Details of Grid Events during the Month of September 2021 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	GI-2	UTTAR PRADESH	01-Sep-2021 11:39	01-Sep-2021 13:28	1:49	0	0	0.000	0.000	45144	56958	There was B-N fault on 400 KV Bareilly-Unnao (UP) Ckt-2 (connected to bus 2 at Unnao end), fault distance was 248km from Bareilly end. Line tripped from Bareilly end only, CB of Unnao end didn't open which led to LBB operation at Unnao end. Due to LBB operation, 400/220 kV 315 MVA ICT 2 & ICT 3, 765/400 kV 1000 MVA ICT 1 and 400 KV Unnao(UP)-Jehta_Hardoi Road (UP) (PG) Ckt-1 at Unnao(UP) tripped which were connected to Bus 2. As per PMU, B-N phase to earth fault with delayed clearance in 320ms is observed. In antecedent condition, 400/220 kV 315 MVA ICT 2 & ICT 3, 765/400 kV 1000 MVA ICT 1 at Unnao(UP) were carrying 120MW, 121MW & 351MW respectively.	1) 400/220 kV 315 MVA ICT 2 at Unnao(UP) 2) 400/220 kV 315 MVA ICT 3 at Unnao(UP) 3) 765/400 kV 1000 MVA ICT 1 at Unnao(UP) 4) 400KV Bus 2 at Unnao(UP) 5) 400 KV Bareilly-Unnao (UP) Ckt-2 6) 400 KV Unnao(UP)-Jehta_Hardoi Road (UP) (PG) Ckt-1
2	GI-2	HARYANA	02-Sep-2021 12:14	02-Sep-2021 13:58	1:44	0	0	0.000	0.000	46101	57961	400/220 kV 500 MVA ICT 2 & ICT 4 at Ballabhgarh(PG) tripped on over flux protection operation. As per PMU, no fault is observed. As per SCADA, bus voltage and frequency during antecedent condition was 406kV & 49.95Hz which was in permissiabe limit as per overflux protection is concern. In antecedent condition, 400/220 kV 500 MVA ICT 2 & ICT 4 at Ballabhgarh(PG) were carrying 205MW & 202MW respectively.	1) 400/220 kV 500 MVA ICT 4 at Ballabhgarh(PG) 2) 400/220 kV 500 MVA ICT 2 at Ballabhgarh(PG)
3	GD-1	RAJASTHAN	02-Sep-2021 16:47	02-Sep-2021 19:42	2:55	690	0	1.566	0.000	44073	56098	220 Akal-Bhu Ckt-1 tripped on Y-N phase to earth fault. Fault occurred due to snapping of Y-ph bus side jumper of 220 Akal-Bhu Ckt-1 which was connected to Bus 1. Fault then converted into bus fault resulted into tripping of 220kV feeders to Giral, Amarsagar, Mada & Barmer in Z-4 as Bus bar protection is out of service due to defected PU(peripheral unit). As fault still persisted, 400/220kV 500MVA ICT 1&4 and 400/220kV 315MVA ICT 3 at Akal(RS) tripped on earth fault protection operation. 220kV fedders to Bhu ckt-2, Jajiya, Rajgarh and Mulana were manually opened. As per PMU, Y-B phase to phase followed by Y-N phase to earth fault is observed with delayed clearance in 680ms is observed. As per SCADA, Rajasthan wind generation loss of approx. 690MW is observed. In antecedent condition, 400/220kV 500MVA ICT 1,2&4 and 400/220kV 315MVA ICT 3 at Akal(RS) were carrying 135MW, 136MW. 134MW & 77MW respectively.	1) 400/220 kV 315 MVA ICT 3 at Akal(RS) 2) 400/220 kV 500 MVA ICT 4 at Akal(RS) 3) 220 kV Amarsagar-Akal (RS) Ckt-1 4) 220kV Akal–Bhu (RS) ckt-1 5) 220kV Akal–Bhu (RS) ckt-2 6) 400/220 kV 500 MVA ICT 1 at Akal(RS) 7) 220 kV Akal-Barmer Ckt-1 8) 220 kV Akal-Giral Ckt-1 9) 220kV Akal-Mada Ckt-1
4	GD-1	PUNJAB	03-Sep-2021 08:57	03-Sep-2021 11:05	2:08	0	150	0.000	0.280	44800	53549	220kV Bus bar protection operated at Jamalpur end due to bursting of R-phase CVT of 220 KV Jamalpur - Jallandhar ckt I at Jamalpur end. Due to bus bar protection operation, 220 KV Jalandhar-Jamalpur (BB) Ckt-1, 220 KV Ganguwal-Jamalpur (BB) Ckt-1, 220 KV Bhakra_R-Jamalpur (BB) Ckt-1, 220 KV Jamalpur(BB)-DandhariKalanI(PS) (PSTCL) Ckt-1, 220/66kV 100MVA transformer 2 & 3 and 220/132kV 100MVA transformer 1 all tripped. As per PMU, R-N phase to earth fault with delayed clearance in 240ms followed by Y-N phase to earth fault is observed. As per SCADA, load loss of approx. 150MW is observed in Punjab control area.	1) 220 KV Ganguwal-Jamalpur (BB) Ckt-1 2) 220 KV Jamalpur(BB)-Sangrur(PS) (BB) Ckt-1 3) 220 KV Bhakra_R-Jamalpur (BB) Ckt-1 4) 220 KV Jalandhar-Jamalpur (BB) Ckt-1 5) 220KV Bus 1 at Jamalpur(BB) 6) 220 KV Jamalpur(BB)-DandhariKalanI(PS) (PSTCL) Ckt-1
5	GD-1	NEW DELHI	04-Sep-2021 13:16	04-Sep-2021 14:08	0:52	140	200	0.337	0.377	41509	53072	At 11:14 Hrs, 220/66kV 160MVA Transformerr-2 at Pragati(DV) was tripped on differntial REF protection operation on R-ph fault in HV side LA of 220/66kV 160MVA transformer-2. At the same time, 220 KV Pragati-IP (DV) ckt-2 tripped in Z-1 and 220 KV Pragati-IP (DV) ckt-1 tripped on SOTF protection during same fault. After tripping of above mentioned elements, 120MW generation of Pragati GT got islanded with 80MW load of Park street. Due to load generation unbalance, 104MW GT-1 and 122MW STG at Pragati TPS tripped on over frequency protection operation. As per PMU, R-N phase to earth fault is observed. As per SCADA, load loss of approx. 200MW in Delhi control area and generation loss of approx. 140MW at Pragati TPS is observed. In antecedent condition, 220/66kV 160MVA Transformerr-2 at Pragati(DV), 220 KV Pragati-IP (DV) ckt-1 & 2 were carrying 37MW, 32MW & 35MW respectively.	1) 104.6 MW Pragati Gas Turbines - UNIT 1 2) 121.2 MW Pragati Gas Turbines - UNIT 3 3) 220 KV Pragati-IP (DV) ckt-1 4) 220 KV Pragati-IP (DV) ckt-2 5) 220 KV Pragati-Park street (DV) ckt-1
6	GD-1	J & K	05-Sep-2021 14:26	05-Sep-2021 17:14	2:48	0	40	0.000	0.077	40108	51714	220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-1 tripped on B-N phase to earth fault. Fault distance was 23.12km & 14.25km from Wagoora and Ziankote end respectively, fault current was 4.88kA. At the same time, 220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-2 also tripped with the tripping of 220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-1. As per PMU, B-N phase to earth fault is observed. As per SCADA, load loss of approx. 40MW is observed in J&K control area. In antecedent condition, 220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-1 & 220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-2 were carrying 68MW & 99MW respectively.	1) 220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-1 2) 220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-2
7	GI-2	HARYANA	06-Sep-2021 02:39	06-Sep-2021 04:53	2:14	0	0	0.000	0.000	41891	55291	B-ph CT of 220kV Panipat-Panipat TPS ckt-3 got burst and became bus fault which resulted into bus-1 bus bar protection operation. Due to bus bar protection of bus 1, 220 KV Panipat(BB)-Narela(DV) (BBMB) Ckt-1 & Ckt-3, 220 KV PanipatTH(HV)-Panipat(BB) (HVPNL) Ckt-1 & Ckt-3, 400/220 kV 450 MVA ICT 1 at Panipat(BB), 220 KV Panipat-Kurukshetra (BB) Ckt-1 and 220 KV Panipat-Dhulkote (BB) Ckt-2 tripped. As per PMU, B-N phase to earth fault is observed. In antecedent condition, 220 KV Panipat(BB)-Narela(DV) (BBMB) Ckt-1 & Ckt-3, 220 KV PanipatTH(HV)-Panipat(BB) (HVPNL) Ckt-1 & Ckt-3, 400/220 kV 450 MVA ICT 1 at Panipat(BB), 220 KV Panipat-Kurukshetra (BB) Ckt-1, 220 KV Panipat-Dhulkote (BB) Ckt-2 and 220/33kV 60MVA transforrmer-2 were carrying 39MW, 38MW, 24MW, 9MW, 186MW, 48MW & 14MW respectively.	1) 220 KV Panipat(BB)-Narela(DV) (BBMB) Ckt-3 2) 220 KV Panipat(BB)-Narela(DV) (BBMB) Ckt-1 3) 220 KV PanipatTH(HV)-Panipat(BB) (HVPNL) Ckt-1 4) 220 KV Panipat(BB)-Chajpur(HV) (HVPNL) Ckt-2 5) 400/220 kV 450 MVA ICT 1 at Panipat(BB) 6) 220KV Bus 1 at Panipat(BB) 7) 220 KV Panipat-Kurukshetra (BB) Ckt-1 8) 220 KV Panipat-Dhulkote (BB) Ckt-2, 220 KV PanipatTH(HV)-Panipat(BB) (HVPNL) Ckt-3
