Details of Grid Events during the Month of August 2022 in Northern Region

Sl No.	Category of Grid Event (GI 1or 2/ GD-1 to GD-5)	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid*		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-1	PUNJAB	02-Aug-2022 14:48	02-Aug-2022 16:30	1:42	195	0	0.336	0.000	57976	63020	1. 400/220kV Dehar(BBMB) have double main bus scheme. 2. In antecedent condition, 165MW Unit-3 & 4 and 400/220kV 315MVA ICT were connected at 400kV Bus-2. And 400kV lines to Panchkula & Rajpura were connected to both the bus with separate breaker. 3. As reported, at 14:47hrs, LBB protection of CB of 165MW Unit-4 at Dehar(BBMB) operated which led to the tripping of all the CB connected at 400kV Bus-2. LBB operated on fault in B-Ph limb of CB of 165MW Unit-4. 4. Due to LBB operation, 400kV Bus-2, 165MA UNit-3 (carrying 103MW) & Unit-4(95MW) and 400/220kV 315MVA ICT at Dehar(BBMB) tripped. 5. As per SCADA, generation loss of approx. 195MW is observed at Dehar HEP. 6. 400kV Bus-2 and 400/220kV 315MVA ICT at Dehar(BBMB) were restored at 16:30hrs. 7. Further at 16:33hrs, during charging of 165MW Unit-4 at Dehar(BBMB), again B-ph fault occurred and LBB of 165MW Unit-4 at Dehar(BBMB) operated which resulted into tripping of 400kV Bus-2 and 400/220kV 315MVA ICT at Dehar(BBMB). 8. As per PMU at Panchkula(PG), drop in B-ph voltage of approx. 1-2kV is observed at 14:47hrs & 16:33hrs.	1) 400KV Bus 2 at Dehar(BB) 2) 400/220 kV 315 MVA ICT 1 at Dehar(BB) 3) 165 MW Dehar HPS - UNIT 3 4) 165 MW Dehar HPS - UNIT 4
2	GD-1	UTTAR PRADESH	07-Aug-2022 10:44	07-Aug-2022 13:12	2:28	0	130	0.000	0.234	49753	55513	1. As reported at 10:44hrs, bus bar protection operated at Nara end on R-N phase to earth fault in 220kV Nara-Jansath ckt at distance of ~9km and fault current of ~7.2kA from Nara end. 2. As per SCADA, 220kV lines to Muzaffarnagar1, Jansath, Meerut(PG) & Roorkee(PG) and 220/132kV 160MVA ICT-1 & 200MVA ICT-2 tripped. 3. As per PMU at Meerut(PG0. R-N phase to earth fault with delayed clearance in 320ms is observed. 4. As per SCADA, change in load of approx. 130MW is observed in UP control area. 5. In antecedent condition, 220kV feeders from Jansath, Roorkee, Muzaffarnagar1 & Meerut were carrying 13MW, -44MW, 130MW & 38MW respectively.	1) 220 KV Nara(UP)-Roorkee(UK) (UP) Ckt-1 2) 220 KV Meerut(PG)-Nara(UP) (PG) Ckt-1
3	GD-1	J & K	07-Aug-2022 13:46	07-Aug-2022 14:55	1:09	0	175	0.000	0.329	48141	53149	1. 220/132kV Pampore have double main single breaker scheme. Substation is having three (3) 220/132kV 150MVA ICTs. 2. During antecedent condition, double circuit to Wagoora (carrying ~105MW) & Mirbazar and all three ICTs were charged through single bus only at 220kV side and another 220kV Bus was not in service. 3. As reported at 13:43hrs, R-N phase to earth fault occurred on 220kV Mirbazar-Pampore ckt-2. 4. As per telephonic communication with AEE Pampore S/s, on this fault, 220kV Mirbazar-Pampore ckt-2 tripped from Mirbazar end but didn't trip from Pampore end. Hence, later fault cleared with the tripping of 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1 & Ckt-2 and 220kV Mirbazar-Pampore ckt-2 from Pampore end on over current earth fault protection oepration. 5. As per PMU at New Wanpoh(PG), R-N phase to earth fault with delayed clearance in 880ms is observed. 6. As per SCADA, load loss of approx. 175MW occurred in J&K control area.	1) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-2 2) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1
4	GD-1	NEW DELHI	10-Aug-2022 14:30	10-Aug-2022 17:10	2:40	0	330	0.000	0.505	54898	65285	1. 220/66kV South Wazirabad S/s has double main single breaker bus scheme. During antecedent condition, 220kV lines to Mandola-2 & 4, Geeta Colony-1, Kashmiri Gate-1 & Gopalpur-2 were connected to 220kV Bus-1 and 220kV lines to Kashmiri Gate-2. Geeta Colony-2, Madola-1 & 3 & Gopalpur-1 and 220/66kV ICT-1, 2 & 3 were connected at 220kV Bus-2. 2. As reported at 14:30hrs, R-Phase to earth bus fault occurred on 220kV Bus-2 at South Wazirabad, fault occurred due to kite thread. Bus bar protection of Bus-2 operated on this fault. 3. Due to bus bar protection operation, all the elements connected to 220kV Bus-2 tripped. 4. At the same time, 220kV South Wazirabad-Kashmiri gate ckt-1 tripped from Kashmiri Gate only on line differential protection. 5. Due to tripping aforementioned tripping, load loss of approx. 330MW occurred in Delhi control area. 6. As reported by SLDC-Delhi and as per Delhi demand pattern (SCADA), load restored within ~15min.	1) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-3 2) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1
5	GD-1	RAJASTHAN	11-Aug-2022 11:24	11-Aug-2022 15:26	4:02	6157	750	11.702	1.297	52614	57827	1. At 11:22:59hrs, R-B phase to phase fault occurred on 220kV Bhadla- Clean Solar Jodhpur ckt due to snapping of B-ph jumper which fell on R-ph. As per PMU, R-B phase to phase voltage which cleared within 80ms is observed. 2. As per PMU plots of phase voltage, MW & Mvar of RE stations, it is observed that during the voltage dip of fault, phase voltage at Bhadla, Fatehgarh2, Bhadla2 & Bikaner dropped to 0.59pu, 0.79pu, 0.8pu & 0.82pu respectively. 3. As voltage dropped below 0.85pu, almost all the RE stations dropped their MW except ASPS1 & ASPS2 RE station connected at Fatehgarh1 (ADANI Solar park) on LVRT operation. 4. As per PMU plots of MVAR of RE station, MVAR support is also not observed from most of the RE inverters during voltage dip on fault. 5. It is observed that even voltage recovered to its normal value after clearing of fault within 100ms, MW of RE stations didn't recover in defined time as per LVRT operation. 6. Due to significant drop in MW and inadequate MVAR support from RE stations, rise in voltage is observed at ISTS RE pooling stations. 7. Further after approx. 5-6secs, all four (04) 765kV lines connected at Fatehgarh2 (PG) along with 765kV Ajmer-Bhadla2 D/C & 765kV Bhadla2-Bikaner ckt-1 and few 220kV lines to RE stations tripped on over voltage protection. 8. As per SCADA, loss of approx. 5807MW solar generation connected at Bhadla(PG), Bhadla2(PG), Bikaner(PG), Fatehgarh2(PG) & Fatehgarh1 (ADANI Solar Park) & approx. 350MW wind generation connected at Fatehgarh2 & Fatehgarh1 (ADANI Solar Park) & wind occurred. 9. As reported, load shedding of approx. ~200MW in Punjab, ~150MW in Haryana & ~400MW in UP control area due to df/dt protection operation during the event.	1) 220 KV Fatehgarh_II(PG)-Renew_Jharkhand 3 SL_FGARH_PG (RSEJ3PL) (RSEJ3PL) Ckt-1 2) 220 KV Renew SunBright SL_FGARH_PG (RSBPL)-Fatehgarh_II(PG) (RENEW SUN BRIGHT (RSBPL)) Ckt-1 3) 220 KV Fatehgarh_II(PG)-AHEJOL PSS HB_FGRAH_PG (AHEJOL) (AHEJOL) Ckt-1 4) 220 KV Fatehgarh_II(PG)-AHEJ3L PSS HB_FGRAH_PG (AHEJ3L) (AHEJ3L) Ckt-1 5) 765 KV Fatehgarh_II(PG)-Bhadla(PG) (FBTL) Ckt-1, 220 KV Fatehgarh_II(PG)-AHEJ2L PSS HB_FGRAH_PG (AHEJ2L) (AHEJ2L) Ckt-1 6) 765 KV Ajmer-Bhadla_2 (PG) Ckt-1 7) 765 KV Bhadla_2 (PG)-Fatehgarh_II(PG) (PFTL) Ckt-1 8) 220 KV Renew SolarUrja SL_FGARH_PG (RSUPL)-Fatehgarh_II(PG) (Renew Solar Urja (RSUPL)) Ckt-1 9) 400 KV Bhadla(PG)-Fatehgarh Pooling(FBTL) (FBTL) Ckt-2 10) 400 KV Bhadla(PG)-Fatehgarh Pooling(FBTL) (FBTL) Ckt-1 11) 765 KV Bhadla_2 (PG)-Fatehgarh_II(PG) (PFTL) Ckt-2 12) 765 KV Bikaner-Bhadla_2 (PG) Ckt-1 13) 220/33 kV 150 MVA ICT 2 at AzurePSS41 SL_BHD_PG (APFOL) 14) 765 KV Ajmer-Bhadla_2 (PG) Ckt-2 15) 220 KV Bhadla(PG)-CS_Jodhpur SL_BHD_PG (Cleansolar_Jodhpur) (Cleansolar_Jodhpur) Ckt-1
6	GI-2	RAJASTHAN	12-Aug-2022 04:14	12-Aug-2022 13:31	9:17	0	0	0.000	0.000	44394	55548	1. 400kV RAPP_C&D have one and half breaker bus scheme and 400kV RAPS_D(NP)-Shujalpur(PG) (RTCL) Ckt-1 & Ckt-2 both are on same tower. 2. In antecedent condition 400kV RAPS_D(NP)-Shujalpur(PG) (RTCL) Ckt-1 & Ckt-2 were carrying 137MW & 139MW respectively. 3. As reported at 04:14hrs, 400kV RAPS_D(NP)-Shujalpur(PG) (RTCL) Ckt-1 & Ckt-2 both tripped on Y-B phase to phase fault. As per PMU, Y-B phase to phase fault which cleared in 80ms is observed. 4. As per SCADA, no change in load of Rajasthan control area is observed.	1) 400 KV RAPS_D(NP)-Shujalpur(PG) (RTCL) Ckt-1 2) 400 KV RAPS_D(NP)-Shujalpur(PG) (RTCL) Ckt-2
7	GD-1	UTTAR PRADESH	13-Aug-2022 12:16	13-Aug-2022 15:42	3:26	0	300	0.000	0.469	54787	63914	As per substation 315 MVA ICT-II and 220 kv bus-1 shutdown had been approved via shutdown code NRLD-622 LKO-588 and elements transfer was in progress. During transfer of 220 KV Obra-Rewa Road-II, BUS-II Isolator closes but at time of opening of 220 KV BUS-I Isolator, heavy sparking observed with heavy sound. After physical inspection of above isolator found cracked in its porcelain portion.	1) 400/220 kV 240 MVA ICT 3 at Obra_B(UP) 2) 400/220 kV 315 MVA ICT 1 at Obra_B(UP)

