BRBCL, a 4 x 250 MW thermal power plant is connected to rest of the grid via 400 kV BRBCL – Sasaram D/C. 400 kV BRBCL – Sasaram – 2 was under break down due to rectification of tower bending. Unit 1 and 2 were in running condition at BRBCL. At 05:50 hrs., 400kV Sasaram-BRBCL #1 tripped on R and Y phase fault. Both the units got tripped due to loss of evacuation path. Heavy rain, thundering and lightning was reported at the time of the event.	0	410
2	GD-1	04-07-2020	13:19	OPTCL	At 12:47 hrs 220 kV Joda – TTPS - 1 tripped on Y and B phase to earth fault. At 13:00 hrs it was charged from Joda end successfully. But while charging this circuit from TTPS end at 13:01 hrs, it tripped on B phase to earth fault from TTPS end. At 13:06 hrs 220 kV Joda – TTPS – 2 tripped from both ends on R phase to earth fault. At 13:19 hrs 220 kV Joda – Ramchandrapur end tripped from both ends on Y phase to earth fault. At same time, 220 kV Jamshedpur – JSPL – Joda feeder tripped from Jamshedpur end in overcurrent protection. Weather condition was normal at the time of the event.	110	0

3	GD-1	04-07-2020	14:24	ISTS	At 14:24 hrs 400 kV Rangpo – Kishanganj S/C tripped from both ends. Directional Earth fault protection operated at Rangpo and DT was received at Kishanganj. At same time, 220 kV JLHEP – New Melli D/C and 220 kV Tashiding Rangpo S/C tripped on earth fault protection at Jorethang and Tashiding end respectively. As a result both the running units at Jorethang tripped due to loss of evacuation path	0	104
4	GD-1	07-07-2020	23:58	ISTS	BRBCL, a 4 x 250 MW thermal power plant is connected to rest of the grid via 400 kV BRBCL – Sasaram D/C. 400 kV BRBCL – Sasaram – 1 was charged from Sasaram end. During synchronizing this line from BRBCL end, 400 kV bus 1 at Sasaram got tripped resulting in tripping of 400 kV BRBCL – Sasaram – 2, 765/400 kV ICT at Sasaram. Unit 2 and 3 were in running condition at BRBCL prior to the event. Both the units tripped due to loss of evacuation path.	0	425
5	GD-1	08-07-2020	02:19	ISTS	400/132 kV Motihari substation is connected to rest of the grid via 400 kV Barh – Motihari – 2 (Others lines are under breakdown due to tower-collapse) and its radial load of 132 KV Betiya, 132 KV Motihari (Bihar) and 132 KV Raxaul are being supplied through 400/132 kV ICT – 2 at Motihari. At 02:19 hrs 400 kV Barh – Motihari – 2 tripped due to B phase to earth fault. The tripping has led to loss of supply to Betiah/Raxaul/Motihari as being the single source of supply causing Grid Disturbance 1 (GD-1) category event.	248	0
6	GI-2	10-07-2020	08:45	WBSETCL	At 08:45 hrs, 400 kV Arambag – New Chanditala S/C, 400 kV Arambag – Bakreswar S/C, 400 kV Arambag Kolaghat S/C and 400/220 kV ICT – 1, 2, 3 and 4 at Arambag tripped. At same time, all 220 KV lines connected to Arambag s/s and some 132 kV lines also tripped during this event. Flash over was reported at B phase pole of 220 kV side breaker of 315 MVA 400/220 kV ICT – 4 at Arambag.	61	0
7	GI-2	16-07-2020	01:58	ISTS	At 01:58hrs. both poles of Talcher-Kolar HVDC tripped due to un-availability of 400kV bus voltage at Kolar end. Before tripping flow was 500MW. SPS acted and generation reduction happened at JITPL(150MW) and GMR (269MW). No generaton reduction in Talcher Stg-2.	0	419
8	GD-1	16-07-2020	16:27	ISTS	400 KV Teesta III Kishanganj S/C was taken under shutdown on emergency basis at 15:49 hrs for gas density monitor replacement work at Kishanganj end. To ensure maximum power	0	1390

					evacuation, 400 kV buses at Rangpo were split. Teesta III and Dikchu were connected to 400 kV bus 1 at Rangpo through 400 kV Dikchu – Rangpo S/C. their generation was evacuated through 400 kV Rangpo Kishangunj S/C. All other elements at Rangpo S/S were connected to 400 kV bus 2. Generation at Teesta V, Jorethang, Tashiding, Chujachen HEP was being evacuated through 400 kV Rangpo – Binaguri D/C. At 16:27 hrs, 400 KV Teesta III – Dikchu S/C, 400 KV Rangpo-Dikchu S/C, 400 KV Rangpo-Kishanganj S/C tripped resulting total power failure at Teesta III and Dikchu HEP.		
9	GI-2	19-07-2020	23:18	ISTS	At 23:18 Hrs, 400 KV Alipurduar-Jigmelling D/c tripped on spurious DT receive at Alipurduar end resulting in tripping of Mangdechu units #1 and #2 due to loss of evacuation path. Generation loss at Mangdechu was 777 MW. No generation or load loss was reported in Indian grid during this event.	0	0
10	GD-1	20-07-2020	07:06	ISTS	At 07:06 hrs. B phase to earth fault occurred at 400 kV Muzaffarpur-Gorakhpur – 2. B pole of tie breaker at Muzaffarpur end got did not open. Due to delay in LBB operation, fault was getting fed and to clear the fault, 400 kV Muzaffarpur-Gorakhpur – 1, 400 kV Muzaffarpur-New Purnea-2, 400 kV Muzaffarpur-Biharshariff D/C and 220 kV Muzaffarpur – Hajipur D/C tripped. Fault clearing time was around 500 ms. Tripping of 220 kV Muzaffarpur – Hajipur D/C resulted total power failure at Hajipur and chapra. At 07:08 hrs, 220 kV Darbhanga (DMTCL) – Darbhanga D/C, 220 kV Darbhanga (DMTCL) – Motipur D/C, 220 kV Darbhanga (DMTCL) – Laukahi - 1, 220 kV Darbhanga (DMTCL) – Samastipur S/C tripped due to overvoltage problem resulting total power failure at Darbhanga and its nearby areas.	300	0
11	GI-2	22-07-2020	01:32	ISTS	At 01:32 hrs 400 kV Alipurduar Jigmelling D/C tripped due to R & B phase fault. Prior to the tripping, schedule to Mangdechu generating units were 762 MW. There was no load or generation loss reported in Indian grid at the time of the event.	0	0
12	GD-1	22-07-2020	12:15	BSPTCL	220 kV Darbhanga (BSPTCL) to Mushahari – 2 was idle charged from Mushahari end. At 12:15 hrs 220 kV Darbhanga (DMTCL) – Darbhanga (BSPTCL) D/C tripped from DMTCL end only. At same time 220 kV Darbhanga (BSPTCL) to Mushahari – 1 also tripped. Later it was reported that Y – Phase Bushing to Gantry tower conductor of 220 kV Darbhanga	250	0