8	GD-1	UTTAR PRADESH	06-Sep-2021 16:39	06-Sep-2021 17:11	0:32	0	650	0.000	1.103	44236	58939	R-N phase to earth fault occurred on 220kV Gr. Noida-Noida sec 20 ckt-2. While closing of CB during A/R operation, R-ph LA of 220kV Gr. Noida-Noida sec 20 ckt-2 at Gr. Noida end got blasted and line isolator of same line also got damaged due to persisted fault which resulted into bus bar protection operation. Due to bus bar protection operation, 400/220 kV 315 MVA ICT 1 & ICT 5, 220kV Gr.Noida-Noida sec 20 ckt-1 & Ckt-2, 220kV Gr.Noida-RC Green ckt-3 and 220kV Gr.Noida-Noida sec 129 (UP) ckt-1 all tripped. At the same time, 400/220 kV 500 MVA ICT 6 at Gr.Noida(UPC) also tripped on PRV protection operation. As per PMU, R-N phase to earth fault with delayed clearance in 640ms is observed. As per SCADA, load loss of approx. 650MW is observed. In antecedent condition, 400/220 kV 315 MVA ICT 1 & ICT 2 and 400/220 kV 500 MVA ICT 5 & ICT 6 at Gr.Noida(UPC) were carrying 132MW, 143MW, 218MW & 221MW respectively.	1) 400/220 kV 500 MVA ICT 6 at Gr.Noida(UPC) 2) 400/220 kV 500 MVA ICT 5 at Gr.Noida(UPC) 3) 400/220 kV 315 MVA ICT 1 at Gr.Noida(UPC) 4) 220kV Gr.Noida-Noida sec 20 ckt-1 5) 220kV Gr.Noida-Noida sec 20 ckt-2 6) 220kV Gr.Noida-RC Green ckt-3 7) 220kV Gr.Noida-Noida sec 129 (UP) ckt-1
9	GD-1	UTTAR PRADESH	07-Sep-2021 01:50	07-Sep-2021 03:30	1:40	440	0	1.045	0.000	42111	58873	400 KV Muzaffarnagar(UP)-Vishnuprayag(JP) (UP) Ckt-1 tripped on B-N fault at 30.6km from Vishnuprayag end and 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt-1 tripped on R-N fault at 40.76km from Vishnuprayag end. As per PMU, B-N and R-N fault observed at the same time. As per SCADA, generation loss of approx. 440MW is observed at Vishnuprayag HEP. In antecedent condition, 400 KV Muzaffarnagar(UP)-Vishnuprayag(JP) (UP) Ckt-1 and 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt-1 carrying 335MW & 101MW respectively.	1) 110 MW Vishnuparyag HPS - UNIT 1 2) 110 MW Vishnuparyag HPS - UNIT 3 3) 400 KV Alaknanda GVK(UPC)-Vishnuprayag(JP) (UP) Ckt-1 4) 400 KV Muzaffarnagar(UP)-Vishnuprayag(JP) (UP) Ckt-1 5) 110 MW Vishnuparyag HPS - UNIT 4 6) 110 MW Vishnuparyag HPS - UNIT 2
10	GD-1	HIMACHAL PRADESH	07-Sep-2021 12:21	07-Sep-2021 13:45	1:24	68	0	0.148	0.000	45846	58945	220 KV Bairasiul(NH)-Jessore(HP) (PG) Ckt-1 tripped on Y-N fault and 220 KV Bairasiul(NH)-Pong(BB) (PG) Ckt-1 tripped on R-N fault. At per DR of Bairasiul end, 220 KV Bairasiul(NH)-Pong(BB) (PG) Ckt-1 tripped on R-ph fault and A/R started and after 100ms all three phase tripped on LBB operation. And as per DR of 220 KV Bairasiul(NH)-Jessore(HP) (PG) Ckt-1 line tripped on R-Y phase to phase fault. As per PMU, R-N & Y-N fault is observed at the same instant. As per SCADA, generation loss of approx. 68MW is observed at Bairasiul(NH) HEP. In antecedent condition, 220 KV Bairasiul(NH)-Jessore(HP) (PG) Ckt-1 & 220 KV Bairasiul(NH)-Pong(BB) (PG) Ckt-1 carrying 32MW & 36MW respectively.	1) 220 KV Bairasiul(NH)-Jessore(HP) (PG) Ckt-1 2) 220 KV Bairasiul(NH)-Pong(BB) (PG) Ckt-1

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
11	GD-1	HIMACHAL PRADESH	10-Sep-2021 02:18	10-Sep-2021 04:04	1:46	280	0	0.676	0.000	41437	55942	400 KV Wangto_GIS(HP)-Sorang(Greenko) (Greenko) Ckt-1 tripped on Y-N phase to earth fault, fault distance was 31.8km & fault current was 5.6kA from Wangtoo(HP) end. At the same time, 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1 also tripped from Wangtoo(HP) end only as it was charged through Tie CB only on same dia (Main bay of 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1 at Wangtoo(HP) was already in out condition) with 400 KV Wangto_GIS(HP)-Sorang(Greenko) (Greenko) Ckt-1. Due to tripping of these two lines 250MW Unit2&4 at Karcham Wangtoo HEP tripped as per Case-7 of SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa and Karcham Wangtoo HEP generation complex. As per PMU, Y-N phase to earth fault is observed. As per SCADA generation loss of approx. 280MW is observed at Karcham Wangtoo HEP as per SPS case-7 operation.	1) 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1 2) 400 KV Wangto_GIS(HP)-Sorang(Greenko) (Greenko) Ckt-1
12	GD-1	UTTAR PRADESH	12-Sep-2021 22:12	12-Sep-2021 23:40	1:28	0	290	0.000	0.581	42682	49889	220kV Rewa Road- Mirjapur ckt tripped on B-N phase to earth fault. At the same time, 400/220kV 240MVA ICT 3 at Obra_B(UP) tripped on over current protection operation. As reported by SLDC-UP, in antecedent condition, 400/220 kV 315 MVA ICT 2 & 400/220kV 240MVA ICT 3 at Obra_B(UP) were carrying 233MW & 302MW. Just after tripping of 400/220kV 240MVA ICT 3, MW loading of 315MVA ICT 2 rose up to 515MW which led to tripping of ICT 2 on over current protection. As per PMU, B-N phase to earth fault is observed. As per SCADA, load loss of approx. 290MW is observed in UP control area. In antecedent condition, 400/220 kV 315 MVA ICT 2 at Obra_B (UP) carrying 302MW as per NRLDC SCADA.	1) 400/220 kV 315 MVA ICT 2 at Obra_B(UP) 2) 400/220 kV 240 MVA ICT 3 at Obra_B(UP)
13	GD-1	J & K	13-Sep-2021 06:34	13-Sep-2021 13:25	6:51	0	230	0.000	0.564	36826	40763	220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-1 & Ckt-2 tripped on B-N phase to earth fault. Fault distance and fault current was 26.34km & 3.15kA from Amargarh end. As per PMU, B-N phase to earth fault is observed. As per SCADA, load loss of approx. 230MW is observed in J&K control area.	1) 220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-1 2) 220 KV Amargarh(NRSS XXIX)-Ziankote(JK) (PDD JK) Ckt-2
14	GD-1	HIMACHAL PRADESH	13-Sep-2021 12:58	19-Sep-2021 23:18	10:20	0	35	0.000	0.070	41175	49901	At 12:58Hrs, 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1 tripped on Y-N phase to earth fault after unsuccessful A/R operation during charging of 410 Main Bay. Further after approx 20sec, 400 KV Karcham Wangtoo(JSW)-Wangto_GIS(HP) (HPPTCL) Ckt-1 also tripped from Karcham end only. As per PMU, Y-N phase to earth fault cleared in 120ms is observed. As per SCADA, load loss of approx. 35MW is observed in HP control area. In antecedent condition, 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1 & 400 KV Karcham Wangtoo(JSW)-Wangto_GIS(HP) (HPPTCL) Ckt-1 carrying 646MW & 575MW respectively.	1) 400 KV Karcham Wangtoo(JSW)-Wangto_GIS(HP) (HPPTCL) Ckt-1 2) 400 KV Kala Amb(PKTL)-Wangto_GIS(HP) (HPPTCL) Ckt-1
15	GD-1	UTTRAKHAND	13-Sep-2021 13:00	13-Sep-2021 14:46	1:46	88	150	0.212	0.302	41465	49741	At 12:47Hrs, 220kV Khodri-Sarsawan ckt tripped on R-N phase to earth fault after unsuccessful A/R operation. Later at 13:00Hrs, 220kV khodri-Sarsawan ckt tripped on R-N phase to earth fault. Further at 13:03Hrs, 220kV Khodri-Jajra ckt tripped on B-N phase to earth fault. After tripping of above mentioned lines all the four units at Khodri HEP tripped on over speed protection operation and 220kV Khodri-Majri ckt-1 got islanded with 220kV Khodri-Chibro ckt-2 which later tripped at 13:08Hrs. As per PMU, R-N phase to earth fault with unsuccessful A/R at 12:47Hrs, R-N phase to earth fault at 13:00Hrs and B-N phase to earth fault at 13:03Hrs is observed. As per SCADA,load loss of approx. 150MW is observed in HP control area and generation loss of approx. 88MW at Khodri HEP is observed.	1) 220 KV Saharanpur(UP)-Khodri(UK) (UP) Ckt-1 2) 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1