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	(GI 1or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
8	GI-2	UTTAR PRADESH	15-Aug-2022 17:50	15-Aug-2022 19:27	1:37	0	0	0.000	0.000	47496	47496	1. 400/220kV Muradnagar_1(UP) have double main transfer bus scheme. It is having 2*315MVA & 1*500MVA 400/220kV ICTs and 220kV feeders to Shibabad, Faridnagar, Pratap Vihar, Muradnagar2 D/C & Loni. 2. In antecedent condition, 400/220 kV 315 MVA ICT 1 was not in service and 400/220 kV 500MVA ICT-2 & 315 MVA ICT 3 were carrying approx. 88MW & 50MW respecively. 3. As reported at 17:50hrs, fault occurred on 220kV Muradnagar1-Muradnagar1 ckt-1. As per PMU at Panki(UP), R-N phase to earth fault with delayed clearance of 880ms is observed. 4. On this fault, 220kV lines to Shibabad, Faridnagar, Pratap Vihar & Muradnagar-2 tripped from remote end in Z-2 & Z-3. 5. At the same time, 400/220 kV 500MVA ICT-2 & 315 MVA ICT 3 tripped. 6. As all the remote stations were having alternate source from other 220kV feeders so no load loss is observed in UP control area.	1) 400/220 kV 315 MVA ICT 3 at Muradnagar_1(UP), 2)400/220 kV 500 MVA ICT 2 at Muradnagar_1(UP)
9	GD-1	NEW DELHI	16-Aug-2022 15:58	16-Aug-2022 16:24	0:26	0	500	0.000	0.946	52834	52834	1. During antecedent condition, 220kV lines to Mandola-2 & 4, Geeta Colony-1, Kashmiri Gate-1 & Gopalpur-2 and 220/66kV 160MVA ICT-4 were connected to 220kV Bus-1 and 220kV lines to Kashmiri Gate-2, Geeta Colony-2, Madola-1 & 3 & Gopalpur-1 and 220/66kV 100MVA ICT-1, 2 & 3 were connected at 220kV Bus-2. 2. As reported at 15:58hrs, Y-B ph-ph bus fault occurred on 220kV Bus-2 at South Wazirabad. As per PMU at Mandola(PG), Y-B ph-ph fault which cleared within 80ms is observed. 3. Due to bus bar protection operation, all the elements connected to 220kV Bus-2 tripped. 4. At the same time, 220kV South Wazirabad-Mandola CKt-2 & CKt-4 (connected at 220kV Bus-1 at South Wazirabad) tripped from Mandola end only, as per DR of Mandola end, Mandola end relay sensed this fault in Z-1 although fault distance from Mandola end was ~14.7km(~96%) and initiated three phase trip command. 5. Due to tripping of all four(04) line connected to Mandola, load of 66kV South Wazirabad, 220kV Geeta Colony & 220kV Kashmiri Gate affected. As per SCADA, load loss of approx. 500MW occurred in Delhi control area. 6. At 16:05hrs, supply from 220kV Patparganj-Gazipur extended to Geeta Colony and at 16:24hrs, 220kV Mandola-Wazirabad Ckt-1 & 3 charged and thus supply to Wazirabad and Kashmiri Gate also restored. 7. Again at 18:44hrs, 220kV Mandola-South Wazirabad ckt-1 tripped on Y-B phase to phase fault, fault distance was ~102meter (Z-1) from South Wazirabad end and ~14.5km from Mandola end. 8. At the same time, 220kV Mandola-South Wazirabad Ckt-2 & Ckt-3 tripped from Mandola end only, as per DR of Mandola end, Mandola end relay sensed this fault in Z-1 although fault distance from Mandola end was ~14.7km(~96%) and initiated three phase trip command. 9. As 220kV Mandola-South Wazirabad Ckt-4 didn't trip, no load loss occurred in Delhi control area.	1) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-4 2) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-3 3) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-2 4) 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1
10	GD-1	J & K	17-Aug-2022 05:52	17-Aug-2022 07:03	1:11	0	200	0.000	0.368	54345	54345	1. In antecedent condition, 220kV Kishenpur-Barn ckt-1&2 were carrying ~118MW each. 2. As reported at 05:49hrs, main bus isolator to reserve bus isolator dropper of 132 side of 220/132kV 160 MVA ICT-3 at Barn(JK) damaged. As per PMU, Y-N phase to earth fault with delayed clearance in ~2sec is observed. 3. On this fault, 220kV Kishenpur-Barn ckt-1&2 both tripped from Barn end only on over current earth fault protection operation. 4. As per SCADA, change in load of approx. 200MW is observed in J&K control area.	1) 220 KV Kishenpur(PG)-Barn(JK) (PDD JK) Ckt-2 2) 220 KV Kishenpur(PG)-Barn(JK) (PDD JK) Ckt-1
11	GD-1	UTTAR PRADESH	18-Aug-2022 18:42	18-Aug-2022 19:21	0:39	0	290	0.000	0.463	62682	62682	1. During antecedent condition, 220kV Obra-A-Rewa Road ckt-1 was under shutdown. 220kV lines to Rewa Road-2, Robertganj, 400/220kV 315MVA ICT-2, 220/132kV 100MVA ICT-1 & 3 were connected to 220kV Bus-1 and 220kV lines to Shahpuri, Mirjapur, 400/220kV 315MVA ICT-1, 400/220kV 240MVA ICT-3 & 220/132kV 100MVA ICT-2 were connected to 220kV Bus-2. 2. As per SCADA SOE, at 18:40hrs, 220kV Obra-A-Rewa Road ckt-1 was charged from Obra_A end. And at 18:42hrs R-N phase to earth fault occurred. As reported, testing of breaker operation was going on in 220kV Obra-A-Rewa Road ckt-1 and meanwhile sparking occurred in R-ph CB after closing CB at Obra_A end (220kV Bus-2). 3. On this fault, 400/220kV 315MVA ICT-1, 400/220kV 240MVA ICT-3 at Obra_B(UP), 220/132kV 100MVA ICT-2 at Obra_A(UP) tripped on over current earth fault protection operation. 4. At the same time, 220kV lines to Robertganj, Mirjapur & Rewa Road-2 tripped from remote end only. 5. As per SCADA, load loss of approx. 290MW is observed in UP control area.	1) 400/220 kV 315 MVA ICT 1 at Obra_B(UP) 2) 400/220 kV 240 MVA ICT 3 at Obra_B(UP)
12	GD-1	UTTAR PRADESH ; UTTRAKHAND	23-Aug-2022 01:12	23-Aug-2022 05:54	4:42	414	25	0.855	0.038	48437	66349	1. 400kV Alaknanda (UP) have one and half breaker bus scheme. 2. During antecedent condition, 400 KV Alaknanda GVK(UPC)-Muzaffarnagar (UP) Ckt & 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt were carrying 457MW & -85MW respectively. 3. As reported, at 01:12hrs, R-N phase to earth fault occurred on 400 KV Alaknanda GVK(UPC)-Muzaffarnagar (UP) Ckt, fault distance was 20.3km & fault current was ~10.5kA from Muzaffarnagar end. As per PMU at Muzaffarnagar(UP), R-N phase to earth fault with delayed clearance in 680ms is observed. 4. As per DR received of 400 KV Alaknanda GVK(UPC)-Muzaffarnagar (UP) Ckt, A/R operation started at Muzaffarnagar end but after approx. 500ms Y & B phase also tripped and at Alaknanda end, R-ph didn't open even after trip command was sent by relay, later three phase tripped after approx. 500ms. 5. As informed by Alaknanda HEP, R-ph Main CB didn't open on tripping command by relay as it was stuck and later line tripped on LBB protection operation. 5. At the same time, 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt & 400kV Alaknanda-Sringar ckt-1 & Ckt-2 also tripped on LBB protection operation at Alaknanda end. Due to tripping of both the lines, all for (04) 82.5MW units at Alaknanda HEP also tripped on loss of evacuation path. 6. At the same time, 220 KV Singoli Bhatwari(Singoli(LTUHP))-Srinagar(UK) (PTCUL) Ckt-1 & Ckt-2 also tripped on over voltage stage-1 protection operation at Srinagar end followed by tripping of 33 MW Singoli Bhatwari HEP - UNIT 2 & 3 on loss of evacuation path. 7. As per SCADA, change in load of approx. 25MW in Uttarakhand control area, loss in generation of ~342MW at Alaknanda HEP & ~72MW at Singoli Bhaywari HEP occurred.	1) 400 KV Alaknanda GVK(UPC)-Srinagar(UK) (UK) Ckt-1 2) 220 KV Singoli Bhatwari(Singoli(LTUHP))-Srinagar(UK) (PTCUL) Ckt-1 3) 400 KV Alaknanda GVK(UPC)-Muzaffarnagar (UP) Ckt-1 4) 220 KV Singoli Bhatwari(Singoli(LTUHP))-Srinagar(UK) (PTCUL) Ckt-2 5) 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt-1 6) 33 MW Singoli Bhatwari HEP - UNIT 2, 33 MW Singoli Bhatwari HEP - UNIT 3
13	GD-1	PUNJAB ; HIMACHAL PRADESH	23-Aug-2022 08:45	23-Aug-2022 10:06	1:21	200	0	0.398	0.000	50235	59973	1. 220kV Pong(BBMB) have double main & transfer bus scheme. 2. During antecedent condition, 220kV lines to Dasuya-1, Jalandhar-1 & Bairasuil and 66MW Unit-1, 3 & 5 were connected at 220kV Bus-1 and 220kV lines to Dasuya-2, Jalandhar-2 & Jessore and 66MW Unit-2, 4 & 6 were connected at 220kV Bus-2 at Pong(BBMB). Bus coupler was in closed condition. 3. At 08:45hrs, all the elements connected at 220kV Bus-2 tripped and bus coupler also opened, all the elements connected at 220kV Bus-1 were remained intact. 4. As per PMU at Jalandhar(PG), no fault is observed. 5. By 10:06hrs, all the tripped elements were restored. 6. Again at 11:02hrs, all the elements connected at 220kV Bus-2 tripped and bus coupler also opened, all the elements connected at 220kV Bus-1 were remained intact. 7. At this time also, no fault is observed at per PMU at Jalandhar(PG). 8. As per SCADA, loss of generation of approx. 200MW observed at Pong(BB) at 08:45hrs & 11:02hrs due to tripping of 66MW Unit-2, 4 & 6. 9. All the tripped elements were restored by 15:15hrs.	1) 220 KV Jalandhar-Pong (BB) Ckt-2 2) 220 KV Pong(BB)-Dasuya(PS) (BBMB) Ckt-2 3) 220 KV Jessore(HP)-Pong(BB) (PG) Ckt-1 4) 220KV Bus 2 at Pong(BB)