				(DMTCL) – Darbhanga (BSPTCL) – 2 melted and fault occurred.		
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- 3) Details of Multiple tripping incidences of transmission line for month of July 2020 is enclosed at **Annexure-1.**
- 4) Details of Single line tripping incidences of transmission line for month of July 2020 is enclosed at **Annexure -2.**
- 5) Details of Pending single line tripping incidences of transmission line for month of June 2020 is enclosed at **Annexure -3.**

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.erpc-protectiondb.in.

Your participation in the meeting is highly solicited.

Yours faithfully,


(S. Kejriwal)
MS (IC)

LIST OF ADDRESSES:

Chief Engineer, Trans (O&M) Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021	Electrical Superintending Engineer (CRITL) Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021
Chief Engineer (SLDC) Damodar Valley Corporation, GOMD-I Premises, P.O.- Danesh Sheikh 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 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)
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Dy. Chief Engineer (Testing)/ Sr. Manager (Testing)	General Manager (O&M)

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General Manager(O&M) FSTPS, NTPC Ltd., P.O. Nabarun, Dist. Murshidabad, West Bengal-742236	Dy. General Manager (Engineering), WBPDCL, OS Dept. Corporate Office, 3/C, L.A Block, Salt Lake-III, Kolkata-700098 (Fax-033-23350516)
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 fl. 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., Loknayaak 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
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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

CC:

ASSISTANT SECRETARY, ERPC		
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Repeated tripping of transmission lines during the month of July 2020

During the month of July 2020, repeated tripping (tripping incidents reported more than 2 times) has been observed for 9 transmission lines (220 kV and above voltage level) as shown below:

Element Name	No of Tripping	Total Outage duration (Hour)	Average Outage duration (Hour)	Utility to respond
220KV-BEGUSARAI-NEW PURNEA-1	5	49.5	9.9	BSPTCL
400KV-ALIPURDUAR (PG)-JIGMELLING-2	3	5.1	1.7	PG ER – II & Bhutan
400KV-PPSP-BIDHANNAGAR-2	3	1.5	0.5	WBSETCL
220KV-NEW PURNEA-MADHEPURA-1	3	3.4	1.1	BSPTCL
220KV-JODA-RAMCHANDRAPUR-1	3	2.3	0.8	OPTCL & JUSNL
220KV-DARBHANGA (DMTCL)-DARBHANGA-1	3	2.2	0.7	DMTCL & BSPTCL
220KV-CHANDIL-STPS(WBPDCL)-1	3	4.3	1.4	WBSETCL/ WBPDCL & JUSNL
220KV-DARBHANGA (DMTCL)-MOTIPUR-1	3	18.0	6.0	DMTCL & BSPTCL
220KV-BUDHIPADAR-KORBA-2	3	4.2	1.4	OPTCL (for ER Part)

Utilities are requested to share the action taken to reduce the no of above mentioned lines.

Details of these tripping is given in Annexure A.

Repeated tripping of units during the month of July 2020

During the month of July 2020, repeated tripping (tripping incidents reported more than 1 time) has been observed for 9 transmission lines (220 kV and above voltage level) as shown below:

Unit Name	No of Tripping	Total Outage Duration (Hour)	Average Outage Duration (Hour)	Utility to respond
BARH - UNIT 4	7	154.2	22.0	NTPC
BARAUNI TPS - UNIT 8	3	111.4	55.7	Bihar SLDC
SAGARDIGHI - UNIT 3	3	42.4	14.1	WBPDCL/WB SLDC
Sterlite - UNIT 4	3	118.8	39.6	GRIDCO SLDC/ SEL
BAKRESHWAR - UNIT 2	2	258.0	129.0	WBPDCL/WB SLDC
JITPL - UNIT 1	2	1.5	1.5	JITPL
KHSTPP - UNIT 6	2	366.9	183.4	NTPC
KODERMA - UNIT 1	2	268.2	268.2	DVC
MEJIA TPS - UNIT 3	2	63.5	31.8	DVC
RENGALI HPS - UNIT 3	2	328.2	164.1	GRIDCO SLDC/ OHPC

At 23:59 hrs on 31st July 2020, Koderma unit 1, Barauni unit 8 and JITPL unit 1 were out of service. Hence their last outage was not considered in calculation of Total and average outage duration. Utilities are requested to share the action taken to reduce the no of above mentioned units. Details of these tripping is given in Annexure B.

Annexure A: Details of tripping of transmission lines which tripped repeatedly in the month of July 2020