16	GD-1	Rajasthan	13-Sep-2021 13:06	13-Sep-2021 13:20	0:14	500	0	1.189	0.000	42038	48486	240MVAR bus reactor at 400kV Bhadla(PG) was opened, during antecedent condition 765kV bus voltage at Bhadla_2 & Fatehagrh_2 was in the range of 775-777kV. After further 30seconds, 765kV Bhadla_2-Ajmer ckt-1 was charged from Bhadla_2 end only, resulted into sudden shoot up of voltage at Bhadla_2(PG). Due to over voltage, 765 KV Bhadla_2 - Fatehgarh_2 (PG) Ckt-1 tripped on over voltage stage-1 operation at Bhadla_2(PG) end & DT received at Fatehgarh_2(PG) end. At the same time, 220/33kV Transformer-1&2 at Renew Jharkhand Three Solar & Renew Sunwave Solar (connected at Fathegarh_2) tripped on over voltage protection oepration at 33kV end resulted into loss of 500MW solar generation. Voltages at 220kV & 765kV Bus at Fatehgarh_2 were in permissiable range 229kV & 788kV Respectively. As per PMU, no fault is observed and voltage shoot up of approx. 45kV (777kV to 825kV approx.) is observed at Bhadla_2 end. As per SCADA, solar generation loss of approx. 500MW is observed. Again at 14:49Hrs, 220/33kV Transformer-1&2 at Renew Jharkhand Three Solar & Renew Sunwave Solar (connected at Fathegarh_2) tripped on over voltage protection oepration at 33kV end resulted into loss of 700MW solar generation. As per PMU, no fault is observed and voltage shoot up is observed. As per SOE, 765kV Bhadla_2-Ajmer ckt-1 was charged from Bhadla_2 end before tripping of transformers at Solar plants. Charging of 765kV Bhadla_2-Ajmer ckt-1 might have led to shoot up of voltage. As per SCADA, solar generation loss of approx. 700MW is observed.	1) 765 KV Bhadla_2 -Fatehgarh_II (PG) Ckt-1
17	GI-1	UTTRAKHAND	14-Sep-2021 19:55	14-Sep-2021 21:40	1:45	0	0	0.000	0.000	40752	51129	220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1, 220 KV Sarsawan(UP)-Khodri(UK) (UP) Ckt-1, 220 KV Saharanpur(UP)-Khodri(UK) (UP) Ckt-1, 220/132kV ICT at Khodri and 220kV Khodri-Chibro ckt-1 all tripped on bus bar protection operation at 220kV Khodri S/s. As per PMU, no fault is observed during the event. In antecedent condition, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1, 220 KV Sarsawan(UP)-Khodri(UK) (UP) Ckt-1, 220 KV Saharanpur(UP)-Khodri(UK) (UP) Ckt-1, 220/132kV ICT at Khodri and 220kV Khodri-Chibro ckt-1 carrying 44MW, 4MW, 6MW, 26MW & 2MW respectively.	1) 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 2) 220 KV Sarsawan(UP)-Khodri(UK) (UP) Ckt-1 3) 220 KV Saharanpur(UP)-Khodri(UK) (UP) Ckt-1
18	GD-1	J & K	20-Sep-2021 14:31	20-Sep-2021 15:02	0:31	0	550	0.000	0.975	48690	56425	At 14:31 Hrs CB clamp of 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1 burnt at Pampore end. 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1 tripped from pampore end during this fault on earth fault protection operation as bus bar protection is not in service at 220kV pampore. As fault still persisted, 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-2 tripped in Z-2 from Wagoora end and on overcurrent protection at Pampore end. At the same time, 220kV Wagoora-Ziankote ckt-1&2 both tripped from Ziankote end only in Z-3 and 220kV Kishenpur-Mirbazar ckt tripped in Z-2 from Kishenpur end. As per PMU, B-N phase to earth fault with delayed clearance in 400ms is observed. As per SCADA, load loss of approx. 400MW is observed. In antecedent condition, 220kV Wagoora-Ziankote ckt-1&2, 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1& and 220kV Kishenpur-Mirbazar ckt were carrying 57MW, 39MW, 211MW, 221MW & 69MW respectively.	1) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-2 2) 220 KV Kishenpur(PG)-Mir Bazar(PDD) (PDD) Ckt-1 3) 220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-2 4) 220 KV Wagoora(PG)-Ziankote(JK) (PDD JK) Ckt-1 5) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1
19	GI-2	HARYANA	21-Sep-2021 10:10	21-Sep-2021 10:51	0:41	0	0	0.000	0.000	45854	54091	800 KV HVDC Kurukshetra(PG) Pole-1 & Pole-2 blocked due to filter control block alarm on filter power limit. As per PMU, no fault is observed. In antecedent condition, 800 KV HVDC Kurukshetra(PG) Pole-1 & Pole-2 carrying 250MW each.	1) 800 KV HVDC Kurukshetra(PG) Pole-1 2) 800 KV HVDC Kurukshetra(PG) Pole-2

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
20	GI-1	HIMACHAL PRADESH	25-Sep-2021 15:15	25-Sep-2021 16:32	1:17	0	0	0.000	0.000	40904	45785	220 KV Phozal(HP)-Nallagarh(PG) (ADHPL) Ckt-1 & 220 KV AD hydro(AD)-Phozal(HP) (ADHPL) Ckt-1 both tripped on R-Y phase to phase fault. Fault distance was 135km(100%,Z-2) & fault current was 1.4kA from Nallagarh(PG) end. As per PMU, R-Y phase to phase fault is observed. As per SCADA replay, 220 KV AD hydro(AD)-Phozal(HP) (ADHPL) Ckt-1 tripped only from Phozal(HP) end. In antecedent condition, 220 KV Phozal(HP)-Nallagarh(PG) (ADHPL) Ckt-1 & 220 KV AD hydro(AD)-Phozal(HP) (ADHPL) Ckt-1 were carrying 49MW & 26MW respectively.	1) 220 KV Phozal(HP)-Nallagarh(PG) (ADHPL) Ckt-1 2) 220 KV AD hydro(AD)-Phozal(HP) (ADHPL) Ckt-1
21	GI-2	UTTAR PRADESH	28-Sep-2021 07:20	28-Sep-2021 09:11	1:51	0	0	0.000	0.000	36538	44062	At 7:20 hrs on 28th Sept, 400KV Bus 2 at Balia(PG) tripped on Bus bar protection operation on B-N fault. 400 KV Mau(UP)-Balia(PG) (PG) Ckt-1, 400 KV Balia-Biharshariff (PG) Ckt-2 and 765/400 kV 1500 MVA ICT 1 at Balia(PG) also tripped during bus bar protection operation. At the same time, 400 KV Balia-Patna (PG) Ckt-1 tripped from Patna end only. As per PMU, B-N phase to earth fault is observed. As per SCADA SOE, Main CB (connected at bus 1) & Tie CB of 400KV Balia-Biharshariff ckt-2 tripped which led to tripping of 765/400 kV 1500 MVA ICT 1 also. In antecedent condition, 400 KV Mau(UP)-Balia(PG) (PG) Ckt-1, 400 KV Balia-Biharshariff (PG) Ckt-2, 765/400 kV 1500 MVA ICT 1 & 400 KV Balia-Patna (PG) Ckt-1 were carrying 150MW, 72MW, 78MW & 146MW respectibvey.	1) 400 KV Balia-Patna (PG) Ckt-1 2) 400 KV Mau(UP)-Balia(PG) (PG) Ckt-1 3) 400KV Bus 2 at Balia(PG) 4) 400 KV Balia-Biharshariff (PG) Ckt-2 5) 765/400 kV 1500 MVA ICT 1 at Balia(PG)
22	GI-2	UTTAR PRADESH	30-Sep-2021 05:45	30-Sep-2021 07:01	1:16	0	0	0.000	0.000	37887	48581	400 KV Unnao(UP)-Jehta_Hardoi Road (UP) (PG) Ckt-2 tripped on B-N phase to earth fault after unsuccessful A/R operation. At the same time, 400 KV Agra-Unnao (UP) Ckt-1 also tripped from Agra end only on pole discrepency relay operation during A/R operation. Fault distance was 275km(100%) from Agra end. As per PMU, B-N phase to earth fault with unsuccessful A/R is observed. In antecedent condition, 400 KV Unnao(UP)-Jehta_Hardoi Road (UP) (PG) Ckt-2 & 400 KV Agra-Unnao (UP) Ckt-1 were carrying 6MW & 145MW respectively.	1) 400 KV Agra-Unnao (UP) Ckt-1 2) 400 KV Unnao(UP)-Jehta_Hardoi Road (UP) (PG) Ckt-2