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
14	GD-1	UTTAR PRADESH	24-Aug-2022 23:02	25-Aug-2022 00:33	1:31	0	260	0.000	0.386	50479	67336	1. 400/132kV Mau(UP) have double main & transfer bus scheme. 2. During antecedent condition, 400/132 kV 200 MVA ICT 1 & 2 at Mau(UP) and 400kV lines to Azamgarh, Balia, Rasra & Anapara were carrying 101MW, 98MW , 398MW, -419MW, 81MW & -333MW respectively. 3. At 23:02:07, 400 KV Anpara_B(UPUN)-Mau(UP) (UP) Ckt tripped after unsuccessful A/R operation on permanent B-N fault. As per PMU at Anpara(UP), B-N phase to earth fault with unsuccessful A/R operation is observed. As reported, fault distance was ~66km from Anpara end. 4. Further at 23:03:01hrs, 400/132 kV 200 MVA ICT 1 & 2 at Mau(UP) and 400kV lines to Azamgarh & Balia tripped on Bus Bar protection operation of 400kV Bus Bar-2. As reported, fault occurred on B-ph conductor between CT & line side isolator of bay of 400kV Mau-Balia ckt. As per PMU, B-N phase to earth fault with delayed clearance of 400ms is observed. 5. 400kV Mau-Rasra ckt & 400/132kV 200MVA ICT-3 were remained intact. 6. As per SCADA, change in load of approx. 260MW is observed in UP control area.	1) 400/132 kV 200 MVA ICT 2 at Mau(UP) 2) 400 KV Azamgarh-Mau (UP) Ckt-1 3) 400 KV Anpara_B(UPUN)-Mau(UP) (UP) Ckt-1 4) 400 KV Mau(UP)-Balia(PG) (PG) Ckt-1 5) 400/132 kV 200 MVA ICT 1 at Mau(UP)
15	GD-1	J & K	29-Aug-2022 18:00	29-Aug-2022 19:41	1:41	80	250	0.162	0.404	49372	61887	1. In antecedent condition, 220kV Sambha-Hirangar ckt-1 & Ckt-2 were carrying 79MW & 75MW respectively and 40MW Unit-1, 2 & 3 at Sewa-2 HEP were carrying 30MW , 21MW & 30MW respectively. 2. As reported at 18:00hrs, R-N phase to earth fault occurred in 220kV Hiranagar-Ghatti ckt, fault distance was ~8.45km & fault current was 7.38kA from Hiranagar end. As per PMU at Sambha(PG), R-N phase to earth fault with delayed clearance in 760ms is observed. 3. CB of 220kV Hiranagar-Ghatti ckt didn't open on this fault and after approx. 750ms other 220kV feeders at Hiranagar tripped and 220kV side of Hiranagar S/s became dead. 220kV Sambha-Hirangar ckt-1 tripped from both end & DT received at Sambha(PG) end and 220kV Sambha-Hirangar ckt-2 tripped from Hiranagar end only. 4. As 220kV side of Hiranagar S/s became dead, island formed with Sewa-2 HEP generation & load at 132kv side of 220/132 Hiranagar(J&K). However, further after approx. 2secs, all three(03) 40MW units of Sewa-2(NHPC) tripped on over current protection operation and 132kV side of Hiranagar S/s also became dead due to loss of power supply. 5. As per SCADA, load loss of approx. 250MW observed in J&K control area & generation loss of approx. 80MW is observed at Sewa-2(NHPC) HEP.	1) 40 MW Sewa-II HPS - UNIT 1 2) 40 MW Sewa-II HPS - UNIT 3 3) 40 MW Sewa-II HPS - UNIT 2 4) 220 KV Samba(PG)-Hiranagar(PDD) (PG) Ckt-1 5) 220 KV Samba(PG)-Hiranagar(PDD) (PDD JK) Ckt-2
16	GD-1	UTTRAKHAND	31-Aug-2022 12:55	31-Aug-2022 14:09	1:14	60	230	0.102	0.321	58878	71667	1. 220/132kV Majri(HP) have double main single breaker bus scheme. In antecedent condition, 132kV lines to Solan, 30MW Unit-2 of Majri HEP and 132/33kV 31.5MVA Transformer-2 were connected to 132kV Bus-1 at Majri(HP) and 220/132kV 100MVA ICT-1 & 2, 132kV lines to Kala Amb & Paont, 132/33kV 31.5MVA Transformer-1 and 30MW Unit-1 at Majri(HP) were connected to 132kV Bus-2 at Majri(HP). 2. At 12:55hrs, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 tripped from both ends on B-N phase to earth fault, fault distance was 22.7km & fault current was 3.5kA from Majri(HP) end. As per PMU, B-N phase to earth fault which cleared within 120ms is observed. 3. At the same time, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 also tripped from Khodri end only on over current earth fault protection operation. 4. With the tripping of both the 220kV lines, 132kV Bus-2 at Majri (HP) became dead led to tripping of 30MW Unit-1 at Majri(HP). 132kV Bus-1 was remained intact. 5. As per SCADA SOE, 30MW Unit-2 at Majri and 132kV lines to Kala Amb & Paont also tripped during the event. 6. As per SCADA, change in load of approx. 230MW is observed in HP control area and generation loss of approx. 60MW observed due to tripping of 30MW Unit-1 & 2 at Majri HEP.	1) 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 2) 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 3) 30MW Unit-1 at Majri(HP) 4) 30MW Unit-2 at Majri(HP)