Element Name	Tripping Date	Tripping Time	Reason 1	Revival Date	Revival Time
400KV-ALIPURDUAR (PG)-JIGMELLING-2	01-07-2020	23:15	APD-Z1 R-N FD-46km FC-6kA	01-07-2020	23:52
400KV-PPSP-BIDHANNAGAR-2	09-07-2020	16:31	BIDHANNAGAR: Y-N, Z-1, FD=47.6 KM, FC=1 kA.	09-07-2020	17:09
400KV-ALIPURDUAR (PG)-JIGMELLING-2	19-07-2020	23:18	DT RECEIVED AT APD END	20-07-2020	01:09
400KV-ALIPURDUAR (PG)-JIGMELLING-2	22-07-2020	01:32	For ckt-II Ir= 2.055 KA , Ib= 2.317 KA , 233 Km from Alipurduar	22-07-2020	04:10
400KV-PPSP-BIDHANNAGAR-2	28-07-2020	12:36	DGP END: Z1, Y PH E/F, DIS. 105KM, 2.795kA	28-07-2020	12:55
400KV-PPSP-BIDHANNAGAR-2	30-07-2020	08:23	PPSP end RX1, RX2, 86A, 86B.	30-07-2020	08:59
220KV-NEW PURNEA-MADHEPURA-1	01-07-2020	12:36	PURNEA:Z1, Y-B, 43KM, IY-4.5KA, IB-4.4KA	01-07-2020	13:18
220KV-NEW PURNEA-MADHEPURA-1	02-07-2020	13:02	from Madhepura end , Relay operated R-N pickup, carrier receive, Z1B trip, IL1- 1.26 KA & dist- 83.5 km	02-07-2020	13:22
220KV-JODA-RAMCHANDRAPUR-1	04-07-2020	13:20	Joda-Z1 Y-N FC-Iy-950A FD-37.72km	04-07-2020	14:02
220KV-DARBHANGA (DMTCL)-DARBHANGA-1	05-07-2020	23:37	back up IDMT O/C & E/F AT DARBHANGA (BSEB)	06-07-2020	00:37
220KV-NEW PURNEA-MADHEPURA-1	08-07-2020	17:39	2.7 km B-N,5.828 KM Z1,A/R SUCCESSFUL /LATER HAND TRIPPED	08-07-2020	20:02
220KV-CHANDIL-STPS(WBPDCL)-1	13-07-2020	17:09	Spurious tripping	13-07-2020	20:35
220KV-DARBHANGA (DMTCL)-MOTIPUR-1	13-07-2020	22:20	B-N, Zone-1, 5.12 KA, 24 KM from DMTCL, Suspected jumper snapped	14-07-2020	14:59
220KV-BUDHIPADAR-KORBA-2	16-07-2020	12:06	z2 210 km 0.5 ka at korba end	16-07-2020	14:15
220KV-BUDHIPADAR-KORBA-2	18-07-2020	11:58	Z1 B-N,118 KM ,1.38 KA FROM BUDHIPADAR	18-07-2020	12:40
220KV-BEGUSARAI-NEW PURNEA-1	19-07-2020	08:45	R_N, 63.94 KM, 2.32 kA (Begusarai)	21-07-2020	06:15
220KV-DARBHANGA (DMTCL)-MOTIPUR-1	19-07-2020	11:04	E/F at DMTCL end,I(Y)=4.71KA,28.2km from DMTCL end,Z1	19-07-2020	11:44
220KV-DARBHANGA (DMTCL)-MOTIPUR-1	20-07-2020	07:06	O/V OPERATED AT DARBHANGA	20-07-2020	07:45

Element Name	Tripping Date	Tripping Time	Reason 1	Revival Date	Revival Time
220KV-DARBHANGA (DMTCL)-DARBHANGA-1	20-07-2020	07:06	OVERVOLTAGE STAGE-I	20-07-2020	07:47
220KV-BEGUSARAI-NEW PURNEA-1	21-07-2020	08:15	B_N, 1.113 kA, 200 KM (New Purnea)	21-07-2020	10:09
220KV-DARBHANGA (DMTCL)-DARBHANGA-1	22-07-2020	12:17	E/F	22-07-2020	12:48
220KV-BEGUSARAI-NEW PURNEA-1	23-07-2020	23:46	B_N,70.8km from New Purnea,1.86kA	24-07-2020	00:55
220KV-CHANDIL-STPS(WBPDCL)-1	26-07-2020	11:25	B-N,Z-1 45.3 km,2.87 KA	26-07-2020	11:52
220KV-BEGUSARAI-NEW PURNEA-1	27-07-2020	22:31	NEW PURNEA: R-N, 2.2KA, 80.9KM	27-07-2020	22:57
220KV-JODA-RAMCHANDRAPUR-1	28-07-2020	08:32	Joda-Z1 Y-N FD-14.934km FC-Iy-3.393kA	28-07-2020	09:28
220KV-CHANDIL-STPS(WBPDCL)-1	29-07-2020	12:13	R_N fault,Ia:- 116.6 A,fault distance:- 56.37 km, Zone-1	29-07-2020	12:41
220KV-JODA-RAMCHANDRAPUR-1	29-07-2020	12:31	Y_N fault,1.266kA	29-07-2020	13:11
220KV-BUDHIPADAR-KORBA-2	31-07-2020	14:08	B-N , 118 KM , 1.40 KA@BUDHIPADAR	31-07-2020	15:30
220KV-BEGUSARAI-NEW PURNEA-1	31-07-2020	16:16	B-N,71.4KM,FC 1.95@N PURNEA	31-07-2020	16:45

Annexure B: Details of tripping of units which tripped repeatedly in the month of July 2020

Unit Name	Tripping Date	Tripping Time	Reason 1	Revival Date	Revival Time
NABINAGAR(BRBCL) - UNIT 2	01-07-2020	05:51	LOSS OF EVACUATION PATH	05-07-2020	07:49
NABINAGAR(BRBCL) - UNIT 3	01-07-2020	22:42	Excitation system channel I, II failure	02-07-2020	03:16
BARH - UNIT 4	02-07-2020	09:35	BOILER TUBE LEAKAGE	03-07-2020	19:38
BARH - UNIT 4	03-07-2020	23:12	ELECTRICAL FAULT	04-07-2020	17:20
SAGARDIGHI - UNIT 3	04-07-2020	02:38	MDBFP Leakage rectification	05-07-2020	17:52
JITPL - UNIT 1	04-07-2020	08:27	PA FAN TRIPPED	04-07-2020	09:59
BARAUNI TPS - UNIT 8	04-07-2020	12:00	BOILER TUBE LEAKAGE	07-07-2020	06:03
JITPL - UNIT 1	05-07-2020	04:52	PA FAN PROBLEM		
SAGARDIGHI - UNIT 3	05-07-2020	19:08	LOW DRUM LEVEL	05-07-2020	20:50
NABINAGAR(NPGC) - UNIT 1	06-07-2020	14:08	GENERATOR ROTOR EARTH FAULT	06-07-2020	19:23
RENGALI HPS - UNIT 3	06-07-2020	17:08	WATER LEAKAGE IN TURBINE PIT	07-07-2020	12:40
BARH - UNIT 4	06-07-2020	23:33	BOILER TUBE LEAKAGE	08-07-2020	16:30
NABINAGAR(BRBCL) - UNIT 3	07-07-2020	23:58	LOSS OF EVACUATION PATH	08-07-2020	10:08
NABINAGAR(BRBCL) - UNIT 2	07-07-2020	23:58	LOSS OF EVACUATION PATH	09-07-2020	02:16
KODERMA - UNIT 1	08-07-2020	01:09	BOILER TUBE LEAKAGE	19-07-2020	05:19
BARH - UNIT 4	09-07-2020	13:41	BOILER TUBE LEAKAGE	10-07-2020	09:42
RENGALI HPS - UNIT 3	09-07-2020	17:30	SHAFT VIBRATION HIGH	22-07-2020	14:08
BAKRESHWAR - UNIT 2	11-07-2020	08:41	HIGH PRESSURE BY-PASS VALVE OF BOILER IN-OPERATIVE	21-07-2020	01:24
DPL - UNIT 7	11-07-2020	17:19	RSD/LOW SYSTEM DEMAND	15-07-2020	13:36
Sterlite - UNIT 4	12-07-2020	18:10	Problem in Ash handling plant	14-07-2020	02:45
NABINAGAR(NPGC) - UNIT 1	15-07-2020	13:01	LOSS OF FUEL	15-07-2020	18:36
KHSTPP - UNIT 6	15-07-2020	16:22	BOILER TUBE LEAKAGE	17-07-2020	15:17
Sterlite - UNIT 4	17-07-2020	16:16	HYDRAULIC GOVERNOR SYSTEM PROBLEM	17-07-2020	17:52
KHSTPP - UNIT 6	18-07-2020	09:58	Turbine protection	31-07-2020	17:54