Details of Grid Events during the Month of September 2021 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	GD-1	WR	06-Sep-21 00:35	06-Sep-21 00:43	0:08	-	350	-	0.79%	48179	44055	At 00:35 Hrs/06-09-2021, 220 kV Suhela- Bemetara 1 tripped on R-E fault. After the tripping of circuit 1, 220 kV Suhela- Bemetera 2 tripped on O/C protection operation. Prior to the event, 220 kV Bemetara-Khedamara was kept on open condition (from 23:24 Hrs/05-09-21) for controlling loading of NSPCL ICTs. This resulted in total interruption at 220KV Bemetara, Mungeli, Gendpur substations & 132KV Mungeli, Lormi, Takhatpur, Pandaria, Kawardha, Gandai, Saja and Dhamdha substations.	Tripping of 1. 220 kV Suhela- Bemetera 1&2
2	GI-2	WR	07-Sep-21 16:05	07-Sep-21 18:39	2:34	-	-	-	-	48265	46089	At 16:05 Hrs/07-09-2021, all the elements connected to 400 kV Bus 1&2 at Kirnapur tripped on Busbar protection operation due to blasting of 400 KV Bus coupler B Phase CT.	Tripping of 1.400 kV Kirnapur- Bhilai 2.400 kV Kirnapur- Seoni 3.400/132 kV Kirnapur ICTs 1&2
3	GD-1	WR	11-Sep-21 15:58	11-Sep-21 16:32	0:34	-	80	-	0.18%	45618	43389	On 11-09-2021, Outage was availed for 220KV Suva Main Bus-2 in Morning & outage planned for 220KV Suva Main Bus-1 in afternoon for providing the jumpers from 220 kV GACL NALCO 1&2. Jumpering work of 220KV Bus-2 completed and 220KV Bus-2 was restored at 14.37Hrs. For availing 220 kV Bus 1 outage all the elements connected were transferred one by one to 220 kV Bus 2. At 15:58 Hrs, while transferring 220/66 kV ICT 1 from Bus 1 to Bus 2, its Earth Switch 1 in Y phase HGIS module operated and resulted in tripping of all the elements.	Tripping of 1.220 kV Suva- Gavasad 2.220 kV Suva- Kosamba 3.220 kV Suva- Dahej 4.220 kV Suva- DGEN 5.220 kV Suva- China steel 1&2 6.220 kV Suva- GNFC 1&2 7.220 kV Suva- MRF
4	GD-1	WR	14-Sep-21 16:53	14-Sep-21 18:05	1:12	105	-	0.23%	-	44953	43719	At 16:54 Hrs/14-09-2021, 220 kV Bhuj Bus 1 and all the connected elements tripped on Gas Zone trip due to moisture ingress in B phase compartment of CB of 220kV Bhuj-Vadva line. There was a wind generation loss of 105 MW at GIWEL-II due to loss of evacuation path at 220 kV Vadva substation.	Tripping of 1.220 kV Bhuj- Vadva 2.220 kV Bhuj- Ratadiya 1 3. 400/220 kV Bhuj ICTs 3&5
5	GI-2	WR	20-Sep-21 12:03	20-Sep-21 12:26	0:23	-	-	-	-	52960	48490	At 12:03 Hrs/20-09-2021, 400 kV Bus 2 side B phase isolator of 50 MVAR Kasor BR closed inadvertently during the tracing of DC leakage which resulted in tripping of all the elements connected to 400 kV Kasor Bus 1. As reported by GETCO, the DC leakage was due to faulty Motor limit switch. Prior to the event, 400 kV Kasor Bus 1 was under planned outage for realignment of 400 KV B phase Bus 2 side pantograph isolator of 125 MVAR BR.	Tripping of 1. 400 kV Kasor- Rajgarh 1&2 2.400 kV Kasor- Chorania 3.400 kV Kasor- GPEC 4.400 kV Kasor- SSP 5. 400/220 kV Kasor ICTs 1,2&3
6	GI-1	WR	22-Sep-21 10:26	22-Sep-21 11:45	1:19	-	205	-	0.42%	50368	49108	At 10:26 Hrs/22-09-2021, four 220 kV lines tripped on Earth fault protection operation at 220kV New Kharadpada S/s. 220 kV Kala 1&2 A//R successfully at the same time at New Kharadpada end. There was a load loss of 205 MW due to the event.	Tripping of 1.220 kV New Kharadpada- Kharadpada 1&2 2.220 kV New Kharadpada- Reliance 1&2
7	GD-1	WR	23-Sep-21 14:40	23-Sep-21 16:20	1:40	55	-	0.12%	-	46642	46504	At 14:40 Hrs/23-09-2021, During B-E fault on 220 kV Bhuj-Dayapar 2, all the elements at 220 kV Dayapar tripped on LBB maloperation of 220 kV Bhuj 2 at Dayapar end. There as a generation loss of around 55 MW due to the event at Dayapar (INOX) wind plant.	Tripping of 1. 220 kV Bhuj-Dayapar 2 2. 220/33 kV Dayapar ICTs 1,2&3
8	GI-1	WR	23-Sep-21 17:15	23-Sep-21 17:45	0:30	-	48	-	0.10%	48036	47239	At 17:15 Hrs/23-09-2021, four 220 kV lines tripped on Earth fault protection operation at 220kV New Kharadpada S/s during operation of Bus-2 isolator of 220kV Kala-New Khadarpada-1 . This occurred while shifting of 220kV Kala-New Khadarpada-1 from Bus-2 to Bus-1 to attend hot spot on R Phase T clamp of 220 KV Main Bus -2 (over 220 KV Reliance Line 2 Bay).	Tripping of 1.220 kV New Kharadpada- Kharadpada 1&2 2.220 kV New Kharadpada- Reliance 1&2
9	GD-1	WR	24-Sep-21 14:35	24-Sep-21 15:22	0:47	35	-	0.07%	-	47313	46496	At 14:35 Hrs/24-09-2021, 220 kV Bhuj-Gadhsisa tripped on R-E fault resulted in generation loss of 41.4 MW at Gadsissa (Renew Power) wind generation plant due to loss of evacuation path.	Tripping of 1.220 kV Bhuj- Gadhsisa
10	GI-1	WR	27-Sep-21 17:40	27-Sep-21 19:33	1:53	-	90	-	0.19%	47678	46688	At 17:40 hrs/27-09-2021, 220 kV Magarwada- Magarwada(PG) D/C line tripped due to DEF protection operation at Magarwada end. As intimated by SLDC DD, DEF protection operated due to delayed clearance of R-E fault in 66 kV Varkund – Dalwada D/C.	Tripping of 1.220 kV Magarwada- Magarwada(PG) D/C

Details of Grid Events during the Month of September 2021 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)		
11	GD-1	WR	28-Sep-21 21:54	28-Sep-21 22:40	0:46	41.4	-	0.08%	-	49174	44399	At 21:54 Hrs/28-09-2021, 220 kV Bhuj-Gadhsisa tripped on R-E fault resulted in generation loss of 41.4 MW at Gadsissa (Renew Power) wind power plant due to loss of evacuation path.	Tripping of 1.220 kV Bhuj- Gadhsisa
12	GD-1	WR	29-Sep-21 15:24	29-Sep-21 16:27	1:03	680	-	1.41%	-	48184	44784	At 15:24 hrs/29-09-2021 400 kV MB Power- Jabalpur 1&2 tripped on R-E fault at MB Power end only. A/R operated successfully at Jabalpur end. Due to loss of evacuation path, MB Power unit 1 (600 MW) & unit 2 (600 MW) tripped. There was a generation loss of 680 MW due to the event.	Tripping of 1. 400 kV MB Power- Jabalpur 1&2 2. 600 MW MB Power Units 1&2

Details of Grid Events during the Month of September 2021 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	Ramchandrapur	03-Sep-21 21:52	03-Sep-21 22:07	00:15	0	200	0.00%	0.83%	29440	23982	At 21:52 hrs, Bus PT of 220 kV Bus-2 at Ramchandrapur burst, leading to tripping of both 220 kV buses at Ramchandrapur. This led to total power failure at Ramchandrapur. Around 200 MW load loss occurred in Adityapur, Rajkharsawan and Jadugoda. All loads shifted to alternate sources by 22:07 Hrs. Adityapur and Jadugoda was shifted to Chandil and Rajkharsawan was shifted to Chaibasa. 220 kV Main Bus 1 at Ramchandrapur was charged at 01:28 Hrs. All elements revived by 02:56 Hrs.	220 kV Main Bus I & II at Ramchandrapur 220 KV Jamshedpur-Ramchandrapur I, II & III (400/220 kV ICT I, ICT II & ICT III at Jamshedpur) 220 kV Joda-Ramchandrapur 220 kV Chandil-Ramchandrapur 220 kV Chaibasa-Ramchandrapur D/c 3*150 MVA 220/132 kV ICT I, ICT II, ICT III at Ramchandrapur
2	GD-1	Patratu	12-Sep-21 16:01	12-Sep-21 19:27	03:26	0	15	0.00%	0.07%	27707	20836	At 16:01 hrs, total power supply failure occurred at 220/132 kV Patratu (PTPS) S/s. Total 15 MW load loss reported, power supply to Patratu interrupted. During restoration, Patratu S/s again became became while charging 132 kV Patratu-Patratu (DVC) (line usually kept idle charged from JUSNL). Only 132 kv side became dead as 220 kV side wasn't charged till that time.	220 kV Main Bus I & II at Patratu 220 KV Patratu-Tenughat 220 kV Patratu-Hatia D/c 150 MVA 220/132 kV ICT II at Patratu 132 kV Patratu-Hatia D/c 132 kV Patratu-Kanke 132 kV Patratu-Patratu (DVC)-1