Details of Grid Events during the Month of August 2022 in Western Region

Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid*		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
	(GI 1or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GI-2	WR	06-Aug-22 07:19	06-Aug-22 09:47	2:28	-	-	-	-	50581	50253	At 07:19 Hrs/06-08-2022, HV side B phase dropper jumper of 400/220 kV Satna ICT 3 broken and resulted in tripping of 400 kV Satna Bus 2 & 400/220 kV Satna ICT 3 on Bus bar protection operation. After the tripping of 400/220 kV Satna ICT 3, 400/220 kV Satna ICTs 1&2 tripped on O/C protection operation. There was no load loss due to the event.	Tripping of 1. 400 kV Satna Bus 2 2. 400/220 kV Satna ICTs 1,2&3
2	GI-1	WR	07-Aug-22 08:45	07-Aug-22 09:39	0:54	96	-	0.002	-	48789	47630	At 08:45 Hrs/07-08-2022, 220/33 kV Ram nagar Pahad ICTs 1&2 tripped due to R-E fault in 33 kV feeder no. 5. Prior to the event, 220/33 kV Ram nagar Pahad ICT 3 tripped on Restricted Earth fault protection operation at 06:12 Hrs/07-08-2022. With these tripping,generation loss of around 96 MW occurred at Ram nagar Pahad (Athena) Solar Power station.	Tripping of 1. 220/33 kV Ram nagar Pahad ICTs 1,2&3
3	GI-2	WR	08-Aug-22 16:14	08-Aug-22 20:08	3:54	-	-	-	-	50237	49242	At 16:14 Hrs/ 08-08-2022, R ph CT of Main bay of 765 KV Dharamjaygarh 2 line failed at 765 kV Champa substation and resulted in tripping of 765 kV Champa Bus 3 and 765 KV Champa- Dharamjaygarh 2.	Tripping of 1. 765 kV Champa Bus 3 2. 765 kV Champa- Dharamjaygarh 2
4	GI-1	WR	09-Aug-22 06:02	09-Aug-22 07:36	1:34	247	-	0.005	-	49451	46478	At 06:02 Hrs/ 09-08-2022, 220 kV Uran Bus 2 and all the connected elements tripped on Bus bar protection operation due to GT- B0 bay stub bus horizantal string broken. Generation loss of 247 MW occurred due to the event.	Tripping of 1. 220 kV Uran Bus 2 2. 220 kV Uran- Kharghar 2 3. 220 kV Uran- Apta 1&4 4. 108 MW Uran Units 6&8 5.120 MW Uran Units A0& B0
5	GD-1	WR	09-Aug-22 06:35	09-Aug-22 07:04	0:29	-	-	-	-	48507	47682	At 06:35 Hrs/ 09-08-2022, 20 kV Uran Bus 1 and all the connected elements tripped on Bus bar protection operation due to decapping of Y-Phase insulator of 220 kV khargar-1 line- isolator at Uran end. Prior to the event 220 kV Uran Bus 2 was already under forced Outage & with the 220 kV Uran Bus 1 tripping at 06:35 Hrs, Uran station went blackout.	Tripping of 1. 220 kV Uran Bus 1 2. 220 kV Uran- Kharghar 1 3. 220 kV Uran- Apta 2&3 4. 220 kV Uran- JNPT 5. 220 kV Uran- ONGC
6	GD-1	WR	09-Aug-22 12:24	09-Aug-22 13:01	0:37	77	-	0.002	-	46618	47553	At 12:24 Hrs/ 09-08-2022, Transfer bus isolator of Uran Unit #A0 GT closed due to spurious signal and resulted in charging of Transfer (auxiliary) bus. The live portion of auxiliary bus was near the earthing rod closed for attending the breakdown of 220kV Uran-Khargar-1, leading to 220 kV Uran Bus 1 tripping & blackout of 220 kV Uran Station. Generation loss of 77 MW was reported. Prior to the event 220 kV Uran Bus 2 was already under forced Outage & with the 220 kV Uran Bus 1 tripping at 12:24 Hrs, Uran station went blackout.	Tripping of 1. 220 kV Uran Bus 1 2. 220 kV Uran- Kharghar 1 3. 220 kV Uran- Apta 1,2,3&4 4. 220 kV Uran- JNPT 5. 220 kV Uran- ONGC 6. 108 MW Uran Unit 6
7	GD-1	WR	10-Aug-22 21:10	10-Aug-22 22:16	1:06	21	-	0.000	-	54338	46853	At 21:10 Hrs/10-08-2022, 220 kV Manja-Jam Kambaliya line tripped on R-E fault. Generation loss of 21 MW at Manza(Powerica) Wind Power station occurred due to the loss of evacuation path.	Tripping of 1. 220 kV Manza- Jam Khambaliya
8	GI-2	WR	11-Aug-22 11:27	11-Aug-22 12:02	0:35	500	-	0.012	-	42931	40669	At 11:27 Hrs/11-08-2022, 400 kV Indira Sagar Bus 2 and all the connected elements tripped on Bus bar protection operation due to tree fell over the Bus (Y-phase) near GT-6. Generation loss of around 500 MW occurred due to the event.	Tripping of 1. 400 kV Indira Sagar Bus 2 2. 400 kV Indira Sagar- Satpura 1 3. 400 kV Indira Sagar- Indore 2 4. Indira Sagar Units 5,6,7&8
9	GI-2	WR	15-Aug-22 15:38	15-Aug-22 17:37	1:59	-	-	-	-	39408	36200	At 15:38 Hrs/15-08-2022, 765 kV Tamnar Bus 1 & 765/400 kV Tamnar ICT2 tripped on Busbar protection operation due to R phae CT failure of ICT 2 (HV side) Main bay. At the same time, 765 kV Tamnar-Dharamjaygarh 2 tripped on Zone 2 distance protection operation from Dharamjaygarh end.	Tripping of 1. 765 kV Tamnar Bus 1 2. 765/400 kV Tamnar ICT 2 3. 765 kV Tamnar- Dharamjaygarh 2
10	GI-2	WR	15-Aug-22 14:30	15-Aug-22 15:52	1:22	-	-	-	-	39435	36333	At 14:30 Hrs/15-08-2022, 400 kV Vav Bus 1 and all the connected elements trippped on Bus bar protection operation. As intimated by GETCO, tripping was due to sparking in 400 kV Bus 1 side Disconnector switch (Y phase) of 400 kV Reactor bay. There was no load loss due to the event.	Tripping of 1. 400 kV Vav Bus 1 2. 400 kV Vav- Kosamba 3. 400 kV Vav- Navsari 4. 400/220 kV Vav ICT s 2&3 5. 400 kV Vav Bus Reactor
11	GI-2	WR	15-Aug-22 18:00	19-Aug-22 16:40	22:40	-	-	-	-	43256	39011	At 18:00 Hrs/15-08-2022, While charging 400 kV VAV BR , 400 kV Vav Bus 2 and all the connected elements trippped on Bus bar protection operation. As intimated by GETCO, tripping was due to sparking in 400 kV Bus 2 side Disconnector switch(Y phase) of 400 kV Reactor bay. Prior to the event, 400 kV Bus 2 tripped at 14:30 Hrs/15-08-2022. There was no load loss due to the event.	Tripping of 1. 400 kV Vav Bus 2 2. 400 kV Vav- Kosamba 3. 400 kV Vav- Navsari 4. 400 kV Vav- Gandhar 5. 400 kV Vav- Ukai 6. 400/220 kV Vav ICT s 1&3
12	GD-1	WR	17-Aug-22 04:14	17-Aug-22 05:13	0:59	90.8	-	0.002	-	50323	41379	At 04:14 Hrs/17-08-2022, 220 kV Bhuj II- Chugger (SKRPL) & 220 kV Bhuj II- Morjar (SESPL) tripped on Y-E fault & B-E fault respectively. With these tripping, 70.8 MW & 20 MW generation loss ocurred at Chugger(SKRPL) & Morjar(SESPL) Wind Power stations respectively.	Tripping of 1. 220 kV Bhuj II- Chugger (SKRPL) 2. 220 kV Bhuj II- Morjar (SESPL)

