

Details of Grid Events during the Month of January 2023 in Northern Region



Sl No.	Category of Grid Event (GI Inr 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 vs.2 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-Jan-2023 04:33	01-Jan-2023 17:18	12:45	0	0	0.000	0.000	31602	36851	1. As reported, at 04:33 hrs, 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-1 & 2 tripped on Y-N phase to earth fault, fault was in Z-1 from Bara end and in Z-2 from Meja end. 2. As per PMU at Mainpur(PG), Y-N phase to earth fault with fault clearing time of 560 ms followed by B-N phase to earth fault with fault clearing time of 320 ms is observed. 3. Further, as reported, 660 MW Unit-1 at Meja TPS tripped on generator differential protection operation at 04:50hrs.	1) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-1 2) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-2 3) 660 MW Meja TPS - UNIT 1
2	GD-1	Himachal Pradesh	04-Jan-2023 07:27	04-Jan-2023 14:50	7:23	0	600	0.000	1.195	46411	50202	1. As reported at 07:27hrs, Due to overloading of all 3 220/132kV 100MVA ICTs at hamirpur2(HP) (carrying ~107MVA each during antecedent condition) tripped. 2. Due to tripping of ICTs at Hamirpur2(HP), Hamirpur2(HP) 5/s got dead and due to cascade tripping at Kangoo, Nehrain & Hamirpur_1(HP), these 5/s also became dead. 3. As per PMU, no fault in system is observed. 4. As per SCADA, load loss of approx. 600MW in Uttarakhand control area is observed.	1) 220/132kV 100MVA ICT-1 at Hamirpur_2(HP) 2) 220/132kV 100MVA ICT-2 at Hamirpur_2(HP) 3) 220/132kV 100MVA ICT-3 at Hamirpur_2(HP) 4) 132 KV Hamirpur(H) Chahal (PS) (PSTCL) Ckt-1
3	GI-2	Uttar Pradesh	05-Jan-2023 06:23	05-Jan-2023 12:28	6:05	0	0	0.000	0.000	39367	46426	1. During antecedent condition, 660MW Unit-2 at Meja was generating approx. 500 MW. 2. As reported, at 06:23 hrs, 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-1 & 2 tripped on B-N phase to earth fault, fault was in Z-1 from Bara end. 3. As per PMU at Mainpur(PG), B-N phase to earth fault with fault clearing time of 560 ms is observed.	1) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-1 2) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-2
4	GD-1	Rajasthan	05-Jan-2023 13:21	05-Jan-2023 13:56	0:35	0	550	0.000	0.937	53705	58708	1. During antecedent condition, 220kV Hindaun220-Sikra(Dausa)(Raj) ckt was not in service and MVA loading of 400/220 kv 315 MVA ICT-1 & 2 at Hindaun(Raj) was 265 and 282 MVA respectively. 2. At 13:21 hrs, 400/220kV 315MVA ICT-1&2 both tripped on O/C protection operation. 3. As per PMU, no fault is observed in system. 4. As per SCADA, load loss of approx. 550MW is observed in Rajasthan control area.	1) 400/220 kv 315 MVA ICT -1 at Hindaun(Raj) 2) 400/220 kv 315 MVA ICT -2 at Hindaun(Raj)
5	GD-1	Uttarakhand	08-Jan-2023 12:17	08-Jan-2023 13:29	1:12	120	0	0.224	0.000	53454	60466	1. As reported at 12:17hrs, 132 KV Sherkot(UP)-Kalagarh(LK) (UP) Ckt & 132 KV Aftalgarh(UP)-Kalagarh(LK) (UP) Ckt was manually opened from UP end due to overloading of line. However, it was not done in coordination with SLDC-UK. 2. Due to outage of two (02) 220kV lines, all running three (03) 66MW units at Ramganga HEP tripped due to loss of evacuation path. 3. As per PMU, no fault in system is observed. 4. As per SCADA, loss of generation of approx. 120MW at Ramganga HEP occurred.	1) 66MW Ramganga HEP UNIT-1 2) 66MW Ramganga HEP UNIT-2 3) 66MW Ramganga HEP UNIT-3 4) 132 KV Sherkot(UP)-Kalagarh(LK) (UP) Ckt-1 5) 132 KV Aftalgarh(UP)-Kalagarh(LK) (UP) Ckt-1
6	GI-1	Rajasthan	09-Jan-2023 15:21	10-Jan-2023 06:02	14:41	38	0	0.081	0.000	46892	56519	1. PSS-2 AHEJ4L, 220/33 kv 150 MVA ICT 2 at AHEJ4L PSS 2 Fatehgarh tripped due to Differential protection operated at 15:21. 2. As per AHEJ4L PSS-2, it was observed that outgoing feeder No-307 Cable end termination kit failure caused this tripping. 3. As per SCADA data of ICT loading, generation loss of approx. 38 MW occurred at AHEJ4L-PSS2 at Fatehgarh. 4. Generation connected to ICT-2 was resumed through Bus coupler at 16:04.	1) 220/33 kv 150 MVA ICT 2 at AHEJ4L PSS 2 HB_FGRAH_FBTL (AHEJ4L)
7	GD-1	Rajasthan	11-Jan-2023 11:13	11-Jan-2023 12:52	1:39	0	420	0.000	0.697	53252	60250	1. During antecedent condition, 220kV Hindaun220-Sikra(Dausa)(Raj) ckt was not in service and MVA loading of 400/220 kv 315 MVA ICT -1 & 2 at Hindaun(Raj) was 258 and 281 MVA respectively. 2. At 11:13 hrs, 400/220kV 315MVA ICT-1&2 both tripped on O/C protection operation. 3. As per PMU, no fault is observed in system. 4. As per SCADA, load loss of approx. 420MW is observed in Rajasthan control area.	1) 400/220 kv 315 MVA ICT -1 at Hindaun(Raj) 2) 400/220 kv 315 MVA ICT -2 at Hindaun(Raj)