3	GD-1	Upper Kolab	18-Sep-21 17:59	18-Sep-21 18:57	00:58	73	0	0.26%	0.00%	27634	20795	At 17:59 hrs, all three circuits emanating from 220 kV UpperKolab HEP tripped and 220 kV bus became dead while synchronizing U#2 at UpperKolab. 73 MW generation loss occurred due to tripping of running U#1. All elements except U#2 revived by 20:02 Hrs	220 kV Main Bus I & II at UpperKolab 220 kV UpperKolab-Jaynagar-1 220 kV UpperKolab-Jaynagar-2 220 kV UpperKolab-Therubali-1 80 MW U#1 at UpperKolab
4	GD-1	Garwah	26-Sep-21 15:31	26-Sep-21 16:26	00:55	0	34	0.00%	0.18%	23527	18533	At 15:31 Hrs, 220 kV Daltonganj-Garwah (New) D/c tripped on B_N fault leading to total power failure at 220/132 kV Garwah (New) S/s. Total 34 MW load loss occurred (including 11 MW traction loss at Garwah). Traction load was shifted to Rihand at 15:32 Hrs and power supply restored at Garwah by 16:26 Hrs through 220 kV Daltonganj-Garwah (New)-2. Ckt I was charged at 17:11 Hrs	220 kV Bus-1 & 2 at Garwah (New) 220 KV Daltonganj-Garwah D/c
5	GD-1	Hazipur	28-Sep-21 17:18	28-Sep-21 17:30	00:12	0	230	0.00%	1.28%	23709	17911	At 17:18 hrs, both 220 kV Buses at Hazipur tripped due to operation of LBB of 220 kV Hazipur-Amnour-II which led to total power failure at Hazipur and Amnour. Around 230 MW load loss occurred at Hazipur, Siwan, Chhapra, Amnour, Sithalpur. All elements except 220 kV Hazipur-Amnour II revived by 18:11 Hrs	220 kV Main Bus I & II at Hazipur 220 kV Hazipur-Muzaffarpur D/c 220 kV Hazipur-Amnour D/c 220 kV Hazipur-Barauni (BTPS)-2 1*200 MVA 220/132 kV ICT I at Hazipur 2*100 MVA 220/132 kV ICT I, ICT II at Hazipur
6	GD-1	Ramgarh	29-Sep-21 01:24	29-Sep-21 01:30	00:06	0	150	0.00%	0.78%	24628	19291	At 01:24 hrs, total power failure occurred at 220/132 kV Ramgarh, 132 kV Patratu S/s and 132 kV North Karnpura S/s. Around 150 MW load loss occurred in Ramgarh, Patratu and North Karnpura. All elements revived by 01:57 Hrs	220 kV Main Bus I & II at Ramgarh 220 KV Ranchi-Ramgarh 220 kV Ramgarh-BTPS B D/c 2*150 MVA 220/132 kV ICT I, ICT II at Ramgarh
7	GD-1	Amnour	29-Sep-21 11:28	29-Sep-21 11:55	00:27	0	140	0.00%	0.76%	23317	18388	At 11:28 hrs, 220 kV Hazipur-Amnour-1 tripped due to operation of bus bar protection at Hazipur. Total power failure occurred at Amnour as it was being through 220 kV Hazipur-Amnour-1, Ckt-2 was under breakdown. Around 140 MW load loss occurred at Siwan, Chhapra and Amnour.	220 kV Main Bus I & II at Amnour 220 kV Hazipur-Muzaffarpur I 220 kV Hazipur-Amnour I 220 kV Hazipur-Barauni (BTPS)-2 220 kV Bus I at Hazipur

Details of Grid Events during the Month of September 2021 in Southern Region

Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration	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)	Name of Elements (Tripped/Manually opened)
	(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	Tamil Nadu	11-Sep-21 11:33	11-Sep-21 11:53	20mins	0	72	0.00	0.00	43523	44526	Complete Outage of 230kV/110kV/22kV Karaikudi_TN of TANTRANSCO: As per the report submitted, triggering incident was jumper cut between breaker to isolator in 230kV Karaikudi_TN Karaikudi_PG Line-2 at Karaikudi_TN end. This resulted in bus fault at 230kV Karaikudi_TN end. 230kV BBP operated and all the lines connected to 230kV Bus bar got tripped leading to 230kV Bus dead condition at 220kV/110kV/22kV Karaikudi_TN SS. During this 230kV Bus supply failure conditions, 110kV Sivagangai-Kavanu, which is one of the source feeders to 110kV Sivagangai SS got tripped due to line fault at 11:27hrs. Subsequently at 11:33hrs, 110kV Karaikudi-Valuthur line and 110kV Alagarkoil-Karaikudi linegot tripped due to over load, resulting in loss of supply at 110kV Bus of Karaikudi_TN SS. Hence there was complete outage of 220kV/110kV/22kV Karaikudi_TN SS during this event.	1. 230kV Karaikudi_PG Karaikudi_TN line -1,2 2. 230kV Karaikudi_TN-Valuthur 3. 230kV Karaikudi_TN-Kavanoor line-1,2,3& 4 4. 230kV Karaikudi_TN-N.T.Kudi
2	GD-1	Andhra Pradesh	19-Sep-21 10:00	19-Sep-21 10:17	17mins	71	0	0.00	0.00	45605	47918	Complete Outage of 220kV Upper Sileru PH and 220kV Donkarai PH of APGENCO: As per the report submitted, triggering incident was, tripping of 220 KV Upper Sileru - Donkarai and 220 KV Upper Sileru- Pendurthy lines on operation of earth fault protection at Donkarai and Pendurthy ends respectivley. At the same time, 220kV Lower Sileru Donkarai line tripped on Lower Sileru end.This led to tripping of two units due to loss of evacuation at 220kV Upper Sileru PH . This also led to complete outage fo 220kV Donkarai PH due to loss of evacuation.	1. 220kV Upper Sileru - Donkarai 2. 220kV Upper Sileru- Pendurthy 3. 220kV Lower Sileru Donkarai 4. Upper sileru U#4 5. Donkarai U#1
3	GD-1	Andhra Pradesh	19-Sep-21 11:48	19-Sep-21 12:33	45mins	123	0	0.00	0.00	47867	49500	Multiple Tripping in 220kV Lower Sileru PH and Complete Outage of 220kV Upper Sileru PH and 220kV Donkarai PH of APGENCO: During antecedent conditions, 220kV Upper Sileru and 220kV Donkarai were radially connected from 220kV/132kV Bommuru SS through 220kV Lower Sileru Bus-2 . 220kV Lower Sileru was oeprating in bus split condition. Triggering incident was tripping of 220 kV Lower Sileru - Bommuru line on B-N fault. This resulted in deenergisation of 220kV Lower Sileru Bus-2 and complete outage of 220kV Upper Sileru PH and 220kV Donkarai PH .	1. 220 kV Lower Sileru - Bommuru 2. Upper sileru U#2 and 3 3. Donkarai U#1
4	GD-1	Karnataka	19-Sep-21 12:55	19-Sep-21 14:45	1hr 50mins	0	130	0.00	0.00	46023	48389	Complete outage of 220kV/110kV Mahalingapura SS of KPTCL: As per the report submitted, triggering incident was R-phase conductor snapping of 220kV Mahalingapura Narendra Line-2 at Mahalingapura end resulting in bus fault. Immediately, BBP operated and all the elements connected 220kV bus got tripped. This resulted in complete outage of 220kV/110kV Mahalingapura SS.	1.220kV Mahalingapura Narendra Line-1 2. 220kV Mahalingapura Narendra Line-2 3. 220kV Mahalingapura Soudatti 4. 220kV Mahalingapura Kuduchi
5	GD-1	Karnataka	21-Sep-21 03:49	21-Sep-21 04:44	55mins	24	90	0.00	0.00	36978	36479	Complete Outage of 220kV GM Navar of M/s GM Navar, 220kV Nandhihal Switching Station , 220kV/110kV Bijapur SS and 220kV/110kV Indi SS of KPTCL :As per the report submitted, triggering incident was R-phase CT failure of 220kV Nandhihal GM Navar Line-2 at Nandhihal end. Immediately bus bar protection operated and all the lines connected to bus-1 got tripped. Since bus-2 was under maintanence, de-energidstion of bus-1 resulted in complete outage of 220kV Nandhihal Switching Station. Since, 220kV GM Navar, 220kV/110kV Indi SS and 220kV/110kV Bijapur SS were radially connected from 220kV Nandhihal, this resulted in complete outage of 220kV GM Navar , 220kV/110kV Indi SS and 220kV/110kV Bijapur SS .	1. 220kV Nandhihal to GM Navara line-1 and 2 2. 220kV Nandhihal to Kudgi_NTPC line-3,5 and 6
6	GD-1	Andhra Pradesh	26-Sep-21 02:48	-	-	0	0	0.00	0.00	36838	34741	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 Line -1