Details of Grid Events during the Month of August 2022 in Western Region

Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid*		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
	(GI 1or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
13	GD-1	WR	19-Aug-22 22:00	19-Aug-22 23:16	1:16	46	-	0.001	-	52363	45936	At 22:00 Hrs/19-08-2022, 220kV Bhuj II - Morjar(SESPL) line tripped on Y-E fault. Due to loss of evacuation path, 48.8 MW generation loss ocurred at Morjar(SESPL) Wind Power station.	Tripping of 1. 220 kV Bhuj II- Morjar (SESPL)
14	GD-1	WR	20-Aug-22 10:14	21-Aug-22 14:48	4:34	26	-	0.001	-	48880	46404	At 10:14 Hrs/20-08-2022, 220kV Bhuj II - Morjar(SESPL) line tripped on Y-E fault. Due to loss of evacuation path, 23 MW generation loss ocurred at Morjar(SESPL) Wind Power station.	Tripping of 1. 220 kV Bhuj II- Morjar (SESPL)
15	GI-1	WR	23-Aug-22 06:05	23-Aug-22 07:40	1:35	113	-	0.002	-	55451	45428	At 06:07 Hrs/23-08-2022, 220 kV side R-phase CT of 220/6.6 kV Nashik Station Transformer-3 failed & led to tripping of Station Transformer 3 on differential protection operation. After 73 ms, fire and fumes of the failed CT went to nearby system and created transient R phase fault in Transfer Bus and led to tripping of Transfer Bus Breaker on Bus bar protection operation. 220 kV Bableshwar 2 line was connected with Transfer Bus and Transfer Bus is in charged condition from Bableshwar end. After 755 ms, the fire and fumes came into contact with transfer Bus and created 3 phase fault and led to tripping of 220 kV Nashik Bus section 1 on LBB protection and 220 kV Nashik- Bableshwar 2 from Bableshwar end on Zone 2 Distance protection operation. There was a generation loss of 113 MW due to the event.	Tripping of 1. 220 kV Nashik Bus section 1&3 2. 220 kV Nashik- Knowledge Park 3. 220 kV Nashik- bableshwar 1&2 4. 220/6.6 kV Nashik Station Transformer 3 5. 210 MW Nashik Unit 3
16	GI-2	WR	25-Aug-22 02:05	25-Aug-22 04:52	2:47	-	-	-	-	52728	45054	At 02:05 Hrs/25-08-2022, While taking Emergency shut down of 400 kV Kharghar- Kalwa- Padghe (Temporary tapping arrangement) for attending hot spot at Kalwa end, Y phase grading capacitor blasted at Kharghar end and resulted in tripping of 400 kV Kharghar Bus 2 and all the connected elements on Bus bar protection operation.	Tripping of 1. 400 kV Kharghar Bu 2 2. 400/220 kV Kharghar ICT 1 3. 400 kV Kharghar- Pune 4. 400 kV Kharghar- Kalwa- Padghe

Details of Grid Events during the Month of August 2022 in Southern Region

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	(GI 1or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-1	Kerala	01-Aug-22 14:50	01-Aug-22 15:15	25 minutes	0	40	0.00%	0.09%	42021	44595	Complete Outage of 220kV/66kV Kaniyampetta SS of KSEB: During antecedent conditions, 220kV Kaniyampetta Kunnamangalam line was kept out on power regulation and 220kV/66kV Kaniyampetta SS was being radially fed through 220kV Kadakola Kaniampetta. As per the reports submitted, the triggering incident was R-Y fault in 220kV Kadakola Kaniampetta line and the line tripped. This resulted in complete outage of 220kV/66kV Kaniyampetta SS.	1. 220kV Kaniyampetta Kadakola
2	GD-1	Kerala	01-Aug-22 19:35	01-Aug-22 19:39	4 minutes	0	53	0.00%	0.13%	40742	42240	Complete Outage of 220kV/66kV Kaniyampetta SS of KSEB: During antecedent conditions, 220kV Kaniyampetta Kunnamangalam line was kept out on power regulation and 220kV/66kV Kaniyampetta SS was being radially fed through 220kV Kadakola Kaniampetta. As per the reports submitted, the triggering incident was R-N fault in 220kV Kadakola Kaniampetta line and the line tripped. This resulted in complete outage of 220kV/66kV Kaniyampetta SS.	1. 220kV Kaniyampetta Kadakola
3	GD-1	Karnataka	05-Aug-22 06:31	05-Aug-22 07:08	37 minutes	0	143	0.00%	0.38%	39396	38093	Complete Outage of 220kV/66kV Koramangala SS and 220/66kV NIMHANS and multiple trippings at 400/220kV Mylasandra and 220/66kV HSR of KPTCL: During the antecedent conditions split bus operation was at 220kV HSR and 220kV Mylasandra. At Mylasandra, 400/220kV ICT-1 and 2 are connected to 220kV Bus-1 and 400/220kV ICT-3 was connected to 220kV Bus-2. At 220kV HSR, 220kV HSR- Mylasandra-2 was connected to Bus-2 with split bus feeding 220kV Koramangala and 220kV NIMHANS radially. With the tripping of ICT-1 and 3 at Mylasandra due to suspected suspected DC cable damage led to the outage of 220kV Bus-2 at Mylasandra which inturn led to 220kV Bus-2 outage of HSR leading to complete outage of 220kV Koramangala and 220kV NIMHANS	1. 400/220kV Mylasandra ICT-1 2. 400/220kV Mylasandra ICT-3
4	GD-1	Andhra Pradesh	09-Aug-22 03:48	12-Aug-22 19:15	87 hrs 27 mins	0	0	0.00%	0.00%	36429	28926	Complete Outage of 400kV RYTPP Generating Station of APGENCO: During antecedent conditions, 400kV Kalikiri RYTPP Line -2 was under outage. Triggering incident was tripping of 400kV Kalikiri RYTPP Line -1 on over voltage stage-1 protection at RYTPP end and DT was received at Kalikiri end. Since both the lines connected to RYTPP got tripped, this resulted in complete outage of 400kV RYTPP generating station. There was no generation in RYTPP during this event.	1.400kV Kalikiri RYTPP-1
5	GD-1	Andhra Pradesh	22-Aug-22 13:30	22-Aug-22 13:45	15mins	0	170	0.00%	0.35%	48682	48610	Complete Outage of 220kV/110kV Parawada SS of APTRANSCO: During antecedent conditions, 220kV Anrak Parawada line was under outage. As per the reports submitted, the triggering incident was R-N fault in 220kV VSS Parawada line at a distance of 10.5KM from VSS. At VSS end, the fault was sensed in zone-2 and the line tripped with a delay of 320ms. Tripping of the only connected line resulted in loss of supply to 220kV/110kV Parawada ss which further resulted in station outage.	1. 220kV VSS Parawada
6	GD-1	Kerala	31-Aug-22 12:08	31-08-2022 12;26	18 minutes	0	41	0.00%	0.10%	45416	41317	Complete Outage of 220kV/66kV Kaniyampetta SS of KSEB: During antecedent conditions, 220kV Kaniyampetta Kunnamangalam line was kept out on power regulation and 220kV/66kV Kaniyampetta SS was being radially fed through 220kV Kadakola Kaniampetta. As per the reports submitted, the triggering incident was R-N fault in 220kV Kadakola Kaniampetta line and the line tripped. This resulted in complete outage of 220kV/66kV Kaniyampetta SS.	1. 220kV Kaniyampetta Kadakola
7	GI-1	Telangana	03-Aug-22 18:58	03-Aug-22 20:26	1 hrs 28 mins	210	0	0.54%	0.00%	39174	39677	Tripping of 220kV Bus-1 at 220kV/132kV N'Sagar PH of TSGENCO: As per the reports submitted, while synchronizing Unit-5 to 220kV Bus-1 at 220kV/132kV N'Sagar PH of TSGENCO, an issue in breaker contacts has resulted in short circuit causing generator to draw high current from the grid. Immediately, negative sequence relay operted and the Unit got tripped. Consequently because of persistent fault, Unit-5 LBB operated and all the elements connected to Bus-1 tripped.	1. 220kV Tallapally N'Sagar Line-2 2.220kV N'sagar-Srisailam RB 3. Unit-1,3 & 5 at N'sagar PH
8	GI-1	Telangana	04-Aug-22 19:30	04-Aug-22 20:15	45 mins	88	0	0.20%	0.00%	43231	39671	Tripping of 220kV Bus-1 at 220kV Upper Jurala of TSGENCO: 220kV Upper Jurala is operating with double bus with bus coupler. During antecedent conditions, 220kV Upper Jurala Jurala Line-1 & 2 were under idle charged condition. 220kV Upper Jurala Raichur Line-1, Unit-1,3 & 5 were connected to 220kV Bus-1 at 220kV Upper Jurala. The triggering incident was R-N fault in 220kV Upper Jurala Raichur Line-1 and the line tripped at both ends. At the same time, the bus coupler tripped on suspected over current protection which led to loss of evacuation path for generator units connected to 220kV Bus-1 leading to tripping of the units. This led to the de energisation of 220kV Bus-1 at Upper Jurala.	1. 220kV Upper Jurala Raichur-1 2. Unit-1,3 & 5 at Upper Jurala 3. 220kV Bus-1 at Upper Jurala
9	GI-1	Telangana	05-Aug-22 00:05	05-Aug-22 01:31	1 hrs 26 mins	84	0	0.21%	0.00%	39446	33020	Tripping of 220kV Bus-1 at 220kV Upper Jurala of TSGENCO: 220kV Upper Jurala is operating with double bus with bus coupler. During antecedent conditions, 220kV Upper Jurala Jurala Line-1 & 2 were under idle charged condition. 220kV Upper Jurala Raichur Line-1, Unit-1,3 & 5 were connected to 220kV Bus-1 at 220kV Upper Jurala. The triggering incident was R-N fault in 220kV Upper Jurala Raichur Line-1 and the line tripped at both ends. At the same time, the bus coupler tripped on suspected over current protection which led to loss of evacuation path for generator units connected to 220kV Bus-1 leading to tripping of the units. This led to the de energisation of 220kV Bus-1 at Upper Jurala.	1. 220kV Upper Jurala Raichur-1 2. Unit-1,3 & 5 at Upper Jurala 3. 220kV Bus-1 at Upper Jurala
10	GI-1	Telangana	05-Aug-22 05:55	05-Aug-22 07:09	1 hrs 15 mins	90	0	0.24%	0.00%	38216	35039	Tripping of 220kV Bus-2 at 220kV Upper Jurala of TSGENCO: 220kV Upper Jurala is operating with double bus with bus coupler. During antecedent conditions, 220kV Upper Jurala Jurala Line-1 & 2 were under idle charged condition. 220kV Upper Jurala Raichur Line-2, Unit-2,4 & 6 were connected to 220kV Bus-2 at 220kV Upper Jurala. The triggering incident was R-N fault in 220kV Upper Jurala Raichur Line-2 and the line tripped at both ends. At the same time, the bus coupler tripped on suspected over current protection which led to loss of evacuation path for generator units connected to 220kV Bus-2 leading to tripping of the units. This led to the de energisation of 220kV Bus-2 at Upper Jurala.	1. 220kV Upper Jurala Raichur-2 2. Unit-2,4 & 6 at Upper Jurala 3. 220kV Bus-2 at Upper Jurala