Unit Name	Tripping Date	Tripping Time	Reason 1	Revival Date	Revival Time
			operated		
Sterlite - UNIT 4	18-07-2020	17:10	BOTTOM ASH PROBLEM	22-07-2020	05:45
SAGARDIGHI - UNIT 3	20-07-2020	03:46	FLAME FAILURE	20-07-2020	05:13
BAKRESHWAR - UNIT 2	21-07-2020	09:40	GENERATOR ROTOR EARTH FAULT	22-07-2020	10:58
BARH - UNIT 4	22-07-2020	16:41	boiler feed pump tripped	22-07-2020	20:29
DPL - UNIT 7	23-07-2020	09:02	RSD/LOW SYSTEM DEMAND	29-07-2020	03:13
BARH - UNIT 4	24-07-2020	08:12	BOILER TUBE LEAKAGE	25-07-2020	18:38
MEJIA TPS - UNIT 3	25-07-2020	01:19	RSD/LOW SYSTEM DEMAND	27-07-2020	14:35
BARH - UNIT 4	25-07-2020	18:50	Generator protection operated	25-07-2020	21:41
KODERMA - UNIT 1	27-07-2020	12:39	BOILER TUBE LEAKAGE		
BARAUNI TPS - UNIT 8	27-07-2020	18:40	boiler protection trip	29-07-2020	16:02
MEJIA TPS - UNIT 3	31-07-2020	07:14	FLAME FAILURE	31-07-2020	09:30
BARAUNI TPS - UNIT 8	31-07-2020	16:15	DUE TO TRIPPING OF UAT		

Annexure-2

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

S.NO	LINE NAME	TRIP DATE	TRIP TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reason	Fault Clearance time in msec	Remarks	PMU Location	DR CONFIGURATION DESCREPANCY	DR/EL RECEIVED FROM LOCAL END	DR/EL RECEIVED FROM REMOTE END	Utility to update
1	400KV-ALIPURDUAR (PG)-JIGMELLING-2	01-07-2020	23:15	APD-Z1 R-N FD-46km FC 6kA	Jig-DT received	R-N FAULT.	<100		BINAGURI		YES	NO	BHUTAN
2	400KV-PATNA-BARH-2	01-07-2020	16:06	PLCC MALOPERATION AT PATNA		NO FAULT IN PMU	NA	Reason of Mal-operation may be shared .Reactor ring down observed due to lc resonance line voltage present even after 3 phase breaker opening .	PATNA		NO	NO	NTPC BARH , PG-ER-1
3	220KV-NEW PURNEA-MADHEPURA-1	01-07-2020	12:36	PURNEA:Z1, Y-B, 43KM, IY-4.5KA, IB-4.4KA	MADHEPURA: Z1, Y-B, 50KM, IY-2.7KA, IB-2.8KA	Y-B FAULT.	<160	OK.	PURNEA	Individual pole opening status may be checked at Madhepura end as it is not showing pole opening status.Individual pole opening status may be configured at Purnea end .	YES	YES	BSPTCL
4	400KV-PUSAULI(PG)-NABINAGAR(BRBCL)-1	01-07-2020	05:51	Sasaram: R-Y,18.25 km, Ir 8.197 kA, Iy 8.33 kA	Nabinagar: R-Y	R-Y FAULT.	<100	OK.	SASARAM		YES	NO	
5	220KV-NEW PURNEA-MADHEPURA-1	02-07-2020	13:02	from Madhepura end , Relay operated R-N pickup, carrier receive, Z1B trip, IL1- 1.26 KA & dist- 83.5 km	7.8 KM .IR=10.08 KA,R-N Z1 FROM NEW PURNEA	R-N FAULT.	<160	Why A/R not attempted from any end .Communication chanel status?as 3 phase opening not occued even after DT sent . When did all 3 pole opened ?	PURNEA	Individual pole opening status may be configured at Purnea end .	YES	YES	BSPTCL
6	400KV-FSTPP-KHSTPP-2	03-07-2020	13:01	R_N, 62.9 KM, 5.39 kA,AR successfull rom KHSTPP end only	R_N, Z1, 22 KM (FSTPP)	R-N FAULT.	<100.	Why A/R not attempted from FARAKKA?	FARAKKA	DR time frame not suffiecient for A/R observation	NO	YES	NTPC FARAKKA
7	400KV-MAITHON-KHSTPP-1	04-07-2020	16:41	KHG-Z! B-N FC-2.74kA FD-137.1km	Maithon AR succesful	B-N FAULT	<100.	Why A/R not attempted from Kahalgaon end.Was it enabled or not and if disabled then it should sent DT to other end .	MAITHON	Individual pole opening status may be checked at Maithon end as status did not changed.	YES	YES	PG-ER-1
8	400KV-BIHARSARIFF(PG)-VARANASI-2	04-07-2020	15:12	DT Received	REACTOR REF OPERATED AT VNS	NO FAULT	<100.	Was any fault found in reactor ? Line voltage present due to reactor ringdown even after 3 phase opening .	BIHARSHARIFF		YES	NO	PG-ER-1
9	220KV-BIRPARA-MALBASE-1	04-07-2020	14:51	BINAGURI : B-N Z2 40.74 KM 1.33 KA	MALBASE: NO TRIPPING	B-N FAULT	500		BINAGURI		YES	NO	
10	220KV-TASHIDING-RANGPO-1	04-07-2020	14:24	Tashi-EF		B-N FAULT	<100.	High resistive fault as seen by DR ,Directional Over current setting may be checked .	BINAGURI		YES	NO	TASHDING
11	400KV-KISHANGANJ(PG)-RANGPO-1	04-07-2020	14:24	DT receipt	DEF	B-N FAULT	1000	Why Distance protection did not pickup at rangpo end fault current was more than 5 ka for 700 ms as seen from rangpo DR.High resistive fault turning to flashover at v peak as seen from kishanganj DR.Z-2&Z-3 started at Kishanganj end .	BINAGURI		YES	YES	PG-ER-2
12	220KV-FSTPP-LALMATIA-1	04-07-2020	10:27	MASTER TRIP AT LALMATIA		NO FAULT IN PMU	NA	Reason of master trip may be explaine.	FARAKKA		NO	NO	NTPC FARAKKA,JUS NL