7	GI-2	Andhra Pradesh	11-Sep-21 03:58	11-Sep-21 05:44	1hr 46mins	0	0	0.00	0.00	32814	34198	Multiple Tripping in 400kV/220kV Gazuwaka SS and Tripping of BTB HVDC Gazuwaka Pole-1 and 2: At 03:58hrs, there was R-phase CT blast in 400kV Jeypore Gazuwaka Line-1 and Filter Bank Tie Bay at Gazuwaka end. Line-1 got tripped on operation of Teed protection and filter bank got tripped on operation of interzone protection. Due to this, HVDC Gazuwaka Pole-1 got tripped on loss of filter protection. At 04:02hrs, 400kV Jeypore Gazuwaka Line-2 got tripped on over-voltage protection at Gajuwaka end and DT was received at Jeypore end. As both Jeypore Gazuwaka Line-1 & 2 got tripped, there was no AC side voltage from East side, and hence HVDC Gazuwaka Pole-2 also got tripped during this event.	1. HVDC BTB Gazuwaka Pole-1 and 2 2. 400kV Gazuwaka Jeypore-1 and 2
8	GI-2	Karnataka	15-Sep-21 18:55	16-Sep-21 09:04	14hrs 09mins	0	0	0.00	0.00	43159	44443	Tripping of 400kV Bus-1 of 400kV/220kV Nelamangala SS of KPTCL:As per the report submitted, triggering incident was maloperation of Bus-1 BBP at Nelamangala end and main circuit breakers of all the lines connected to Bus-1 got tripped. At the same time, 400kV Nelamangala Hiriyur Line-2 tripped on operation of over voltage protection at Nelamangala end and DT was received at Hiriyur end.	1. 400kV Nelamangala Hiriyur Line-2
9	GI-1	Tamil Nadu	20-Sep-21 20:21	21-Sep-21 02:07	5hr 46mins	0	0	0.00	0.00	39785	42471	Tripping of 230kV Bus-1 of 230kV/110kV Gummidipoondi SS of TANTRANSCO: As per the report submitted, triggering incident was B-N fault in 230kV Gummidipoondi ARS feeder. At the same time, 230kV Bus-1 BBP protection operated and all elements connected to 230kV Bus-1 of 230kV/110kV Gummidipoondi SS got tripped.	1. 230kV Gummidupoondi Sullurpet 2. 230kV Gummidipoondi ARS feeder

Details of Grid Events during the Month of September 2021 in Southern Region

Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration	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)	Name of Elements (Tripped/Manually opened)
	(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)		
10	GI-1	Tamil Nadu	23-Sep-21 15:38	25-Sep-21 19:40	52hrs 2mins	0	0	0.00	0.00	43861	43963	Tripping of 230kV Bus of 400kV/230kV MTPS St-3 Generating Station of TANGEDCO: During antecedent conditions, 230kV Bus-2 was under LC. Triggering incident was failure of 230kV Bus-1 side B-phase insulator of 230kV MTPS ST-3 Gobi feeder at 230kV MTPS end. Immediately 230kV Bus-1 BBP operated and all the connected elements got tripped.This resulted in De-energisation of 230kV bus of 400kV/230kV MTPS St-3 generating station	1. 400/230kV ICT-1 at MTPS St3 2. 400/230kV ICT-2 at MTPS St3 3. 230KV Thingalur Feeder 4. 230KV Gobi Feeder 5. 230KV Mettur Auto SS Feeder 6. 230KV MTPS-1 Feeder 7. 230KV Station Transformer
11	GI-1	Tamil Nadu	28-Sep-21 09:25	28-Sep-21 10:22	57mins	0	0	0.00	0.00	44471	42322	Tripping of 230kV Bus of 230kV/110kV/22kV Karaikudi_TN SS of TANTRANSCO: As per the report submitted, triggering incident was failure of Y-phase bus PT of 230kV Bus at Karaikudi TN. Immediately, 230kV Bus BBP operated and all the connected elements of 230kV bus got tripped at 230kV/110kV/22kV Karaikudi_TN SS. 110kV was intact during this event.	1. 230kV Karaikudi TN Kavanur-1, 3 &4 2. 230kV Karaikudi TN N T Kudi 1&2 3. 230kV Karaikudi TN Karaikudi (PGCIL)-1& 2 4. 230kV Karaikudi TN Valthur

Details of Grid Events during the Month of September 2021 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	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Stations	03-Sep-21 08:35	03-Sep-21 09:02	0:27:00	0	20	0.0	0.0	2391	2188	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Station were connected with the rest of NER Grid through 132 kV Balipara-Tenga Line. At 08:35 Hrs on 03.09.2021,132 kV Balipara-Tenga Line tripped. Due to tripping of this element, Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Station were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Balipara - Tenga line
2	GD-I	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Stations	03-Sep-21 10:08	03-Sep-21 10:18	0:10:00	0	20	0.0	0.0	2341	2301	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Station were connected with the rest of NER Grid through 132 kV Balipara-Tenga Line. At 10:08 Hrs on 03.09.2021,132 kV Balipara-Tenga Line tripped. Due to tripping of this element, Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi Generating Station were separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.	132 kV Balipara - Tenga line
3	GD-I	Pasighat Area of Arunachal Pradesh Power System	03-Sep-21 11:37	03-Sep-21 12:39	1:02:00	0	15	0.0	0.0	2272	2373	Pasighat, Roing,Tezu & Namsai areas of Arunachal Power System were connected with the rest of NER Grid through 132 kV Along-Pashighat line. At 11:37 Hrs on 03.09.2021, 132 kV Along-Pashighat line tripped. Due to tripping of this element, Pashighat and the radially connnected Roing, Tezu & Namsai areas of Arunachal Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Along-Pashighat line
4	GD-I	Pasighat, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System	04-Sep-21 11:43	04-Sep-21 12:43	1:00:00	0	12	0.0	0.0	2139	2470	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 11:43 Hrs of 04.09.2021,132 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.	132 kV Along-Pashighat line
5	GD-I	Monarchak Generating station and Rabindranagar area of Tripura Power System	05-Sep-21 02:05	05-Sep-21 02:14	0:09:00	64	4	0.0	0.0	2709	2419	Monarchak Generating station and Rabindranagar area of Tripura Power System were connected with the rest of NER Grid through 132 kV Monarchak - Rokhia line and 132 kV Monarchak - Udaipur line. At 02:05 Hrs of 05.09.2021,132 kV Monarchak - Rokhia line and 132 kV Monarchak - Udaipur line tripped. Due to tripping of these elements, 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 this area.	132 kV Monarchak - Rokhia Line, 132 kV Monarchak - Udaipur Line.
6	GD-I	Karong area of Manipur Power System	05-Sep-21 09:12	05-Sep-21 09:28	0:16:00	0	10	0.0	0.0	2717	2299	Karong area of Manipur Power System was connected with the rest of NER Grid through 132 kV Imphal (Yurembam)-Karong Line and 132 kV Karong-Kohima Line. At 09:12 Hrs of 05.09.2021,132 kV Imphal (Yurembam)-Karong Line and 132 kV Karong-Kohima Line tripped. Due to tripping of these elements, Karong area of Manipur Power System was separated from the rest of NER Grid and subsequently collapsed due to no source in this area.	132 kV Imphal (Yurembam)-Karong Line and 132 kV Karong-Kohima Line
7	GD-I	Myndtu Leshka HEP of Meghalaya Power System	05-Sep-21 11:14	05-Sep-21 11:35	0:21:00	18	0	0.0	0.0	2731	2319	Myndtu Leshka HEP of Meghalaya Power System was connected with the rest of NER Grid through 132 kV Myntdu Leshka - Khleihriat D/C Line. At 11:14 Hrs of 05.09.2021,132 kV Myntdu Leshka - Khleihriat D/C Line tripped.Due to tripping of these elements, Myndtu Leshka HEP of Meghalaya Power System were separated from the rest of NER Grid and subsequently collapsed due to loss of evacuation path.	132 kV Myntdu Leshka - Khleihriat 1 Line, 132 kV Myntdu Leshka - Khleihriat 2 Line.