8	GD-1	Haryana	12-Jan-2023 16:56	12-Jan-2023 23:47	6:51	0	400	0.000	0.779	44192	51323	1. Multiple elements tripping occurred at Samaypur(BB) while charging of Bus-4 at 220 kv Samaypur 5/s which was under planned outage. 2. As per SCADA, approx. 400 MW Load Loss occurred in Haryana. 3. As per PMU at Ballabgarh(PG), B-N phase to earth fault with fault clearing time of 520 ms is observed.	1) 220 KV Ballabgarh(BB)-Badarpur(NT) (BB) Ckt-1 2) 220 KV Samaypur(BB)-Pall(HV) (HVPL) Ckt-1&2 3) 220KV Bus 3&4 at Samaypur(BB) 4) 220 KV Ballabgarh-Samaypur (BB) Ckt-2 5) 400/220 kv 500 MVA ICT 1,2,3&4 at Ballabgarh(PG) 6) 220 KV Palwal(HV)-Samaypur(BB) (HVPL) Ckt-2 7) 220 KV Samaypur(BB)-Badshahpur(HV) (HVPL) Ckt-1 & 2 8) 220 KV Ballabgarh-Charkhi Dadri (BB) Ckt-1 9) 220 KV Faridabad Sec-58 (HV)-Faridabad(NT) (HVPL) Ckt-1
9	GD-1	Uttar Pradesh	12-Jan-2023 05:53	13-Jan-2023 11:13	5:20	1200	0	3.212	0.000	37358	46439	1. During antecedent condition, 660MW Unit-1, 2 & 3 at Bara were generating approx. 430 MW, 405 MW and 415 MW respectively. 2. As reported, 400KV Bara - Meja ckt 1 & 2 tripped at 03:03 hrs & 03:48 hrs respectively on phase to earth fault. After tripping of 400KV Bara-Meja O/C generation of Bara TPS was evacuating only through 765KV Bara - Mainpur ckt 2 (ckt 1 was already out). 3. At 05:53hrs, 765 KV Bara-Mainpur (UP) Ckt-2 also tripped on R-N phase to earth fault. 4. After tripping of 765 KV Bara-Mainpur (UP) Ckt-2 at 05:53 hrs, 660 MW Bara PPGCL TPS - UNIT 1,2&3 tripped due to loss of evacuation path. 5. As per SCADA, approx. 1200 MW generation loss occurred in Uttar Pradesh. 6. As per PMU at Mainpur(PG), Y-N phase to earth fault with fault clearing time of 80 ms is observed at 03:04 hrs, Y-N followed by R-N phase to earth fault with fault clearing time of 760 ms is observed at 03:48 hrs and R-N phase to earth fault with fault clearing time of 80 ms is observed at 05:52 hrs.	1) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-1 2) 400 KV Bara(UP)-Meja TPS(MUNJ) (UP) Ckt-2 3) 765 KV Bara-Mainpur (UP) Ckt-2 4) 660 MW Bara PPGCL TPS - UNIT 1,2&3

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
10	GD-1	Rajasthan	12-Jan-2023 07:11	12-Jan-2023 09:16	2:05	0	220	0.000	0.462	44003	47635	1. During antecedent condition, 400/220 kV 315 MVA ICT 1,2&3 at Ratangarh(RS) were carrying approx. 133 MW each respectively. 2. As reported at 07:10hrs, Y-Ph CT at 220kV side of 400/220kV ICT-1 at Ratangarh(RS) burst. 3. At the same time, all the elements connected at 220kV Bus-2&2 tripped. 4. As per PMU at Sikar(PG), R-N phase to earth fault with fault clearing time of 80msec at 07:10:35hrs followed by R-B phase to phase fault with fault clearing time of 80msec at 07:10:36hrs is observed. 5. As per SCADA, change in load of approx. 220 MW observed in Rajasthan control area.	1) 220 KV Ratangarh(RS)-Sikar(PG) (PG) Ckt-1&2 2) 400/220 kV 315 MVA ICT 1,2&3 at Ratangarh(RS)
11	GD-1	Rajasthan	13-Jan-2023 05:32	13-Jan-2023 15:33	10:01	450	0	1.316	0.000	34182	41812	1. During antecedent condition, 135 MW Rajwest (IPP) LTFS - UNIT 1,2,3,4,5,6,7&8 were carrying approx. 65 MW each respectively. 2. As reported, 400 KV Rajwest(RW)-Kankani (RS) Ckt-1 and 400 KV Rajwest(RW)-Jodhpur (RS) Ckt-1 tripped due to heavy fog at 04:24 hrs and 04:51 hrs respectively. 3. Further at 05:32hrs, 400 KV Barmer(RS)-Rajwest(RW) (RS) Ckt-1 also tripped on phase to earth fault due to fog. With the tripping of 400 KV Barmer(RS)-Rajwest(RW) (RS) Ckt-1 135 MW Rajwest (IPP) LTFS - UNIT 1,2,3,4,5,6,7&8 tripped due to loss of evacuation path. 4. As per SCADA, approx. 450 MW generation loss occurred in Rajasthan. 5. As per PMU at Bhinmal(PG), B-N phase to earth fault with fault clearing time of 200 ms is observed.	1) 400 KV Rajwest(RW)-Kankani (RS) Ckt-1 2) 400 KV Rajwest(RW)-Jodhpur (RS) Ckt-1 3) 135 MW Rajwest (IPP) LTFS - UNIT 1,2,3,4,5,6,7&8 4) 400 KV Barmer(RS)-Rajwest(RW) (RS) Ckt-1
12	GI-2	Rajasthan	14-Jan-2023 13:03	14-Jan-2023 14:01	0:58	2340	0	4.481	0.000	52224	57073	1. At 13:03hrs, 765KV Ajmer-Bhadla2 ckt-2 tripped after unsuccessful A/R operation on R-N phase to earth fault as fault was of permanent in nature. 2. As per PMU, R-N phase to earth fault with unsuccessful A/R operation is observed and fault cleared within 100msec. 3. At the same time, significant reduction in RE generation also observed with delayed recovery due to non-compliance of LVRT. 4. As per PMU at Fatehgarh2(PG), voltage at 765KV level varied from 762KV (before fault) to 855KV (after fault). However, over voltage didn't sustain and no further tripping of ISTS element on over voltage observed. 5. 220KV Fatehgarh2-ASEJOL ckt-1&2 tripped on transient over voltage instantaneously. 6. As per SCADA, total reduction in RE generation of approx. 2340MW observed in Rajasthan RE generation complex (connected at ISTS pooling station).	1) 220 KV Fatehgarh_II(PG)-ASEJOL_HB FTGH2 (ASEJOL) (ASEJOL) Ckt-1 2) 220 KV Fatehgarh_III(PG)-ASEJOL_HB FTGH2 (ASEJOL) (ASEJOL) Ckt-2