Details of Grid Events during the Month of August 2022 in Southern Region

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	(GI 1or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
11	GI-2	Andhra Pradesh	16-Aug-22 14:52	16-Aug-22 17:03	2 hrs 11 mins	0	0	0.00%	0.00%	42883	46591	Tripping of 400kV Bus-1 and Multiple Trippings at 400kV/220kV Gajuwaka SS of PGCIL SR-1: 400kV/220kV Gajuwaka SS is operating with one and half breaker scheme at 400kV level. As per the reports submitted, the triggering incident was 400kV Bus-1 BBP maloperation at 400V/220kV Gajuwaka SS and all the elements connected to 400kV Bus-1 tripped. At the same time, HVDC Gajuwaka Pole-1 & 2 carrying 250MW load each also tripped and the same needs review. Further details are awaited.	1. HVDC Gajuwaka Pole-1 & 2
12	GI-1	Telangana	19-Aug-22 05:50	19-Aug-22 10:52	5 hrs 2 mins	66	0	0.17%	0.00%	39773	40664	Tripping of 220kV Bus-1 at 220kV Upper Jurala of TSGENCO: 220kV Upper Jurala is operating with double bus with bus coupler. During antecedent conditions, 220kV Upper Jurala Jurala Line-1 & 2 were under idle charged condition. 220kV Upper Jurala Raichur Line-1, Unit-1,3 & 5 were connected to 220kV Bus-1 at 220kV Upper Jurala. The triggering incident was R-N fault in 220kV Upper Jurala Raichur Line-1 and the line tripped at both ends. At the same time, the bus coupler tripped on suspected over current protection which led to loss of evacuation path for generator units connected to 220kV Bus-1 leading to tripping of the units. This led to the de energisation of 220kV Bus-1 at Upper Jurala.	1. 220kV Upper Jurala Raichur-1 2. Unit-1,3 & 5 at Upper Jurala 3. 220kV Bus-1 at Upper Jurala
13	GI-1	Tamil Nadu	21-Aug-22 03:35	21-Aug-22 04:20	45mins	0	0	0.00%	0.00%	36733	36323	Tripping of 230kV bus of 230kV/110kV Kayathar SS of TANTRANSCO: 230kV/110kV Kayathar SS is operating with Double bus with bus coupler configuration at 230kV level. During antecedent conditions, all elements were connected to 230kV Bus-1. As per the reports submitted, the triggering incident was B-N fault in 230kV Kayathar TTPS Line-2. At Kayathar end, though the fault was sensed in zone-1, the breaker failed to open leading to LBB operation. Subsequently, 230kV Bus-1 BBP operated and all the elements connected to the 230kV Bus tripped. 110kV Kayathar SS was intact during the event.	1. 230kV Kayathar Sanganeri 2. 230kV Kayathar Kinnimangalam 3. 230kV Kayathar Checkanurani 4. 230kV Kayathar Udayathur 5. 230kV Kayathar TTN_AUTO 6. 230kV Kayathar Abishegapatty 7. 230kV Kayathar Kayathar-1 8. 230kV Kayathar Veeranam 9. 230kV Kayathar TTPS-I 10. 230kV Kayathar TTPS-II 11. 230kV Kayathar Kayathar-2 12. 230kV/110kV 100MVA Auto Transformer-1 13. 230kV/110kV 100MVA Auto Transformer-2 14. 230kV/110kV 100MVA Auto Transformer-3
14	GI-1	Andhra Pradesh	25-Aug-22 22:02	26-Aug-22 11:25	13 hrs 23 mins	0	0	0.00%	0.00%	40536	39986	Tripping of 220kV Bus of 220kV/132kV Duvva SS of APTRANSCO: As per the reports submitted, the triggering incident was an RY-N fault in 220kV Vemagiri Duvva line , an R-N fault in 220kV Duvva Bhimavaram line and the lines tripped. Tripping of both connected lines resulted in outage of 220kV bus at 220kV/132kV Duvva SS. 132kV Duvva SS was intact during the event.	1. 220kV Vemagiri Duvva 2. 220kV Duvva Bhimavaram
15	GI-1	Tamil Nadu	28-Aug-22 13:05	28-Aug-22 13:54	49 minutes	329	0	0.79%	0.00%	41607	41015	Complete outage of 110kV of 400/110kV of Kanarpathy SS of TNEB: In the antecedent condition all the elements of 110kV were connected to 110kV Bus-1 of Kanarpathy. As per the reports submitted the triggering incident is the LBB operation of 110kV Bus-1 due to 110kV Kanarpathy-Pudur feeder leading to the Bus-1 outage and subsequent tripping of all lines connected to 110kV bus. This resulted in to the complete outage of 110kV Bus at Kanarpathy	1. 400kV/110kV Kanarpathy ICT-3, 4 and 5 2. 110 kv Kanarpathy-Kodikurichi feeder 3. 110 kv Kanarpathy-Manur feeder 4. 110 kv Kanarpathy-Keelaveeranam feeder 5. 110 kv Kanarpathy-Uthumalai feeder 6. 110 kv Kanarpathy-Ettankulam feeder 7. 110 kv Kanarpathy-Therkkupatty-1 feeder 8. 110 kv Kanarpathy-Therkkupatty-2 feeder 9. 110 kv Kanarpathy-Maranthai feeder 10. 110 kv Kanarpathy-Subbaihpuram feeder