8	GD-I	Tenga and Khupi areas of Arunachal Pradesh Power System and DikshiHEP	06-Sep-21 09:56	06-Sep-21 15:56	6:00:00	3.1	20.1	0.0	0.0	2881	2152	Tenga and Khupi areas of Arunachal Pradesh Power System and DikshiHEP were connected with the rest of NER Grid through 132 kV BaliparaTenga Line. At 09:56 Hrs on 06.09.2021,132 kV Balipara-Tenga Line tripped. Due totripping of this element, Tenga and Khupi areas of Arunachal PradeshPower System and Dikshi HEP were separated from the rest of NERGrid and subsequently collapsed due to no source available in these areas.	132 kV Balipara - Tenga line & 132 kV Tenga-Khupi T/L
9	GD-I	Lumshnong Area of Meghalaya Power System	06-Sep-21 18:39	06-Sep-21 19:30	0:51:00	0	18	0.0	0.0	3290	2711	Lumshnong area of Meghalaya Power System was connected to the restof NER grid through 132 kV Khliehriat(MePTCL) - Lumshnong line.132 kV Lumshnong - Panchgram line was under outage since 18:24 Hrs on 06.09.2021. At 18:39 Hrs of 06.09.2021, 132 kV Khliehriat(MePTCL) - Lumshnongline tripped. Due to tripping of this element, Lumshnong area ofMeghalaya Power System was separated from the rest of NER Grid andsubsequently collapsed due to no source in this area.	132 kV Lumshnong - Panchgram line 132 kV Khliehriat(MePTCL) - Lumshnong line
10	GD-I	Rabindranagar Area and Monarchak Generating Station of Tripura Power System	08-Sep-21 15:05	08-Sep-21 16:04	0:59:00	60	5	0.0	0.0	3031	2448	Rabindranagar Area and Monarchak Generating Station of Tripura Power System were connected with rest of NER grid through 132 kV Monarchak- Rokhia Line. 132kV Monarchak- Udaipur Line was under State approved S/D from 10:17 Hrs on 08.09.2021. At 15:05 Hrs of 08.09.2021, 132 kV Monarchak- Rokhia Line tripped. Due to tripping of this element, Rabindranagar Area and Monarchak Generating Station of Tripura Power System were separated from rest of NER grid and subsequently collapsed due to load generation mismatch in this area.	132 kV Monarchak- Rokhia Line
11	GD-I	Myndtu Leshka HEP of Meghalaya Power System	09-Sep-21 14:42	09-Sep-21 15:23	0:41:00	123	0	0.0	0.0	2669	2411	Myndtu Leshka HEP of Meghalaya Power System was connected with the rest of NER Grid through 132 kV Myntdu Leshka - Khleihriat D/C Line. At 14:42 Hrs of 09.09.2021,132 kV Myntdu Leshka - Khleihriat D/C Line tripped.Due to tripping of these elements, Myndtu Leshka HEP of Meghalaya Power System were separated from the rest of NER Grid and subsequently collapsed due to loss of evacuation path.	132 kV Myntdu Leshka - Khleihriat 1 Line, 132 kV Myntdu Leshka - Khleihriat 2 Line.
12	GD-I	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi HEP	10-Sep-21 07:45	10-Sep-21 07:59	0:14:00	10	24	0.0	0.0	3181	2370	Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi HEP were connected with the rest of NER Grid through 132 kV Balipara-Tenga Line. At 07:45 Hrs on 10.09.2021,132 kV Balipara-Tenga Line tripped. Due to tripping of this element, Tenga and Khupi areas of Arunachal Pradesh Power System and Dikshi HEP were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Balipara - Tenga line, 132 kV Tenga-Khupi Line & Dikshi HEP Unit 1 & 2
13	GD-I	Karong area of Manipur Power System	11-Sep-21 06:50	11-Sep-21 06:57	0:07:00	0	14	0.0	0.0	2348	2060	Karong area of Manipur Power System was connected with the rest of NER Grid through 132 kV Imphal (MSPCL) -Karong Line and 132 kV Karong - Kohima Line. At 06:57 Hrs on 11.09.2021,132 kV Imphal (MSPCL) -Karong Line and 132 kV Karong - Kohima Line tripped. Due to tripping of these elements, Karong area of Manipur Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.	132 kV Imphal (MSPCL) -Karong Line and 132 kV Karong - Kohima Line

Details of Grid Events during the Month of September 2021 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)		
14	GD-I	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	11-Sep-21 11:46	11-Sep-21 12:17	0:31:00	0	15	0.0	0.0	2163	2346	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along-Pasighat Line. At 11:46 Hrs on 11.09.2021,132 kV Along-Pasighat Line tripped. Due to tripping of this element, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.	132 kV Along-Pasighat Line
15	GD 1	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	12-Sep-21 12:36	12-Sep-21 13:31	0:55:00	0	11	0.0	0.0	2546	2385	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along-Pasighat Line. At 12:36 Hrs on 12.09.2021,132 kV Along-Pasighat Line tripped. Due to tripping of this element,Pasighat, Roing, Tezu and 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.	132 kV Along-Pasighat Line
16	GD 1	Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi Areas of Manipur Power System	13-Sep-21 11:57	13-Sep-21 12:28	0:31:00	0	18	0.0	0.0	2641	2427	Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi areas of Manipur Power System were connected with the rest of NER Grid through 132 kV Loktak-Nigthoukhong Line, 132 kV Imphal(PG)-Ningthoukhong Line. 132 kV Kakching - Churachadpur and 132 kV Kakching - Elangkangpokpi were under Shutdown to avoid over loading of 132 kV Loktak - Ningthoukhong Line. At 11:57 Hrs on 13.09.2021,1132 kV Loktak-Nigthoukhong Line, 132 kV Imphal(PG)-Ningthoukhong Line tripped. Due to tripping of these elements, Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi areas of Manipur Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Loktak-Nigthoukhong Line, 132 kV Imphal(PG)-Ningthoukhong Line
17	GD-I	Tenga and Khupi areas of Arunachal Pradesh Power System	14-Sep-21 10:48	14-Sep-21 11:06	0:18:00	10	22	0.0	0.0	2617	2404	Tenga and Khupi areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga Line. At 10:48 Hrs on 14.09.2021,132 kV Balipara-Tenga Line tripped. Due to tripping of this element, Tenga and Khupi areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to load-generation mismatch in these areas.	132 kV Balipara - Tenga line
18	GD-I	Tenga and Khupi areas of Arunachal Pradesh Power System	14-Sep-21 11:28	14-Sep-21 18:52	7:24:00	10	14	0.0	0.0	2618	2338	Tenga and Khupi areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga Line. At 11:28 Hrs on 14.09.2021,132 kV Balipara-Tenga Line tripped. Due to tripping of this element, Tenga and Khupi areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to load-generation mismatch in these areas.	132 kV Balipara - Tenga line
19	GD-I	Kohima area of Nagaland Power System	15-09-2021 11:30	15-09-2021 12:02	0:32:00	0	16	0.0	0.0	2145	2550	Kohima area of Nagaland Power System was connected with the rest of NER Grid through 132 kV Karong-Kohima, 132 kV Kohima-Wokha and 132 kV Kohima-Dimapur(PG) lines. 132 kV Kohima-Meluri line was hand tripped by Nagaland due to Tower on verge of collapse . At 11:30 Hrs on 15.09.2021,132 kV Karong-Kohima, 132 kV Kohima-Wokha and 132 kV Kohima-Dimapur(PG) lines tripped . Due to tripping of these elements, Kohima area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	32 kV Karong-Kohima, 132 kV Kohima-Wokha and 132 kV Kohima-Dimapur(PG) lines
20	GD-I	Monarchak and Rabindranagar areas of Tripura Power System	15/Sep/21 12:09	15/Sep/21 12:13	0:04:00	61	5	0.0	0.0	2709	2419	Monarchak - Rokhia line and 132 kV Monarchak - Udaipur line. 132 kV Monarchak - Rokhia line was under emergency shutdown from 09:46 hrs of 15.09.2021. At 12:09 Hrs of 15.09.2021,132 kV Monarchak - Udaipur line tripped. Due to tripping of this elements, Monarchak and Rabindranagar areas of Tripura Power System were separated from the rest of NER Grid and subsequently collapsed due to load generation mismatch.	132 kV Monarchak - Rokhia line and 132 kV Monarchak - Udaipur line
21	GD-I	Dimapur area of Nagaland Power System	15-09-2021 19:28	15-09-2021 20:13	0:45:00	0	81	0.0	0.0	2811	3254	Dimapur area of Nagaland Power System was connected with the rest of NER Grid through & 132 kV Dimapur(PG) - Dimapur(Nagaland)-I line. 132 kV Dimapur(PG) - Dimapur(Nagaland)-II line was under outage since 09:27 Hrs on 15.09.2021. At 19:28 Hrs on 15.09.2021, 132 kV Dimapur(PG) - Dimapur (Nagaland)-I line tripped. Due to tripping of this element, Dimapur area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.	132 kV Dimapur(PG) - Dimapur(Nagaland)-I & 132 kV Dimapur(PG) - Dimapur(Nagaland)-II lines
22	GD-I	Margherita and Rupai areas of Assam Power System	16-Sep-21 14:10	16-Sep-21 14:19	0:09:00	0	97	0.0	0.0	2650	2215	Margherita and Rupai areas of Assam Power System were connected with the rest of NER Grid through 220/132 kV ICT 1 & 2 at Tinsukia S/S, 132 kV Tinsukia- Bordubi line and 132 kV Tinsukia-Dibrugarh line. At 14:10 Hrs on 16.09.2021,220/132 kV ICT 1 & 2 at Tinsukia S/S,132 kV Tinsukia- Bordubi line and 132 kV Tinsukia-Dibrugarh line tripped. Due to tripping of these elements, Margherita and Rupai areas of Assam Power System were separated from the rest of NER Grid and subsequently collapsed due to no source in these areas.	220/132 kV Tinsukia ICT 1 & 2, 132 kV Tinsukia- Bordubi and 132 kV Tinsukia-Dibrugarh lines