13	GD-1	Rajasthan	14-Jan-2023 14:55	14-Jan-2023 16:51	1:56	3210	0	6.766	0.000	47441	52382	1. At 14:55hrs, 400KV Bassi-Heerapura ckt-2 tripped on R-Y phase to phase fault. 2. As per PMU, R-Y phase to phase fault is observed. 3. At the same time, significant reduction in RE generation also observed with delayed recovery due to non-compliance of LVRT which led to the over voltage in system. 4. As per PMU at Fatehgarh2(PG), voltage at 765KV level varied from 769KV (before fault) to 841KV (after fault). 5. On this over voltage multiple 765KV ISTS lines at 765KV RE pooling stations tripped. 6. As per SCADA, total reduction in RE generation of approx. 3210MW observed in Rajasthan RE generation complex (connected at ISTS pooling station).	1) 765 KV Fatehgarh_II(PG)-Bhadla(PG) (FBTL) Ckt-1 2) 765 KV Bhadla_2 (PG)-Fatehgarh_III(PG) (PFTL) Ckt-1 3) 220 KV Fatehgarh_III(PG)-Devkot SL_FTGH2 (NTPC_DEVKOT) (NTPC_DEVKOT) Ckt-1 4) 765 KV Bikaner(PG)-Khetri (PKTSL) (BKTL) Ckt-1 5) 400 KV Fatehgarh_II(PG)-Fatehgarh Pooling(FBTL) (FBTL) Ckt-1 6) 400 KV Bhadla(PG)-Fatehgarh Pooling(FBTL) (FBTL) Ckt-1 7) 400KV Bassi-Heerapura ckt-2
14	GD-1	Rajasthan	14-Jan-2023 15:18	14-Jan-2023 17:49	2:31	4468	0	9.602	0.000	46534	51684	1. At 15:18hrs, 400KV Phagi-Heerapura ckt-1 tripped on R-Y phase to phase fault. 2. As per PMU, R-Y phase to phase fault which cleared within 100msec is observed. 3. At the same time, significant reduction in RE generation also observed with delayed recovery due to non-compliance of LVRT which led to the over voltage in system. 4. As per PMU at Fatehgarh2(PG), voltage at 765KV level varied from 760KV (before fault) to 848KV (after fault). 5. On this over voltage multiple 765KV ISTS lines at 765KV RE pooling stations tripped. 6. During same time, 400KV Fatehgarh1-Fatehgarh2-i also tripped on over voltage which was only emanating path left for RE generation at Adani Solar Park. Prior to this, at 14:54 hrs on 14th Jan 2023, 400KV Fatehgarh1-Fatehgarh2-i tripped subsequent to multiple tripping at 765KV ISTS pooling station of RE on R-Y (L-L) fault at 400KV Bassi-Heerapura-H. Thus, evacuation path for 400KV Adani solar park loss at 15:18 hrs. 7. At the same time, SPS to relieve transmission congestions in Bikaner complex operated due to tripping of multiple 765KV lines at Bikaner(PG). On action of SPS, Thar Surya, SBSR, Tata Green Power and RENEW Power RE stations tripped. 8. As per SCADA, total reduction in RE generation of approx. 4468MW observed in Rajasthan RE generation complex (connected at ISTS pooling station).	1) 400 KV Bhadla-Jodhpur (RS) Ckt-1 2) 400 KV Bhadla(PG)-Bhadla_2 (PG) (FBTL) Ckt-2 3) 400 KV Fatehgarh_III(PG)-Fatehgarh Pooling(FBTL) (FBTL) Ckt-2 4) 400 KV Fatehgarh Pooling(FBTL)-Adani RenewPark_SL_FTGH2 (FBTL) (AREPR) (AREPR) Ckt-1 & 2 5) 400 KV Bhadla(PG)-Bhadla_2 (PG) (FBTL) Ckt-1 6) 765 KV Bikaner-Moga (PG) Ckt-1 7) 765 KV Bikaner-Bhadla_2 (PG) Ckt-1 8) 765 KV Bikaner-Moga (PG) Ckt-1 9) 400 KV Bhadla-Rangarh (RS) Ckt-1&2 10) 400 KV Phagi-Heerapura (RS) Ckt-1 11) 765 KV Bhadla(PG)-Bhadla(PG) (FBTL) Ckt-2 12) 765 KV Bikaner-Bikaner (PG) Ckt-1 13) 400 KV Bhadla-Merta (RS) Ckt-1 14) 400 KV Bhadla-Rangarh (RS) Ckt-1&2 15) 400 KV Bhadla(RS)-Bhadla(PG) (PG) Ckt-2 16) 400 KV Renew SuryaRavi_SL_BKN_PG (RSRPL)-Bikaner RENEW Solar(RENEW) (RENEW SURYARAVI (RSRPL)) Ckt-1 17) 400 KV Bikaner(PG)-Bikaner RENEW Solar(RENEW) (Renew Power) Ckt-1
15	GI-2	Uttar Pradesh	15-Jan-2023 12:25	15-Jan-2023 16:14	3:49	0	0	0.000	0.000	52228	57226	1. As reported at 12:25hrs, 400 KV Tanda(NT)-Basti(UP) (UP) Ckt-1 tripped on R-Y phase to phase fault, fault distance was 25.46km (E-1) from Basti end. 2. At the same time, 400 KV Tanda(NT)-Basti(UP) (UP) Ckt-2 & 400 KV Lucknow_1(PG)-Basti(UP) (PG) Ckt-1 also tripped. 3. As per PMU at Lucknow(PG), R-Y phase to phase fault with fault clearing time of 80 ms is observed. 4. As per SCADA, no load loss occurred in Uttar Pradesh control area.	1) 400 KV Lucknow_1(PG)-Basti(UP) (PG) Ckt-1 2) 400 KV Tanda(NT)-Basti(UP) (UP) Ckt-1&2