13	220KV-DARBHANGA (DMTCL)-DARBHANGA-1	05-07-2020	23:37	back up IDMT O/C & E/F AT DARBHANGA (BSEB)		B-N FAULT	600		MUZAFFERPUR		NO	NO	DMTCL , BSPHCL
14	220KV-RANCHI-HATIA-3	05-07-2020	16:40	Ranchi: B-N, 3.720KA, 27.823Km	Hatia: B-N, 32.4Km	B-N FAULT	<100.		RANCHI	DR not opening..Send proper file at hatia end .	NO	YES	JUSNL
15	220KV-RANCHI-HATIA-1	05-07-2020	16:40	Ranchi: B-N, 28.320Km, 4.974KA	Hatia: B-N, 2.20KA, 32.7Km	B-N FAULT	<100.		RANCHI	DR not opening..Send proper file at hatia end .	NO	YES	JUSNL
16	220KV-CHANDIL-RANCHI-1	05-07-2020	15:35	Ranchi: R_B_N, 17.8 KM, 9.387 KA	Chandil: R_B_N, 77.82 KM, Ir: 2.118 kA, Ib: 2.913 kA	R-B FAULT	<100.		RANCHI		NO	NO	JUSNL
17	400KV-ALIPURDUAR (PG)-BONGAIGAON-2	06-07-2020	10:27	Bong-Z1 R-N FC-4.234kA FD-44.56km	APD-R-N FC-4.3kA FD-75km	R-N FAULT.	<100	Tripped in reclaim time .	ALIPURDUAR	Individual pole opening status may be configured at APD end .	YES	NO	
18	400KV-MAITHON-KHSTPP-2	07-07-2020	15:23	KHSTPP: R-PH,FD 80KM,FC 5.14KA	MAITHON:R-N,74KM,3.95KA	R-N FAULT.	<100	R phase MCB A/R failed at Maithon end even after 1 second of that R phase TCB reclosed which should not occur .Line voltage available after 3 pole opening.	KAHALGAON	DR time frame is not capturing full event A/R etc it is of very short duration at Kahalgaon end .	YES	YES	PG-ER-2
19	400KV-PATNA-BALIA-2	07-07-2020	20:48	B_N, 89.9 KM, 4.24 kA, A/r successful from Patna end only		B-N FAULT	<100	Why A/R at Balia end did not operated?	PATNA		YES	NO	PG-ER-1 , NR
20	220KV-NEW PURNEA-MADHEPURA-1	08-07-2020	17:39	2.7 km B-N,5.828 KM Z1,A/R SUCCESSFUL /LATER HAND TRIPPED	B-N pickup, carrier receive, Z1B trip, IL3- 1.75 KA & dist- 80.0 km relay from both end. T	B-N FAULT	<100	A/R at Madhepura did not operated.	PURNEA	DR time frame not sufficient to observe A/R .	YES	YES	BSPTCL
21	400KV-MOTIHARI-BARH-2	08-07-2020	02:19	B_N, 0.36 kA, 8 KM (Motihari)	B_N, 2.59 kA, 189.8 KM (Barh), tower bend	B-N FAULT	<100	A/R unsuccessful but even after 3 pole opening REACTOR RINGDOWN observed and line voltage buildup started and high resonance over voltages were observed.	BARH		YES	YES	NTPC BARH , MOTIHARI
22	400KV-BIHARSARIFF(PG)-BANKA(PG)-2	08-07-2020	13:42	banka: 104 m,14.1 KA,B-N,z1 LA blast severe lightning	biharshariff: 184.5 km,1.67 KA,B-N,z1b,LA FAILED	B-N FAULT	200	3 phase line voltage present upto 5 seconds even after 3 phase breaker opening due to reactor ringdown and exchange of energy between L/R & Line capacitance .	BIHARSHARIFF		YES	YES	PG-ER-1
23	400KV-PPSP-BIDHANNAGAR-2	09-07-2020	16:31	BIDHANNAGAR: Y-N, Z-1, FD=47.6 KM, FC=1 kA.	PPSP: Y-N, Z1	Y-N FAULT	<100	NO A/R at PPSP end .	DURGAPUR		YES	NO	
24	400KV-KHSTPP-BARH-1	09-07-2020	13:41	TEED PROTECTION OPERATED AT BARH	Charged through tie bay at Barh	TEED	<100	There was current in secondary of B-phase main bay CT even the line was out of service. This was forcing the TEED protection to operate. Line has been charged through tie CB. . At the same time 400kV Patna-NPGC ckt#2 A/R successful on B-N	BARH		NO	NO	NTPC KAHALGAON , NTPC BARH
25	400KV-PATNA-KISHANGANJ-1	11-07-2020	05:02	TRIPPED ON OVERVOLTAGE WHILE WAS ANTI THEFT CHARGED FROM KISHANGUNJ END		O/V-STG-I	<100	What was the relay setting of O/V stg-1&2	KISHANGANJ		NO	NO	PG-ER-1