23	GD-I	132 kV Mokokchung (DoP, Nagaland) Area of Nagaland Power System	18-Sep-21 10:37	18-Sep-21 11:02	0:25:00	0	23	0.0	0.0	2510	2126	132 kV Mokokchung (DoP, Nagaland) area of Nagaland Power System was connected to the rest of NER Grid through 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C Lines and 132 kV Doyang-Mokokchung (DoP, Nagaland) Line. At 10:37 Hrs on 18.09.2021, 132 kV Doyang-Mokokchung (DoP, Nagaland) Line and 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C Lines tripped. Due to tripping of these elements, 132 kV Mokokchung (DoP, Nagaland) area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source in the area.	132 kV Doyang-Mokokchung (DoP, Nagaland) line, 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C lines
24	GD-I	Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi Areas of Manipur Power System	20-Sep-21 13:31	20-Sep-21 13:55	0:24:00	0	21	0.0	0.0	2475	2363	Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi areas of Manipur Power System were connected with the rest of NER Grid through 132 kV Loktak-Nigthoukhong Line & 132 kV Imphal(PG)-Ningthoukhong Line. 132 kV Kakching - Churachadpur and 132 kV Kakching - Elangkangpokpi were under Shutdown to avoid over loading of 132 kV Loktak - Ningthoukhong Line. At 13:31 Hrs on 20.09.2021,132 kV Loktak-Nigthoukhong Line & 132 kV Imphal(PG)-Ningthoukhong Line tripped. Due to tripping of these elements, Ningthoukhong, Churachandpur, Thanlon and Elangkangpokpi areas of Manipur Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Loktak-Nigthoukhong Line & 132 kV Imphal(PG)-Ningthoukhong Line

Details of Grid Events during the Month of September 2021 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)		
25	GD-I	Monarchak Power Station and Rabindranagar s/s	22-Sep-21 12:39	22-Sep-21 13:01	0:22:00	64	3	0.0	0.0	1799	2396	Monarchak Power Station and Rabindranagar area of Tripura Power System were connected with the rest of NER Grid through 132 kV Monarchak - Rokhia line. 132kV Monarchak-Udaipur line was under Shutdown. At 12:39 Hrs on 22.09.2021, 132 kV Monarchak - Rokhia line tripped. Due to tripping of this element, Monarchak Power 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 this area.	132 kV Monarchak - Rokhia line
26	GD-I	Kameng HEP of Arunachal Pradesh Power System	24-Sep-21 14:52	24-Sep-21 17:46	2:54:00	300	0	0.1	0.0	2115	2353	Kameng HEP of Arunachal Pradesh Power System was connected with the rest of NER Grid through 400 kV Balipara - Kameng II Line. 400 kV Balipara - Kameng I Line was under outage since 12:30 Hrs of 24.09.21 for infringement clearance between location 53-54. At 14:52 Hrs on 24.09.2021, 400 kV Balipara - Kameng II Line tripped. Due to tripping of this element, Kameng HEP of Arunachal Pradesh Power System was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	400 kV Balipara - Kameng II Line, Kameng Unit I and Unit II
27	GD-I	Karong area of Manipur Power System	26-Sep-21 10:13	26-Sep-21 10:22	0:09:00	0	12	0.0	0.0	1882	2304	Karong area of Manipur Power System was connected with the rest of NER Grid through 132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines. At 10:13 Hrs on 26.09.2021, 132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines 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 the area.	132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines
28	GD-I	Karong area of Manipur Power System	26-Sep-21 16:15	26-Sep-21 16:20	0:05:00	0	11	0.0	0.0	1895	2367	Karong area of Manipur Power System was connected with the rest of NER Grid through 132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines. At 16:15 Hrs on 26.09.2021, 132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines 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 the area.	132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima lines
29	GD-I	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	27-Sep-21 12:48	27-Sep-21 14:56	2:08:00	0	17	0.0	0.0	2371	2392	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along-Pasighat Line. At 12:48 Hrs on 27.09.2021,132 kV Along-Pasighat Line tripped. Due to tripping of this element,Pasighat, Roing, Tezu and 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.	132 kV Along-Pasighat Line
30	GD-I	Dharmanagar area of Tripura Power System	27-Sep-21 16:42	27-Sep-21 16:52	0:10:00	0	10	0.0	0.0	2583	2337	Dharmanagar area of Tripura Power System was connected with the rest of NER Grid through 132 kV Dharmanagar-PK Bari Line. 132 kV Dharmanagar - Dullavchera Line was under planned shutdown from 09:00 Hrs on 27.09.2021. At 16:42 Hrs on 26.09.2021, 132 kV Dharmanagar-PK Bari Line tripped. Due to tripping of this element, Dharmanagar area of Tripura Power System was separated from rest of NER Grid and subsequently collapsed due to no source available in the area.	132 kV Dharmanagar-PK Bari Line
31	GD-I	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System	28-Sep-21 08:52	28-Sep-21 09:14	0:22:00	0	10	0.0	0.0	2359	2041	Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along-Pasighat Line. At 08:52 Hrs on 28.09.2021,132 kV Along-Pasighat Line tripped. Due to tripping of this element,Pasighat, Roing, Tezu and 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.	132 kV Along-Pasighat Line
32	GD-I	Kohima area of Nagaland Power System & Karong area of Manipur Power System	28-Sep-21 13:23	28-Sep-21 13:42	0:19:00	0	23	0.0	0.0	2391	2463	Kohima area of Nagaland Power System & Karong area of Manipur Power System were connected with the rest of NER Grid through 132 kV Imphal (Yurembam)-Karong line, 132 kV Kohima-Wokha line & 132 kV Dimapur(PG)-Kohima line.132 kV Kohima-Meluri line was under shutdown due to tower on the verge of collapse. At 13:32 Hrs on 28.09.2021, 32 kV Imphal (Yurembam)-Karong line, 132 kV Kohima-Wokha line & 132 kV Dimapur(PG)-Kohima line tripped. Due to tripping of these elements,Kohima area of Nagaland Power System & Karong area of Manipur Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.	132 kV Imphal (Yurembam)-Karong & 132 kV Karong-Kohima, 132 kV Kohima-Wokha & 132 kV Dimapur(PG)-Kohima lines
33	GD-I	Mokokchung (DoP, Nagaland) area of Nagaland Power System	28-Sep-21 17:16	28-Sep-21 17:52	0:36:00	21	26	0.0	0.0	2674	2592	Mokokchung (DoP, Nagaland) area of Nagaland Power System was connected to the rest of NER Grid through 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C Lines and 132 kV Doyang-Mokokchung (DoP, Nagaland) Line. At 17:16 Hrs on 28.09.2021, 132 kV Doyang-Mokokchung (DoP, Nagaland) Line and 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C Lines tripped. Due to tripping of these elements, 132 kV Mokokchung (DoP, Nagaland) area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source in the area.	132 kV Doyang-Mokokchung (DoP, Nagaland) line, 132 kV Mokokchung(PG)-Mokokchung(DoP, Nagaland) D/C lines
34	GI 2	Assam	02-Sep-21 16:12	02-Sep-21 18:00	1:48:00	231	0	0.1	0.0	2428	2562	BgTPP Unit 2 tripped at 16:12 hours on 02-09-21 due to Air Pre-Heater Gear Box damage. Revision done from Block No. 73 on 02-09-21.	BgTPP Unit 2
35	GI 2	Assam	04-Sep-21 05:11	04-Sep-21 06:30	1:19:00	50	0	0.0	0.0	2145	2456	BGTPP Unit 3 tripped at 05:11 hours on 04-09-21 due to flame failure. Revision done from Block No. 27 on 04-09-21.	BGTPP Unit 3
36	GI 1	Assam	04-Sep-21 16:20	04-Sep-21 18:00	1:40:00	26	0	0.0	0.0	2715	2512	Khandong Unit 1 & 2 tripped at 16:20 hours on 04-09-21 due to high thrust bearing temperature. Revision done from Block No. 73 on 04-09-21.	Khandong Unit 1 & 2
37	GI 2	Assam	11-Sep-21 13:15	11-Sep-21 15:00	1:45:00	10	0	0.0	0.0	2245	2550	AGBPP Unit 7 tripped at 13:15 hours on 11-09-21 due to Exhaust pressure high. Revision done from Block No. 61 on 11-09-21.	AGBPP Unit 7
38	GI 2	Assam	22-Sep-21 06:35	22-Sep-21 08:00	1:25:00	29	0	0.0	0.0	2811	3254	AGBPP Unit 4 tripped at 06:35 hours on 22-09-21 due to tripping of gas Compressor 4. Revision done from Block No. 33 on 22-09-21.	AGBPP Unit 4

Details of Grid Events during the Month of September 2021 in North 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: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
	(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)		
39	GI 2	Assam	23-Sep-21 05:25	23-Sep-21 07:00	1:35:00	110	0	0.0	0.0	2447	2156	BgTPP Unit 3 tripped at 05:25 hours on 23-09-21 due to Combustion problem. Revision done from Block No. 29 on 23-09-21.	BgTPP Unit 3
40	GI 2	Assam	23-Sep-21 12:22	23-Sep-21 14:00	1:38:00	94	0	0.0	0.0	2657	2854	BgTPP Unit 1 tripped at 12:22 hours on 23-09-21 due to flame failure. Revision done from Block No. 57 on 23-09-21.	BgTPP Unit 1