16	GD-1	Rajasthan	17-Jan-2023 08:56	17-Jan-2023 09:26	0:30	0	500	0.000	0.875	51397	57155	1. During antecedent condition, MVA loadings of 400/220 kV 315 MVA ICT-1 & 2 at Hindaun(Raj) were 284 and 307 MVA respectively. 2. At 08:56 hrs, 220KV Hindaun220-Sikar(Dausa)(Raj) ckt (carrying ~87MW) tripped which further resulted into overloading of 220KV Hindaun400-Hindaun220(Raj) ckt and 400/220KV 315MVA ICTs at Hindaun. Subsequently, 400/220KV 315MVA ICT-1&2 at Hindaun tripped on overcurrent protection operation. 3. As per PMU, no fault is observed in system. 4. As per SCADA, load loss of approx. 500 MW is observed in Rajasthan control area.	1) 400/220 kV 315 MVA ICT -1 at Hindaun(Raj) 2) 400/220 kV 315 MVA ICT -2 at Hindaun(Raj)

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
17	GD-1	Himachal Pradesh	24-Jan-2023 11:40	24-Jan-2023 13:35	1:55	114	0	0.229	0.000	49781	55570	1. During antecedent condition, 66MW Unit-2,3,4&5 were running and generating approx. 66MW, 66MW, 50MW & 60MW respectively. Unit-2,4&6 & 220kV feeders to Jalandhar ckt-2, Jessore ckt-1 and Dasuya ckt-2 were connected at 220kV Bus-2 and Unit-1,3&5, 220/66kV 40MVA Transformer and 220kV feeders to Bairasul, Jalandhar ckt-1 and Dasuya ckt-1 were connected at 220kV Bus-1. 2. As reported, busbar protection operated at 220 kV Bus-2 at Pong(BB) at 11:40 hrs. Hence all the elements connected to Bus-2 got tripped. As bus coupler between bus 1 and bus 2 got opened (as per SCADA SOE), all elements at Bus-1 remained connected. 3. As per PMU at Jalandhar (PG), no fault is observed. As reported, flashover in CB of Unit-4 at Pong HEP observed. 4. As per SCADA, total generation loss of approx. 114MW is observed at Pong HEP(BBMB).	1) 220 KV Jalandhar-Pong (BB) Ckt-2 2) 220 KV Pong(BB)-Dasuya(PS) (BB) Ckt-2 3) 66 MW Pong HPS - UNIT 2 4) 66 MW Pong HPS - UNIT 4 5) 220 KV Jessore(HF)-Pong(BB) (PG) Ckt-1 6) 220KV Bus 2 at Pong(BB)
18	GI-2	Uttar Pradesh	24-Jan-2023 01:54	24-Jan-2023 03:35	1:41	0	0	0.000	0.000	30774	34797	1. During antecedent condition, 765/400 kv 1000 MVA ICT 2, 400/220 kv 315 MVA ICT 1 and 400 kv feeders to Jehtha_Hardoi Road ckt-2, Agra ckt-1, Bareilly ckt-2, Panki ckt-1, Lucknow ckt-1 were connected to 400 kv Bus 1 at Unnao(UP). 400KV Unnao-Bareilly ckt-1 was not in service. 2. As reported, R-N phase to earth fault occurred on 400KV Unnao-Bareilly ckt-2, fault was in Z-1 from Unnao end. Line CB at Unnao end failed to open which led to LBB protection operation. Due to this, elements connected at 400KV Bus-1 at Unnao(UP) tripped. 3. As per PMU, R-N phase to earth fault with delayed clearance of 240msec is observed. 4. As per SCADA, no load loss is observed in Uttar Pradesh control area.	1) 765/400 kv 1000 MVA ICT 2 at Unnao(UP) 2) 400 KV Unnao(UP)-Jehtha_Hardoi Road (PG) Ckt-2 3) 400 KV Agra-Unnao (UP) Ckt-1 4) 400/220 kv 315 MVA ICT 1 at Unnao(UP) 5) 400 KV Bareilly-Unnao (UP) Ckt-2 6) 765/400 kv 1000 MVA ICT 1 at Unnao(UP) 7) 400 KV Unnao-Panki (UP) Ckt-1 8) 400 KV Unnao-Lucknow (UP) Ckt-1 9) 400KV BUS 1 AT UNNAO(UP)
19	GI-1	J&K	25-Jan-2023 20:05	25-Jan-2023 22:05	2:00	0	50	0.000	0.099	38835	50512	1. As reported, 132 kv Hiranagar(PDO)-Sewa_2(NH) (PG) Ckt-1&2 tripped on Y-N phase to earth fault (zone-1 protection operated). Fault current was 0.92 kA and distance was 1.5 km from Sewa_2(NH) end. 2. As per PMU at Sambha(PG), R-Y fault is observed with delayed clearance of 280 ms. 3. As per SCADA, change in load of approx. 50MW observed in J&K(UT) & Ladakh(UT) control area.	1) 132 KV Hiranagar(PDO)-Sewa_2(NH) (PG) Ckt-1 2) 132 KV Hiranagar(PDO)-Sewa_2(NH) (PG) Ckt-2
20	GI-2	Uttar Pradesh	26-Jan-2023 23:19	27-Jan-2023 00:13	0:54	0	0	0.000	0.000	32704	38123	1. During antecedent condition, 400 KV Anpara_B(UPUN)-Mau(UP) (UP) Ckt-1 & 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2 were carrying 242MW & 339MW respectively. 2. As reported at 23:19hrs, 400 KV Anpara_B(UPUN)-Mau(UP) (UP) Ckt-1 tripped on Y-N phase to earth fault. Fault was in Z-1 (2.5km, 1%) from Mau end and in Z-2(238km) from Anpara end. Line tripped after unsuccessful A/R operation from both the ends. 3. At the same time, 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2 also tripped from Anpara end only. Fault was in Z-2(154km) from Anpara end. 4. As per PMU, Y-N phase to earth fault with unsuccessful A/R operation is observed. 5. As per SCADA, no load loss is observed in Uttar Pradesh control area.	1) 400 KV Anpara_B(UPUN)-Mau(UP) (UP) Ckt-1 2) 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2