26	400KV-PATNA-KISHANGANJ-2	11-07-2020	05:02	TRIPPED ON OVERVOLTAGE WHILE WAS ANTI THEFT CHARGED FROM KISHANGANJ END		O/V-STG-1	<100	What was the relay setting of O/V stg-1&2	KISHANGANJ		NO	NO	PG-ER-1
27	220KV-SUBHASGRAM(PG)-NEW TOWN-1	12-07-2020	23:47	Z1, RN 0.9 Km from Shubhasgram, 17.23 KA.	a/r successful at new town z1 R-N, 7.45 Ka,17.97 km	R-N FAULT.	<100	Whether A/R attempted from Subhasgram Pg end ,DR may plz be shared.	DURGAPUR		NO	NO	PG-ER-2
28	220KV-DARBHANGA (DMTCL)-MOTIPUR-1	13-07-2020	22:20	B-N, Zone-1, 5.12 KA, 24 KM from DMTCL, Suspected jumper snapped		B-N FAULT	<100	A/R successful from motipur end .Why A/R did not occurred at DMTCL end .			NO	YES	DMTCL
29	220KV-CHANDIL-STPS(WBPDCL)-1	13-07-2020	17:09	no trip at chandil		NO FAULT IN PMU	NA				NO	NO	WB , JUSNL
30	400KV-RAJARHAT-FSTPP-1	13-07-2020	18:22	Rajarhat: A/R successful, Z1, Y-N, 135Km, 2.65KA	FSTPP: Y-N, 2.8KA, 184.1KM	Y-N FAULT	<100	Secondary Arching issue observed during dead time voltage was present .Why A/R not operated at Farkka may be explained .	DURGAPUR		YES	NO	PG-ER-2,NTPC-FARAKKA
31	400KV-RAJARHAT-FSTPP-1	13-07-2020	15:39	DT sent to FSTPP while switching off Tie bay at Rajarhat		NO FAULT	NA	Reason for DT ?	DURGAPUR		NO	NO	PG-ER-2,NTPC-FARAKKA
32	400KV-KISHANGANJ-TEESTA-III-1	14-07-2020	12:52	Kishanganj-Gas density monitor malfunction. No fault also observed in PMU	Tessta III-DT received	NO FAULT	NA	Reactor ringdown observed ,even after 3 pole opening ,3 phase line voltage persisted upto few seconds .	BINAGURI		YES	NO	PG-ER-1 , TUL
33	220KV-PATNA-FATUHA-1	15-07-2020	13:12	PATNA: B-N, 20.32 KM, 5.18 KA,	FATUHA: Z-1, 9.11 KM, IB=5.548 kA,	B-N FAULT	350	From PMU it seems there is no A/R and carrier aided tripping as one end cleared fault in z-2.	PATNA		YES	NO	PG-ER-1
34	400 KV MERAMUNDALI - MENDHASAL -1	17-07-2020	16:43	B-N , 3.5KA , 81KM FROM MERAMUNDALI	B-N	B-N FAULT	<100	B PHASE LA BLASTED.Whether A/R operated or not?	MERAMUNDALI	DR frame not sufficient .	YES	NO	OPTCL
35	220KV-PATNA-KHAGAUL-2	17-07-2020	18:09	SPURIOUS LBB TRIPPING		NO FAULT IN PMU.	NA	Reason for lbb may plz be shared.	PATNA		NO	NO	PG-ER-1
36	220KV-BUDHIPADAR-KORBA-2	18-07-2020	11:58	Z1 B-N,118 KM ,1.38 KA FROM BUDHIPADAR	z1 B-N 41.17 km,3.5 KA	B-N FAULT	<100	NO A/R at Budipadar end .	BUDIPADAR		YES	NO	
37	400KV-ALIPURDUAR (PG)-JIGMELLING-1	19-07-2020	23:18	DT RECEIVED AT APD END		O/V STG-1	NA	seeing the line voltage at apd end it seems voltage went more than 450 kv for 100 ms only so o/v setting at jigmelling end may be checked .	ALIPURDUAR		YES	NO	
38	400KV-ALIPURDUAR (PG)-JIGMELLING-2	19-07-2020	23:18	DT RECEIVED AT APD END		O/V STG-1	NA	seeing the line voltage at apd end it seems voltage went more than 450 kv for 100 ms only so o/v setting at jigmelling end may be checked .	ALIPURDUAR		YES	NO	
39	220KV-ARRAH-NADHOKHAR-1	19-07-2020	12:34	R_Y_N, 8.89 KM, Ir: 6.6 kA, Iy: 6.57 kA (Arrah)		R-Y FAULT.	<100		SASARAM		NO	NO	PG-ER-1 , BSPTCL

40	400KV-FSTPP-BAHARAMPUR-1	19-07-2020	17:04	did not trip from farakka		Y-N FAULT.	500	3 PHASE opening from Behrampur end as Y & B both phase current increased so Y-B-N fault detected ,which zone picked up not shown in DR may kindly explain and share the details .It seems Behrampur sensed the fault in zone-4 reverse direction .	FARAKKA		NO	YES	NTPC FARAKA
41	400KV-FSTPP-BAHARAMPUR-2	19-07-2020	17:04	At Farakka:y-n,Z-2,	At Behrampur: A/r successful, y-n,11.6 km, 16.53 ka	Y-N FAULT.	500	A/R successful from Behrampur end and carrier sent still from Frakka end line opened after z-2 time this may plz be explained ?Whether carrier recived or not ?High 3rd & 5th harmonics upto 30 % observed in R and B phases till zone 2 time untill braker from Farakka not opened .Reason may be expalined plz?	FARAKKA		NO	YES	NTPC FARAKA,PG-ER-2
42	220KV-TENUGHAT-BIHARSARIFF-1	19-07-2020	13:42	Y_N, 6.085 KM, 2.4 kA (Biharsharif)		Y-N FAULT.	<100	No A/R operation .	BIHARSHARIFF	R phase cb status at bsf end showing wrong status.Individual pole opening status may be configured at TTPS end .	YES	YES	
43	220KV-BEGUSARAI-NEW PURNEA-1	19-07-2020	08:45	R_N, 63.94 KM, 2.32 kA (Begusarai)	R_N, 132 KM, 1.6 kA	R-N FAULT.	900	VT FUSE FAILURE	PURNEA		NO	NO	BSPTCL
44	220KV-DARBHANGA (DMTCL)-MOTIPUR-1	19-07-2020	11:04	E/F at DMTCL end.I(Y)=4.71KA,28.2km from DMTCL end.Z1		Y-N FAULT.	<100	No A/R operation .	MUZAFFERPUR		NO	NO	DMTCL
45	220KV-BEGUSARAI-NEW PURNEA-1	21-07-2020	08:15	B_N, 1.113 kA, 200 KM (New Purnea)	Didn't trip from Begusarai	B-N FAULT	350	Reason for delayed clearance may be explained	PURNEA		NO	NO	BSPTCL
46	400KV-JHARSUGUDA-RAIGARH-1	22-07-2020	20:27	Y_N, 78.776 KM, 4.792 kA (Jharsuguda)	Y_N, 25.74 KM, 7.76 kA (Raigarh)	Y-N FAULT.	<100	Tripped in reclaim,Y phase conductor snapped.	JHARSUGUDA		NO	NO	PG ER-3
47	220KV-DARBHANGA (DMTCL)-DARBHANGA-1	22-07-2020	12:17	Y PHASE E/F		Y-N FAULT	<100	Y PHASE CONDUCTOR SNAPPED.No Auto reclose.	PURNEA		NO	NO	DMTCL,BSPTCL
48	400KV-ALIPURDUAR (PG)-JIGMELLING-1	22-07-2020	01:32	R-B fault. For ckt-I Ir= 2.608 KA, Ib = 1.895 KA. DLdiatance 220 Km from Alipurduar		R-B FAULT.	<100.		ALIPURDUAR		YES	NO	
49	400KV-ALIPURDUAR (PG)-JIGMELLING-2	22-07-2020	01:32	For ckt-II Ir= 2.055 KA , Ib= 2.317 KA , 233 Km from Alipurduar		R-B FAULT.	<100.		ALIPURDUAR		YES	NO	
50	220KV-BEGUSARAI-NEW PURNEA-1	23-07-2020	23:46	B_N,70.8km from New Purnea,1.86kA	B_N,Z2,1.15A(Begusarai)	B-N FAULT	350	No A/R operation whether carrier aided protection is there or not as one end opened in z-1 & other in z-2?	PURNEA		NO	NO	BSPTCL
51	400KV-KHSTPP-LAKHISARAI-1	23-07-2020	22:59	Y_N,z1,30km,11.18kA at Kahalgaon end	Y_N,117.6km,3.712kA at Lakhisarai end	Y-N FAULT.	<100.	Unsuccessful Auto reclose.3 phase line voltage present even after 3 phase breaker opening	KAHALGAON		YES	YES	PG-ER-1 , NTPC KAHALGAON
52	400KV-JHARSUGUDA-RAIGARH-1	23-07-2020	21:36	Y_N, 48.04 kA, 0.032 KM (Jharsuguda)		Y-N FAULT.	<100.	Y PHASE LA failed.A/R unsuccessful	JHARSUGUDA		NO	NO	PG-ER-3
53	400KV-RANGPO-TEESTA-V-1	23-07-2020	20:12	DT received at Teesta-V from Rangpo	Didn't trip	NO FAULT IN PMU	NA	Reason of DT may be explained .	BINAGURI		NO	NO	PG-ER-2
54	220KV-DARBHANGA(DMTCL)-LAUKAHI-1	23-07-2020	12:28	B PH O/V RELAY OPERATED	TRIPPED FROM LAUKAHI(BSEB) END ONLY	O/V STG-1	NA				NO	NO	DMTCL