Details of Grid Events during the Month of August 2022 in Eastern Region

Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
	(GI 1 or 2/ GD-1 to GD-5)					Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-1	Burmu	01-Aug-2022 11:56	01-Aug-2022 13:01	01:05	0	80	0.00%	0.35%	24975	22738	At 11:56 Hrs, 220 kV Patratu-Burmu(Ratu) /c tripped due to R_N fault leading to total power failure at 220/132 kV Burmu S/s. 400/220 kV ICT- at Patratu also tripped at the same time. Load loss of 80 MW reported at Kanke and Burmu by Jharkhand SLDC.	220 kV Patratu-Burmu D/c 400/220 kV ICT-1 at Patratu
2	GD-1	Dikchu	10-Aug-2022 11:57	10-Aug-2022 12:27	00:30	105	0	0.43%	0.00%	24427	21077	At 11:57 Hrs, 400 kV Rangpo-Dikchu tripped due to B_N fault. 400 kV Bus-2 at Dikchu S/s is out of service since 05.05.21 and 400 kV Teesta 3-Dikchu and 400 kV Rangpo-Dikchu are in one dia, with main bay of Teesta 3 line out of service. Consequently 400 kV Teesta 3-Dikchu also tripped due to tripping of tie bay leading to tripping of both units at Dikchu due to loss of evacuation path and 105 MW generation loss occurred.	400 kV Rangpo-Dikchu 400 kV Teesta 3 – Dikchu U#1 and U#2 at Dikchu
3	GD-1	Bantla (KLC)	26-Aug-2022 10:13	26-Aug-2022 10:23	00:10	56	0	0.20%	0.00%	27980	23989	At 10:13, Y_ph PT of 220 kV Bus-1 at Bantala(KLC) burst. All associated feeders and transformers tripped, leading to total power failure at Bantala (KLC). 56 MW load loss occurred.	220 kV Bus-1 at Bantala (KLC) 220 kV Subhashgram-Bantala (KLC) 220 kV Bantala (KLC)-NewTown AA 3 220/132 kV ICT-1 & 2 at Bantala (KLC)

Details of Grid Events during the Month of August 2022 in North Eastern Region

Sl No.	Category of Grid Event (GI 1or 2/ GD-1 to GD-5)	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM:SS)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the		Antecedent Generation/Load in the Regional Grid		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-I	Pailapool area of Assam Power System	02-Aug-22 16:01	02-Aug-22 17:49	1:48:00	0	29	0.00%	1.04%	3038	2785	Pailapool area of Assam Power System was connected with the rest of NER Grid through 132 kV Srikona-Pailapool line. 132 kV Jiribam(PG)-Pailapool line was under planned shutdown. At 16:01 Hrs on 02.08.22, 132 kV Srikona - Pailapool line tripped . Due to tripping of this element, Pailapool area of Assam Power System was separated from rest of NER Grid and subsequently collapsed due to no source available in this area. Power supply was extended to Pailapool area of Assam Power System by charging 132 kV Jiribam(PG)-Pailapool line at 17:49 Hrs on 02.08.22.	132 kV Srikona - Pailapool line
2	GD-I	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System	03-Aug-22 11:06	03-Aug-22 11:31	0:25:00	23	12	0.75%	0.48%	3059	2520	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line. At 11:06 Hrs on 03.08.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 11:31 Hrs on 03.08.22.	132 kV Balipara-Tenga line
3	GD-I	Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	03-Aug-22 13:18	03-Aug-22 13:35	0:17:00	0	27	0.00%	1.04%	2894	2585	Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Ranganadi - Ziro line. At 13:18 Hrs on 03.08.22, 132 kV Ranganadi - Ziro line tripped. Due to tripping of this element, Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas Power supply was extended to Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Ranganadi -Ziro line at 13:35 Hrs on 03.08.22	132 kV Ranganadi - Ziro line
4	GD-I	132 kV Rangia(New) Substation, 132 kV Rangia, Nalbari, Sipajhar and part load of Bornagar areas of Assam Power System	03-Aug-22 20:10	03-Aug-22 20:25	0:15:00	0	250	0.00%	7.47%	3635	3348	132 kV Rangia(New) Substation, 132 kV Rangia, Nalbari, Sipajhar and part load of Bornagar areas of Assam Power System were connected with the rest of NER Grid through 132 kV Motonga (Bhutan) - Rangia line & 220/132kV 100 MVA Rangia ICT-1 & 2. 132 kV Nalbari-Barpeta line was under shutdown to avoid overloading of 132 kV BTPS-Dhaligaon D/C lines, 132 kV Sipajhar - Rowta line was under shutdown to avoid overloading of 132 kV Sonabil-Depota line, 132kV Kahelipara-Kamalpur line was under shutdown to avoid overloading of ICT's at 220 kV Rangia Substation & 132 kV Tangla - Rowta was ideal charged. At 20:10 Hrs on 03.08.22, 132 kV Motonga (Bhutan) - Rangia line & 220/132 kV 100 MVA Rangia ICT-1 & 2 tripped. Due to tripping of these elements, 132 kV Rangia(New) Substation, 132 kV Rangia, Nalbari, Sipajhar and part load of Bornagar areas of Assam Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas Power supply was extended to 132 kV Rangia(New) Substation, 132 kV Rangia, Nalbari, Sipajhar and part load of Bornagar areas of Assam Power System by charging 220/132kV 100 MVA Rangia ICT-1 at 20:25 Hrs on 03.05.22.	132 kV Motonga(Bhutan) - Rangia line & 220/132kV 100 MVA Rangia ICT-1 & 2
5	GD-I	Loktak Generating Station of Manipur Power System	03-Aug-22 12:30	03-Aug-22 12:50	0:20:00	105	0	3.37%	0.00%	3116	2550	Loktak Generating Station of Manipur Power System was connected with the rest of NER Grid through 132 kV Loktak-Jiribam line, 132 kV Loktak-Imphal line,132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Unit 1,2 & 3 At 12:30 Hrs on 03.08.22,132 kV Loktak-Jiribam line, 132 kV Loktak-Imphal line,132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Unit 1,2 & 3 tripped. Due to tripping of these elements, Loktak Generating Station of Manipur Power System was separated from rest of NER Grid and subsequently collapsed due to loss of evacuation path. As reported by Loktak, fire broke out at Loktak Substation in SST. Loktak Substation was under outage and declared faulty at 12:50 Hrs on 03.08.22. Power supply was extended to Loktak Generating Station of Manipur Power System by charging 132 kV Loktak-Imphal line at 17:47 Hrs on 03.08.22	132 kV Loktak-Jiribam line, 132 kV Loktak-Imphal line,132 kV Loktak-Ningthoukhong line, 132 kV Loktak-Rengpang line & Loktak Unit 1,2 &3
6	GD-I	Karong area of Manipur Power System	04-Aug-22 07:41	04-Aug-22 07:49	0:08	0	13	0%	1%	3514	2476	Karong area of Manipur Power System was connected with the rest of NER Grid through 132 kV Imphal (MSPCL) - Karong line & 132 kV Karong - Kohima line. At 07:41 Hrs on 04.08.22,132 kV Imphal (MSPCL) - Karong line & 132 kV Karong - Kohima line tripped. Due to tripping of these elements, Karong area of Manipur Power System was separated from rest of NER Grid and subsequently collapsed due to no source available in this area. Power supply was extended to Karong area of Manipur Power System by charging 132 kV Imphal (MSPCL) - Karong line at 07:49 Hrs on 04.08.22	132 kV Imphal (MSPCL) - Karong line & 132 kV Karong - Kohima line
7	GD-I	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System	04-Aug-22 10:49	04-Aug-22 11:23	0:34	22	15	1%	1%	3341	2591	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line. At 10:49 Hrs on 04.08.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 11:23 Hrs on 04.08.22.	132 kV Balipara-Tenga line