21	GI-2	Uttar Pradesh	28-Jan-2023 13:45	28-Jan-2023 16:58	3:13	0	0	0.000	0.000	50790	51943	1. As reported, testing and commissioning work of 400KV Bus bar protection at Muradnagar_1(UP) was being done by ZIV Firm engineer on behalf of M/S JSP Project Pvt.Ltd. to incorporate 2 (no.) of upcoming 400kv line bays i.e., Muradnagar-II to Simbawali. During this work, LBB protection maloperated multiple times i.e., 13:45hrs, 17:06hrs & 17:24hrs. 2. At 13:45hrs, on maloperation of LBB protection, 400KV Muradnagar_1-Mathura (UP) ckt, 400/220KV 315MVA ICT-2 at Muradnagar_1(UP) & 63MVA Bus reactor at Muradnagar_1(UP) tripped. 3. As per PMU at Anpara(UP), no fault in system is observed. 4. As per SCADA SOE, no change in demand of UP is observed. 5. As reported by SLDC-UP, 400KV bus bar protection is kept out of service due to multiple maloperation and issue has been taken up with M/S JSP Project Pvt Ltd. to resolve the same at the earliest.	1) 400KV Muradnagar_1-Mathura (UP) ckt 2) 400/220KV 315MVA ICT-2 at Muradnagar_1(UP) 3) 63MVA Bus reactor at Muradnagar_1(UP)
22	GD-1	Uttar Pradesh	28-Jan-2023 17:04	28-Jan-2023 19:15	2:11	190	0	0.424	0.000	44789	45727	1. During antecedent condition, 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2, 210MW Unit-1 at Anpara TPS & 400/132 kv 100 MVA ICT 1 at Anpara(UP) were connected at 400KV Bus-1 at Anpara (UP) and rest of the elements were connected at 400KV Bus-2. 2. As reported at 17:04hrs, 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2, 210MW Unit-1 at Anpara TPS & 400/132 kv 100 MVA ICT 1 at Anpara(UP) all tripped on bus bar-1 differential protection operation. 3. As per PMU at Anpara(UP), R-Y phase to phase fault with delayed clearance in 440msec is observed. 4. As per SCADA SOE, 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2 tripped from Sarnath end followed by tripping of all the elements connected at Bus-1 at Anpara(UP). 5. As per SCADA, generation loss of approx. 190MW in UP control area is observed (210MW Unit-1 at Anpara TPS tripped).	1) 400 KV Bus-1 at Anpara(UP) 2) 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2 3) 210 MW Anpara TPS - UNIT 1 4) 400/132 kv 100 MVA ICT 1 at Anpara(UP)
23	GD-1	Delhi	29-Jan-2023 15:50	29-Jan-2023 16:00	0:10	0	250	0.000	0.575	41000	43514	1. During antecedent condition, 220KV Masjid Moth S/s was fed from 220KV Maharanibagh-masjid Moth ckt-1&2 and 220KV Trauma Centre, 220KV R.K. Puram & 220KV Vasant Kunj were fed from 220KV Maharanibagh-Trauma Centre ckt-1&2. 2. As reported at 15:50hrs, a fire incident occurred near Sarai Kale Khan drain in the vicinity of 220KV cables. On this fire incident, 220KV Maharanibagh-masjid Moth ckt-1&2 and 220KV Maharanibagh-Trauma Centre ckt-1&2 were manually tripped due to safety reasons. 3. By 16:00hrs, load of Trauma Centre, RK puram & Vasant Kunj were restored by 220KV Taglakabad-Trauma Centre ckt-1&2. 4. As per SCADA, change in load of approx. 250MW observed in Delhi control area for around 5-10min.	1) 220 KV Maharanibagh-Masjid Moth ckt-1 2) 220 KV Maharanibagh-Masjid Moth ckt-2 3) 220 KV Maharanibagh-Trauma Centre ckt-1 4) 220 KV Maharanibagh-Trauma Centre ckt-2

Details of Grid Events during the Month of January 2023 in Northern Region



Sl No.	Category of Grid Event (GI Inr 2/ GD-1 to GD-5)	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HR:MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load %±2 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)		
24	GD-1	Rajasthan	30-Jan-2023 05:02	30-Jan-2023 12:24	7:22	730	0	2.465	0.000	29620	31593	1. As reported, 400 KV Rajwest(RW)-Jodhpur (RS) Ckt-1 tripped on Y-N phase to ground fault at 03:15 hrs, fault was in Z-1 from Rajwest end followed by 135 MW Rajwest (IPP) LTPS - UNIT 4 tripping at 03:17 hrs. Further at 03:48hrs, 400 KV Rajwest(RW)-Kankani (RS) Ckt-1 tripped on Y-N phase to ground fault, fault was in Z-1 (7.28km) from Rajwest end. 2. Further at 05:02hrs, 400 KV Barmer (RS)-Rajwest(RW) (RS) Ckt-1 also tripped on B-N phase to earth fault during fog, fault was in Z-1 from Rajwest end. With the tripping of 400 KV Barmer(RS)-Rajwest(RW) (RS) Ckt-1 135 MW Rajwest (IPP) LTPS - UNIT 1,2,3,5,6,7&8 tripped due to loss of evacuation path. 3. As per SCADA, approx. 730 MW generation loss occurred at 400KV Rajwest(RS) at 05:02hrs, prior to this 135MW Unit-4 at Rajwest tripped at 03:17hrs. 4. As per PMU at Jodhpur(RS), Y-N phase to earth fault with fault clearing time of 80 ms is observed at 03:14 hrs and 03:17 hrs, Y-N fault converted to R-Y fault with fault clearing time of 400 ms, B-N phase to earth fault with fault clearing time of 320 ms .	1) 400 KV Rajwest(RW)-Jodhpur (RS) Ckt-1 2) 135 MW Rajwest (IPP) LTPS - UNIT 4 3) 400 KV Rajwest(RW)-Kankani (RS) Ckt-1 4) 400 KV Barmer (RS)-Rajwest(RW) (RS) Ckt-1 5) 135 MW Rajwest (IPP) LTPS - UNIT 1 6) 135 MW Rajwest (IPP) LTPS - UNIT 2 7) 135 MW Rajwest (IPP) LTPS - UNIT 3 8) 135 MW Rajwest (IPP) LTPS - UNIT 5 9) 135 MW Rajwest (IPP) LTPS - UNIT 6 10) 135 MW Rajwest (IPP) LTPS - UNIT 7 11) 135 MW Rajwest (IPP) LTPS - UNIT 8