55	400KV-KHARAGPUR-KOLAGHAT-1	25-07-2020	14:01	KOLAGHAT: R-N, Z1, 65KM, 9KA	KHARAGPUR: R-N, Z-1, 3KM, 11KA	R-N FAULT.	<100	A/r attempted but unsuccessful.	JAMSHEDPUR		NO	NO	WB
56	400KV-BINAGURI-TALA-2	26-07-2020	23:13	Z2,Y-N FAULT,FD 130.2KM,FC 2.729KA BINAGURI	Y-N,7.5KA,21.1KM@TALA	Y-N FAULT	<100	A/R unsuccessful, reactor ringdown observed as line voltage was present even after 3 pole opening.	BINAGURI		YES	NO	PG-ER-2
57	220KV-TSTPP-MEERAMUNDALI-1	26-07-2020	20:16	R-Y Z1 15.58 KM IR 13.16 KA 9.61	Y-PHASE ZONE-1 32.8KM FROM TSTPP	R-N FAULT.	<100		TALCHER		NO	NO	OPTCL
58	220KV-ARRAH-KHAGAUL-2	26-07-2020	04:49	B-N, FC- 3.419 KA, 35.069 KM FROM ARRAH		B-N FAULT	<160	A/r was successful from Arrah END ,When did 3 phase breaker opened from Khagul end ?No A/R at khagul end.	PATNA		YES	NO	BSPTCL
59	400KV-MAITHON-GAYA-1	26-07-2020	11:43	R-N 1.9 KA 338.2(main 1) 238 km(main2)km,z2 at maithon	R-N,59.3 km,4.4 KA z1 at gaya	R-N FAULT.	<100	SEVERE HIGH VOLTAGE IN Y PHASE APPEARED AFTER A/R.At gaya end at the instant of failed A/R 3 phase breaker did not opened only faulty phase opened this (this may please be checked)lead to O/V and and o/v-stg-2 picked.	GAYA	Breaker opening status may be configured.	YES	YES	PG ER-1 , PG-ER-2
60	220KV-CHANDIL-STPS(WBPDCL)-1	26-07-2020	11:25	B-N,Z-1 45.3 km,2.87 KA		B-N FAULT	1000	At STPS end 3 phase breaker opening occurred at the instant of fault .	JAMSHEDPUR		YES	YES	WB
61	400KV-KISHANGANJ-TEESTA-III-1	27-07-2020	23:35	R-B FAULT,FD 127.1KM,FC IR 3.55KA,IB 4.129KA@TEESTA 3	Z1,R- B,91.3KM,IR6.8KA,IB 6.2KA@KISHANGANG	R-B FAULT	<100	Reactor ringdown observed.	BINAGURI		NO.	YES.	PG-ER-1 , TUL
62	220KV-BEGUSARAI-NEW PURNEA-1	27-07-2020	22:31	NEW PURNEA: R-N, 2.2KA, 80.9KM	O/c&e/f relay Ia 976.5A,Ib 315.7A,Ic 437.9A@Begusarai	R-N FAULT.	900		PURNEA		NO.	NO.	BSPTCL
63	220KV-BUDHIPADAR-RAIGARH-1	27-07-2020	12:30	B_N Fault, 2.05 kA, 65.5 KM (Budhipadar)	B_N, 3.38 kA, 18.8 KM (Raigarh)	B-N FAULT	500		BUDIPADAR		NO	NO	OPTCL
64	220KV-CHANDIL-RANCHI-1	28-07-2020	17:49	Chandil Zone1, O/C, E/F , Ia-4.963 KA, Ib-237.5 A, Ic- 68.22 A, Fault location-16.09 KM.	Ranchi R-N, 84.2 KM 1.89 KA	R-N FAULT.	500	Reason for delayed clearance may be explained	RANCHI		YES	NO	JUSNL
65	400KV-PPSP-BIDHANNAGAR-2	28-07-2020	12:36	DGP END: Z1, Y PH E/F, DIS. 105KM, 2.795kA	O.PPSP END: Z1, DIS. 38.9KM.	Y-N FAULT.	<100	No auto reclse at PPSP end .	DURGAPUR		NO	NO	WB
66	220KV-JODA-RAMCHANDRAPUR-1	28-07-2020	08:32	Joda-Z1 Y-N FD- 14.934km FC-Iy-3.393kA	Zone-3, Ia=485.4 A, Ib=1.519 kA, Ic=241.6 A Fault location=176.4 km	Y-N FAULT.	400	Seems RCP end opened after 2-2 time .No A/r	JAMSHEDPUR	Individual pole opening status may be configured at Chandil end .	YES	NO	JUSNL
67	220KV-JODA-RAMCHANDRAPUR-1	29-07-2020	12:31	Y_N fault,1.266kA		Y-N FAULT.	500	RCP end breaker opened after 2-2 time while Joda end opened after 250 ms seems no carrier aided protection. Reason of delay may be explained ?	JAMSHEDPUR	Individual pole opening status may be configured at Chandil end .	YES	NO	JUSNL , OPTCL
68	220KV-CHANDIL-STPS(WBPDCL)-1	29-07-2020	12:13	R_N fault,Ia:- 116.6 A,fault distance:- 56.37 km, Zone-1		R-N FAULT.	<160	No A/R operation observed ,Other two phases were closed in DR frame till 3 seconds when did they got opened ?	RANCHI	Individual pole opening status may be configured at Chandil end .	YES	NO	JUSNL
69	400KV-MEERAMUNDALI-MENDHASAL-II	30-07-2020	12:13	Mendhasal Z1 R-N FC- 3.67KA Dist-49.91Km		R-N FAULT.	<100	A/r unsuccessful	MERAMUNDALI		YES	YES	OPTCL