Details of Grid Events during the Month of August 2022 in North Eastern Region

Sl No.	Category of Grid Event (GI 1or 2/ GD-1 to GD-5)	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM:SS)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the		Antecedent Generation/Load in the Regional Grid		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
8	GD-I	Karbi Langpi Generating Station of Assam Power System	05-Aug-22 11:33	05-Aug-22 11:42	0:09:00	98	0	3.09%	0.00%	3168	2615	Karbi Langpi Generating Station of Assam Power System was connected with the rest of NER Grid through 220 kV Karbi Langpi - Sarusajai D/C lines. At 11:33 Hrs on 05.08.2022, 220 kV Karbi Langpi - Sarusajai D/C lines tripped. Due to tripping of these elements, Karbi Langpi Generating Station of Assam Power System was separated from rest of NER Grid and subsequently collapsed due to loss of evacuation path. Power supply was extended to Karbi Langpi Generating Station of Assam Power System by charging 220 kV Karbi Langpi - Sarusajai 2 line at 11:42 Hrs on 05.08.22.	220 kV Karbi Langpi - Sarusajai D/C lines
9	GD-I	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System	07-Aug-22 10:48	07-Aug-22 11:16	0:28:00	21	16	0.77%	0.62%	2715	2571	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line. At 10:48 Hrs on 07.08.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 11:16 Hrs on 07.08.2	132 kV Balipara-Tenga line
10	GD-I	Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	08-Aug-22 04:37	08-Aug-22 04:50	0:13:00	0	24	0.00%	1.20%	3123	2001	Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Ranganadi - Ziro line. At 04:37 Hrs on 08.08.2022, 132 kV Ranganadi - Ziro line tripped. Due to tripping of this element, Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas. Power was extended to Ziro, Daporijo, Along, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Ranganadi - Ziro Line at 04:50 Hrs on 08.08.2022	132 kV Ranganadi - Ziro line
11	GD-I	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System	08-Aug-22 05:35	08-Aug-22 06:05	0:30:00	10	12	0.32%	0.61%	3174	1960	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line. At 05:35 Hrs on 08.08.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 06:05 Hrs on 08.08.22	132 kV Balipara- Tenga line
12	GD-I	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System	11-Aug-22 11:08	11-Aug-22 11:57	0:49:00	20	27	0.75%	1.02%	2683	2647	Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line. At 11:08 Hrs on 11.08.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 11:57 Hrs on 11.08.22	133 kV Balipara- Tenga line
13	GD-I	Pasighat, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System	11-Aug-22 18:04	11-Aug-22 18:16	0:12	0	15	0%	0%	2955	3043	Pasighat, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along- Pasighat line. At 18:04 Hrs on 11.08.22,132 kV Along-Pasighat line tripped. Due to tripping of this element, Pasighat, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas. Power was extended to Pasighat, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System by charging 132 kV Along-Pasighat line at 18:16 Hrs on 11.08.22	132 kV Along- Pasighat line.
14	GD-I	Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System	14-Aug-22 19:53	14-Aug-22 20:03	0:10	0	110	0%	4%	3640	3142	Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System were connected with the rest of NER Grid through 132 kV Gohpur-BNC (Pavoi) D/C lines. 132 kV-Gohpur-Nirjuli line was under shutdown to avoid overloading of 132 kV Pare-Lekhi line. At 19:53 Hrs. on 14.08.22, 132 kV Gohpur-BNC (Pavoi) D/C lines tripped. Due to tripping of these elements, Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas. Power supply was extended to Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System by charging 132 kV Gohpur- BNC(Pavoi) 1 line at 20:03 Hrs on 14.08.22	132 kV Gohpur-BNC (Pavoi) D/C lines
15	GD-I	Umrangsho & Halflong areas of Assam Power System	19-Aug-22 19:00	19-Aug-22 19:27	0:27	0	11	0%	0%	3522	3450	Umrangsho & Halflong areas of Assam Power System were connected with the rest of NER Grid through 132 kV Khandong-Umrangshu line. 132 kV Jiribam - Haflong line was under planned shutdown for shifting of tower no.138 due to landslide since 11.05.22 At 19:00 Hrs. on 19.08.22, 132 kV Khandong- Umrangshu line tripped. Due to tripping of this element, Umrangsho & Halflong areas of Assam Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas Power supply was extended to Umrangsho & Halflong areas of Assam Power System by charging 132 kV Khandong-Umrangshu line at 19:27 Hrs.	132 kV Khandong- Umrangshu line

Details of Grid Events during the Month of August 2022 in North Eastern Region

Sl No.	Category of Grid Event (GI 1or 2/ GD-1 to GD-5)	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM:SS)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t Antecedent Generation/Load in the		Antecedent Generation/Load in the Regional Grid		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
16	GD-I	Lungmual and Melriat areas of Mizoram Power System	21-Aug-22 21:04	21-Aug-22 22:02	0:58	0	40	0%	1%	3397	3396	Lungmual and Melriat areas of Mizoram Power System were connected with the rest of NER Grid through 132 kV Aizawl(PG)-Lungmual line. 132 kV Lunglei - Melriat line kept open to avoid overloading of 132 kV Aizawl(PG)-Lungmual line. At 21:04 Hrs on 21.08.22, 132 kV Aizawl(PG)-Lungmual line tripped. Due to tripping of this element, Lungmual and Melriat areas of Mizoram Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas. Power supply was extended to Lungmual and Melriat areas of Mizoram Power System by charging 132 kV Aizawl(PG)-Lungmual line at 22:02 Hrs on 21.08.22.	132 kV Aizawl(PG)-Lungmual line
17	GD-I	Karbi Langpi Generating Station of Assam Power System	23-Aug-22 04:08	23-Aug-22 04:18	0:10	100	0	3%	0%	2866	2690	Karbi Langpi Generating Station of Assam Power System was connected with the rest of NER Grid through 220 kV Karbi Langpi - Sarusajai D/C lines. At 04:08 Hrs on 23.08.22, 220 kV Karbi Langpi - Sarusajai D/C lines tripped. Due to tripping of these elements, Karbi Langpi Generating Station of Assam Power System was separated from rest of NER Grid and subsequently collapsed due to loss of evacuation path. Power supply was extended to 132 kV Karbi Langpi Generating Station of Assam Power System by charging 220 kV Karbi Langpi - Sarusajai 2 line at 04:18 Hrs on 23.08.22.	220 kV Karbi Langpi - Sarusajai D/C lines
18	GD-I	Tuirial Generating Station of Mizoram Power System	23-Aug-22 11:18	23-Aug-22 11:46	0:28	40	0	1%	0%	2759	2393	Tuirial Generating Station of Mizoram Power System was connected with the rest of the NER Grid through 132 kV Tuirial-Kolasib line. At 11:18 Hrs on 23.08.22,132 kV Tuirial-Kolasib line tripped. Due to tripping of this element, Tuirial Generating Station of Mizoram Power System was separated from the rest of NER Grid and subsequently collapsed due to loss of evacution path. Power supply was extended to Tuirial Generating Station of Mizoram Power System by charging 132 kV Tuirial-Kolasib line at 11:46 Hrs on 23.08.22	132 kV Tuirial-Kolasib line
19	GD-I	Nirjuli area of Arunachal Pradesh Power System	27-Aug-22 10:51	27-Aug-22 11:39	0:48	0	25	0%	1%	2787	2520	Nirjuli area of Arunachal Pradesh Power System was connected with the rest of NER Grid through 132 kV Nirjuli-Lekhi line and 132 kV Nirjuli - Gohpur line. At 10:51 Hrs on 27.08.22,132 kV Nirjuli-Lekhi line and 132 kV Nirjuli - Gohpur line tripped. Due to tripping of these elements, Nirjuli area of Arunachal Pradesh Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area Power supply was extended to Nirjuli area of Arunachal Pradesh Power System by charging 132 kV Nirjuli-Lekhi line at 11:39 Hrs on 27.08.22	132 kV Nirjuli-Lekhi line and 132 kV Nirjuli - Gohpur line
20	GD-I	Monarchak Generating Station and Rabindranagar area of Tripura Power System	29-Aug-22 11:50	29-Aug-22 12:02	0:12	71	9	2%	0%	3299	2567	Monarchak Generating Station and Rabindranagar area of Tripura Power System were connected with the rest of NER Grid through 132 kV Monarchak - Udaipur line. 132 kV Monarchak - Rokhia was under Planned Shutdown from 09:46 Hrs on 29.08.22 At 11:50 Hrs on 29.08.22,132 kV Monarchak - Udaipur line tripped. Due to tripping of this element, Monarchak Generating Station and Rabindranagar area of Tripura Power System were separated from the rest of NER Grid and subsequently collapsed due to load generation mismatch in these areas. Power supply was extended to Monarchak Generating Station and Rabindranagar area of Tripura Power System by charging 132 kV Monarchak - Udaipur line at 12:02 Hrs on 29.08.22	132 kV Monarchak - Udaipur line
21	GI-2	Assam	01-Aug-22 18:57	01-Aug-22 20:30	1:33	227.5	0	6%	0%	3636	3212	BgTPP Unit 3 tripped at 18:57 Hrs on 01.08.22 due to boiler tube leakage. Revision done from Block no. 83 on 01-08-22	BgTPP Unit 3
22	GI-1	Manipur	05-Aug-22 07:34	05-Aug-22 09:30	1:56	37.62	0	1%	0%	3432	2529	Loktak Unit 1 tripped at 07:34 Hrs on 05.08.22 due to Main inlet valve OPU pressure low. Revision done from Block no. 39 on 05.08.22	Loktak Unit 1
23	GI-1	Tripura	25-Aug-22 20:18	25-Aug-22 21:40	1:22	20	0	1%	0%	3513	3521	AGTCCPP Unit 5 tripped at 20:18 Hrs on 25.08.22 due to detection of vibration in shaft. Revision done from Block no. 89 on 25.08.22	AGTCCPP Unit 5
24	GI-1	Tripura	25-Aug-22 23:43	26-Aug-22 01:30	1:47	20	0	1%	0%	3253	3195	AGTCCPP Unit 5 tripped at 23:43 Hrs on 25.08.22 due to detection of vibration in shaft. Revision done from Block no. 7 on 26.08.22	AGTCCPP Unit 5
25	GI-2	Tripura	29-Aug-22 19:09	29-Aug-22 20:30	1:21	236	0	7%	0%	3276	3467	Palatana GT-I & Palatana ST-I tripped at 19:09 Hrs on 29.08.22 due to detection of vibration in shaft. Revision done from Block no. 83 on 29.08.22	Palatana Unit GT-I & Palatana ST-I
26	GI-2	Assam	30-Aug-22 13:44	30-Aug-22 15:30	1:46	20	0	1%	0%	3540	3329	AGBPP Unit 3 tripped at 13:44 Hrs on 30.08.22 due to turbine over speed trip relay operation. Revision done from Block No.63 on 30.08.22.	AGBPP Unit 3