Other Events

1		Rajasthan	14-Jan-2023 12:06							53086	58851	1. At 12:06hrs, 220KV Heerapura-Niwana (RS) ckt tripped. 2. As per PMU, R-N phase to earth fault in system is observed. 3. On this fault, few of the RE stations connected at ISTS pooling stations in Rajasthan RE generation complex dropped their generation due to non compliance of LVRT. As per SCADA, transient drop in total RE generation of approx. 1100MW is observed.	Event of RE generation drop of approx. 1100MW in Rajasthan RE generation complex
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Details of Grid Events during the Month of January 2023 in Western 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	WR	04-Jan-23 12:03	04-Jan-23 12:31	0:28	449	-	0.007	-	68605	64079	At 11:22 Hrs/04-01-2023, 220 kV Bhuj- Ratadiya 2 tripped on Y-E fault. At 12:03 Hrs, 220 kV Bhuj- Ratadiya 1 tripped on Over current protection operation at Ratadiya end. Generation loss of 449 MW occurred at Ratadiya due to the loss of evacuation path.	Tripping of 1. 220 kV Bhuj- Ratadiya 1&2
2	GD-1	WR	04-Jan-23 15:26	05-Jan-23 13:08	21:42	116	-	0.002	-	65147	61577	At 15:26 Hrs/04-01-2023, 220 kV Bhuj- Baranda tripped on B-E fault. Generation loss of 116 MW occurred at Baranda(ASIPL) due to the loss of evacuation path.	Tripping of 1. 220 kV Bhuj- Baranda
3	GD-1	WR	10-Jan-23 02:01	10-Jan-23 04:52	2:51	23	-	0.000	-	52867	49913	At 02:01 Hrs/10-01-2023, 220 kV Indore-Pritamnagar (AWEMP1PL) line tripped on R-E fault. Due to loss of evacuation path, 23 MW generation loss occurred at 220 kV Pritamnagar(AWEMP1PL) wind power station	Tripping of 1. 220 kV Indore-Pritamnagar (AWEMP1PL)
4	GI-2	WR	11-Jan-23 20:08	11-Jan-23 22:50	2:42	-	-	-	-	67188	56491	At 20:08 Hrs/11-01-2023, 400 kV APL HVDC Bus 2 and all the connected elements tripped due to flashover of R phase CT of Converter transformer 1 Main bay. There was no generation loss due to the event.	Tripping of 1. 400 kV APL HVDC Bus 2 2. 400 kV APL- APL HVDC 1,3&6
5	GD-1	WR	19-Jan-23 17:06	20-Jan-23 17:45	0:39	21	-	0.000	-	64230	64656	At 17:06 Hrs/19-01-2023, 220 kV Bhuj II- Chugger (SKRPL) line tripped on Y-B phase fault. During patrolling, chain was found between Y&B phases. Due to loss of evacuation path, 21 MW generation loss occurred at 220 kV Chugger (SKRPL) Wind power station.	Tripping of 1. 220 kV Bhuj II- Chugger (SKRPL)
6	GI-1	WR	21-Jan-23 11:14	21-Jan-23 13:09	1:55	-	-	-	-	70459	68503	At 11:14 Hrs/21-01-2023, 220 kV Wardha(PG) Bus 1 and all the connected elements tripped on Busbar protection operation due to R phase insulator failure in TBC Bay. There was no load loss due to the event.	Tripping of 1. 220 kV Wardha(PG) Bus 1 2. 220 kV Wardha(PG)- Badnera 3. 220 kV Wardha(PG)- Bhugaon 4. 220 kV Wardha(PG)- Wardha(MH) 5. 400/220 kV Wardha(PG) ICTs 1&2
7	GI-1	WR	27-Jan-23 11:59	27-Jan-23 12:26	0:27	76	-	0.001	-	66600	64153	At 11:59 Hrs/27-01-2023, 220/33 kV Ramnagar Pahad ICTs 2&3 tripped on B-E fault due to failure of lightning arrester of Incomer (outgoing panel). Prior to the event, at 11:06 Hrs, 220/33 kV Ramnagar Pahad ICT 1 tripped due to failure of LV side R & Y phase lightning arrester of 33 kV/400 V Station Transformer-1. Due to these tripping, generation loss of 76 MW occurred at 220 kV Ramnagar Pahad.	Tripping of 1. 220/33 kV Ramnagar Pahad ICTs 1,2&3
8	GD-1	WR	28-Jan-23 23:36	29-Jan-23 01:00	1:24	177	-	0.003	-	54925	50994	At 23:36 Hrs/28-01-2023, 220 kV Bhuj- Ghadshisa line tripped on Voltage vector surge protection operation. Due to loss of evacuation path, 177 MW generation loss occurred at 220 kV Ghadshisa (Renew Power) Wind power station.	Tripping of 1. 220 kV Bhuj- Ghadshisa

Details of Grid Events during the Month of January 2023 in Southern Region



Sl No.	Category of Grid Event (GI for 2/ GD-1 to GD-5)	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)
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss(MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-1	Andhra Pradesh	03-Jan-23 19:58	05-Jan-23 16:12	44 hrs 14 mins	0	0	0.00%	0.00%	39005	38883	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 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
2	GD-1	Andhra Pradesh	05-Jan-23 22:20	06-Jan-23 10:57	12 hrs 37 mins	0	0	0.00%	0.00%	33834	35058	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
3	GD-1	Andhra Pradesh	06-Jan-23 20:10	08-Jan-23 09:44	37 hrs 34 mins	0	0	0.00%	0.00%	36042	39230	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