70	400KV-PPSP-BIDHANNAGAR-2	30-07-2020	08:23	PPSP end RX1, RX2, 86A, 86B.	DGP end: Over Voltage Stage-I (59R), 86B	0/V-STG-I	NA		DURGAPUR		NO	NO	WB
71	220KV-NEW PURNEA-MADHEPURA-2	30-07-2020	00:55	R phase, 1.5 KA, 73 km from madhepura end	R-N, 8.2 km, 9.22 KA, z1, a/r successful at new purnea	R-N FAULT.	<160	A/R successful at purnea end .	PURNEA	Breaker opening status AT PURNEA END MAY BE CHECKED .	YES	NO	BSPTCL
72	220KV-BEGUSARAI-NEW PURNEA-1	31-07-2020	16:16	B-N, 71.4KM, FC 1.95@N PURNEA	B-N, 136.68KM, FC 1.113KA @BEGUSARAI	B-N FAULT	500		PURNEA		NO	NO	BSPTCL
73	400KV-MEERAMUNDALI-MENDHASAL-II	31-07-2020	13:11	R-N, FD 46 KM, 4KA@MNDS	R-N, FD 66.7KM, 4.62KA@MRMD	R-N FAULT.	<100	Fault was in ckt-2 ,why both lines tripped at the same time? .From PMU it seems that Fault was in R phase of ckt-2 only .	MERAMUNDALI	Send DR of both ends.	YES	NO	OPTCL
74	400KV-MEERAMUNDALI-MENDHASAL-1	31-07-2020	13:11	R-N, FC 1KA		R-N FAULT.	<100	Fault was in ckt-2 ,why both lines tripped at the same time? .From PMU it seems that Fault was in R phase of ckt-2 only .	MERAMUNDALI	Dr time frame not sufficient.	NO	NO	OPTCL
75	400KV-MERAMUNDALI-LAPANGA-1	31-07-2020	12:30	Y-N, Z2 FD 111.7KM, FC 4.55KA@MRMDL	Y-N, Z1, FD 99KM, FC 3.17KA@LAPANGA	Y-N FAULT.	<100	A/r unsuccessful	MERAMUNDALI		YES	NO	OPTCL
76	220KV-BUDHIPADAR-KORBA-2	31-07-2020	14:08	B-N , 118 KM , 1.40 KA@BUDHIPADAR	KORBA: B-N, 3.5KA, 41.8KM	B-N FAULT	<160		BUDIPADAR		NO	NO	OPTCL
77	400KV-MUZAFFARPUR-GORAKHPUR-2	31-07-2020	10:11	B-N, FD 118.80, FC 4.17KA@MZP	B-N, FD 164.8KM, FC 5.11KA@GORAKHPUR	B-N FAULT	<100		MUZAFFERPUR		NO	NO	PG-ER-1

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

S.NO	LINE NAME	TRIP DATE	TRIP TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reason	Fault Clearance time in msec	Remarks	PMU Location	DR/EL RECEIVED FROM LOCAL END	DR/EL RECEIVED FROM REMOTE END	Utility to update
1	400KV-FSTPP-MALDA(PG)-1	01-06-2020	00:57	Y-N FAULT,Z2,43.39 KM,4.7KA	FSTPP: Y-N,Z1,FD 0.2 KM,44KA	Y-N fault .	<100	Line tripped in reclaim time .DR pole status showing all 3 phase breaker opened during dead time but it is not the case as rest 2 phase R&B were intact .	Farakka	NO	YES	PG ER-II
2	400KV-MAITHON-KHSTPP-2	05-06-2020	16:08	DT RECEIVED AT MAITHON		O/V STAGE -2	<100	At the same time A/R was successful in Y phase kahalgaon -farakka IV ,line which caused severe O/V in Khstpp-Maithon -2	KAHALGAON	YES	YES	NTPC KAHALGAON
3	400KV-ALIPURDUAR (PG)-BONGAIGAON-2	09-06-2020	14:43	APL 95.5 KM, R_N, Z2, 1.864 KA	BNG R_N, 53.5 KM, 5.04 KA Z1	R-N fault .	600	Reason for delayed tripping may be explained .Pmu shows 600 ms fault clearance time .	ALIPURDUAR	NO	NO	PG , ER-II
4	400KV-ALIPURDUAR (PG)-BONGAIGAON-2	11-06-2020	06:33	R-N,z2,carrier received,2.166 KA ,95.6 km, from alipurduar	R-N,z1,40.3km,5.4 KA at bongagaon	R-N fault .	500 ms	Delayed clearance observed ,,Fault was in z-2 of APD although carrier received but3-pole tripping occurred and line opened after z-2 time. Unsuccessful A/R observed at Bonagigaon end.	SILIGURI	YES	NO	PG ER-2
5	400KV-RANCHI-MAITHON RB-1	27-06-2020	12:49	Y_N, 110 KM, 2.35 kA (Maithon RB)		Y-N FAULT.	<100	A/R successful from Ranchi end only ,Why A/R not occurred at MPL end .Secondary arching issue observed even after opening of Y phase breaker ,Y phase voltage went upto more than 600 Kv.	RANCHI	YES	NO	MPL,ER-1 PG