4	GD-1	Karnataka	17-Jan-23 06:48	17-Jan-23 07:02	14 mins	0	258	0.00%	0.72%	31594	35628	Complete Outage of 220kV/110kV Shahbad SS, 220kV/110kV Humnabad SS, 220kV/110kV Halburga SS, 220kV/110kV Kapnoor SS of KPTCL and 220kV/110kV Tandur SS of TSTRANSCO and Multiple trippings of 220kV/110kV Shahpur SS and 220kV/110kV Sedam SS of KPTCL. During antecedent conditions, 220kV Lingasugur Shahpur line was under outage. 220kV Sedam was under bus split operation. At Sedam end, 220kV Sedam tandur, 220kV Sedam Shahapur, 220kV Sedam Humnabad and 220kV/110kV Transformer-1 were connected to 220kV Bus-1. 220kV Sedam RTPS Line-1&2 and other loads were connected to 220kV Bus-2. 220kV/110kV Humnabad SS, 220kV/110kV Halburga SS, 220kV/110kV Kapnoor SS were being fed through 220kV Shahpur RTPS Line-1 & 2 from Shahpur and 220kV Sedam Tandur line from Sedam. At 06:48hrs, 220kV Shahpur bus coupler tripped on OCR while shifting major loads to Bus-1 (to which 220kV/110kV Shahbad SS, 220kV/110kV Humnabad SS, 220kV/110kV Halburga SS, 220kV/110kV Kapnoor SS were connected) and 220kV Shahpur RTPS Line-1 & 2 on Bus-2. This led to complete load shift on 220kV Sedam Tandur line and loss of supply to 220kV Bus-1 connected loads of 220kV/110kV Shahpur SS. Subsequently, while restoring the above lines, 110kV lines of 220kV/110kV Tandur SS and 220kV Tandur Shankarpally line tripped on operation of OC protection leading to loss of supply to 220kV Sedam Tandur line. This in turn led to complete outage of 220kV/110kV Shahbad SS, 220kV/110kV Humnabad SS, 220kV/110kV Halburga SS, 220kV/110kV Kapnoor SS and 220kV/110kV Tandur SS and tripping of 220kV Bus-1 of 220kV/110kV Shahpur SS and 220kV/10kV Sedam SS.	1. 220kV Tandur Shankarpally
5	GD-1	Karnataka	19-Jan-23 11:02	19-Jan-23 11:10	8mins	438	1229	0.90%	2.52%	48532	48811	Complete Outage of 220kV/66kV Hassan_KA SS, 220kV/110kV Arasikare SS, 220kV/110kV Kadur SS, 220kV/110kV Kibbanhalli (KB Cross) SS, 220kV/110kV Shiralkoppa SS, 220kV/110kV Sirsi, 220kV/110kV Shimoga SS, 220kV Sharavathy PH, 220kV Gerusuppa PH, 220kV Varahi PH, 220kV/110kV Heggundje SS, 220kV/110kV Puttur SS, 220kV/66kV Chikka Mangalore SS and Multiple Tripping at 220kV/66kV Honahalli SS and 220kV/110kV Kemas SS: As per the reports submitted, the triggering incident was tripping of 220kV Hassan_PG Hassan_KAR line and 220kV Hassan_PG Shimoga line. Subsequently due to generation reduction at Varahi and Sharavathy, there was complete outage of 220kV/66kV Hassan_KA SS, 220kV/110kV Arasikare SS, 220kV/110kV Kadur SS, 220kV/110kV Kibbanhalli (KB Cross) SS, 220kV/110kV Shiralkoppa SS, 220kV/110kV Sirsi, 220kV/110kV Shimoga SS, 220kV Sharavathy PH, 220kV Gerusuppa PH, 220kV Varahi PH, 220kV/110kV Heggundje SS, 220kV/110kV Puttur SS, 220kV/66kV Chikka Mangalore SS and Multiple Tripping at 220kV/66kV Honahalli SS and 220kV/110kV Kemas SS	1. 220kV Hassan Hassan_PG 2. 220kV Hassan Shimoga
6	GI-1	Karnataka	07-Jan-23 06:26	07-Jan-23 07:54	1hr 28mins	0	0	0.00%	0.00%	32194	40035	Tripping of 220kV Bus-1 of 400kV/220kV Guttur SS of KPTCL: As per the reports submitted, the triggering incident was the LBB maloperation of 220kV Guttur Guttur Line-1. Immediately, all the elements connected to 220kV Bus-1 tripped.	1. 220kV Guttur Neelagunda 2. 220kV Guttur Chitradurga 3. 220kV Guttur Wishwind IPP 4. 220kV Guttur Davanagere Line-2 5. 220kV Guttur Haveri Line-2 6. 400kV/220kV Guttur ICT-1 7. 220kV Guttur Ranebennur 8. 220kV Guttur Guttur Line-1&2
7	GI-1	Telangana	08-Jan-23 10:29	08-Jan-23 10:51	22mins	0	0	0.00%	0.00%	43153	47911	Tripping of 230kV Bus of 230kV/110kV Kadalangudi SS of TANTRANSCO: 230kV/110kV Kadalangudi SS is operating with single bus with transfer bus scheme at 230kV level. As per the reports submitted, circuit breaker failed to open at 230kV Kadalangudi SS for RN fault in 230kV Kadalangudi PP Nallur Line-1. Immediately, LBB operated and all the elements connected to the 230kV Bus tripped at 230kV/110kV Kadalangudi SS. 110kV Bus was intact during the event.	1. 230kV Kadalangudi PP Nallur line 2. 230kV Kadalangudi Neyveli line 3. 230kV Kadalangudi Neyveli TS-2 4. 230kV Kadalangudi PP Nallur Line-1&2 5. 230kV/110kV Kadalangudi Auto Transformer-1&2
8	GI-2	Tamil Nadu	09-Jan-23 06:55	09-Jan-23 11:23	4hr 28mins	0	0	0.00%	0.00%	29533	39692	Tripping of 400kV Bus-1 of 400kV/230kV/110kV Sholingannallur SS of TANTRANSCO: 400kV/230kV/110kV Sholingannallur SS has one and half breaker scheme at 400kV level. As per the reports submitted, the triggering incident was the maloperation of 400kV Bus-1 BBP at 400kV/230kV/110kV Sholingannallur SS. Immediately, all the main CBs connected to the bus tripped. DT was received at Kalvendapattu end of 400kV Sholingannallur Kalvendapattu Line-1 and the line tripped.	1. 400kV Sholingannallur Kalvendapattu Line-1
9	GI-2	Andhra Pradesh	19-Jan-23 09:00	19-Jan-23 11:15	2hr 15mins	0	0	0.00%	0.00%	42522	43874	Tripping of 400kV Bus-1 of 400kV/220kV Kalpakka SS of APTRANSCO: As per the reports submitted, the triggering incident was failure of Y-phase HV side CT of 400kV/220kV ICT-1 at 400kV/220kV Kalpakka SS which was connected to 400kV Bus-1. Immediately, 400kV Bus-1 BBP operated and all the elements connected to the bus tripped.	1. 400kV/220kV Kalpakka ICT-1 2. 400kV Maradam Kalpakka Line-1 3. 400kV Simhadri Kalpakka-3 & 4 4. 400kV Kalpakka HNPCL-1

Details of Grid Events during the Month of January 2023 in Eastern Region



Sl No.	Category of Grid Event (G1 or 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	Bantala	04.01.2023 04:42	04.01.2023 05:05	00:23	0	20	0.00%	0.12%	22853	16227	At 04:42 Hrs on 04th January 2023, total power failure occurred at 220/132 kV KLC Bantala S/s. As reported, LBB of 220 kV Bantala-NewTown AA-3 operated spuriously, leading to tripping of all associated feeders and transformers. Bantala has Single bus scheme. 20 MW load loss reported during the event by SLDC West Bengal.	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)
2	GD-1	Bantala	04.01.2023 05:42	04.01.2023 05:53	00:11	0	21	0.00%	0.13%	25508	16011	At 05:42 Hrs on 04th January 2023, total power failure occurred at 220/132 kV KLC Bantala S/s. As reported, LBB of 220 kV Bantala-NewTown AA-3 again operated spuriously, leading to tripping of all associated feeders and transformers. Bantala has Single bus scheme. 21 MW load loss reported during the event by SLDC West Bengal.	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)
3	GD-1	Ramchandrapur	04.01.2023 13:41	17.12.2022 14:04	00:23	0	100	0.00%	0.53%	26492	18909	At 13:41 Hrs, during LBB testing at Ramchandrapur, 220 kV Bus-2 at Ramchandrapur along with connected feeders tripped. 220 kV Bus-1 was under shutdown for LBB testing. This led to load loss of around 100 MW at Ramchandrapur, Adityapur.	220 kV Ramchandrapur-Jamshedpur-3 (400/220 kV ICT-3) 220 kV Ramchandrapur-Chaibasa-2
4	GD-1	Ramchandrapur	04.01.2023 14:24	04.01.2023 15:00	00:36	0	85	0.00%	0.45%	26759	18761	At 14:24 Hrs, during LBB testing at Ramchandrapur, 220 kV Bus-2 at Ramchandrapur along with connected feeders tripped again. 220 kV Bus-1 was under shutdown for LBB testing. This led to load loss of around 85 MW at Ramchandrapur, Adityapur.	220 kV Ramchandrapur-Jamshedpur-3 (400/220 kV ICT-3) 220 kV Ramchandrapur-Chaibasa-2

Details of Grid Events during the Month of January 2023 in North Eastern Region

Sl No.	Category of Grid Event (G1 to 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 1	Ningthoukhong area of Manipur Power System and Loktak HEP	20-Jan-23 13:30	20-Jan-23 14:02	0:32:00	0	10	0.00%	0.51%	2009	1967	<p>Ningthoukhong area of Manipur Power System and Loktak HEP were connected with the rest of NER Grid through 132 kV Loktak-Rengang line, 132 kV Imphal(PG) - Ningthoukhong line and 132 kV Loktak - Imphal(PG) line. 132 kV Ningthoukhong - Churachandpur D/C and 132 kV Loktak - Jiribam line were under planned shutdown.</p> <p>At 13:30 Hrs on 20.01.2023, 132 kV Loktak-Rengang line, 132kV Imphal(PG) - Ningthoukhong line and 132 kV Loktak - Imphal(PG) line tripped. Due to tripping of these elements, Ningthoukhong area of Manipur Power System and Loktak HEP were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.</p> <p>Power supply was extended to Loktak HEP by charging 132 kV Loktak-Rengang line at 14:02 Hrs on 20.01.2023 and to Ningthoukhong area by charging 132 kV Imphal(PG) - Ningthoukhong line at 14:18 Hrs on 20.01.2023.</p>	132 kV Loktak-Rengang line, 132 kV Imphal(PG) - Ningthoukhong line and 132 kV Loktak - Imphal(PG) line
2	GI-II	Tripura	10-Jan-23 18:52	10-Jan-23 20:30	1:38:00	327	0	11.85%	0.00%	2760	2669	Palatana GTG 2 & STG 2 tripped at 18:52 Hrs. on 10.01.2023 due to Stator Earth Fault. Revision done from Block No.83 on 10.01.2023.	Palatana Module II
3	GI-II	Assam	19-Jan-23 15:40	19-Jan-23 17:35	1:55:00	29	0	1.42%	0.00%	2038	1934	AGBPP Unit 6 tripped at 15:40 Hrs on 19-01-23 due to Rotor Earth Fault. Revision done from Block No.71 on 19-01-23.	AGBPP Unit 6
4	GI-I	Tripura	28-Jan-23 06:17	28-Jan-23 08:00	1:43:00	10	0	0.50%	0.00%	1993	1966	AGTCCPP Unit 4 tripped at 06:17 Hrs of 28-01-23 due to Inlet Air Filter Differential Pressure High. Revision done from Block No.33 on 28-01-23.	AGTCCPP Unit 4
5	GI-I	Tripura	31-Jan-23 16:36	31-Jan-23 18:30	1:54:00	15	0	0.62%	0.00%	2412	2273	AGTCCPP Unit 3 tripped at 16:36 Hrs on 31.01.2023 due to Unit Auxiliary Transformer trip. Revision done from Block No. 75 on 31.01.2023.	AGTCCPP Unit 3