

Details of Grid Events during the Month of Oct 2024 in Northern Region



Sl. No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (H: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	Rajasthan	05-10-2024 11:50	05-10-2024 22:25	10:35	310	0	0.488	0.000	63574	70955	<p>i) Generation of 220/33kV RSRPL FTG3 station evacuates through 220 KV Fatehgarh III(PG)- RSRPL_Hyb_FTHG3_PG (RENEW SURYA ROSHNI PRIVATE LIMITED) Ckt. During antecedent condition, RSRPL FTG3 station was generating approx. 310MW (as per PMU).</p> <p>ii) As reported, at 11:51hrs, 220 KV Fatehgarh III(PG)- RSRPL_Hyb_FTHG3_PG (RENEW SURYA ROSHNI PRIVATE LIMITED) Ckt. was hand tripped due to spark observed in B-Phase line isolator.</p> <p>iii) Due to tripping of 220 KV Fatehgarh III(PG)- RSRPL_Hyb_FTHG3_PG (RENEW SURYA ROSHNI PRIVATE LIMITED) Ckt, both ICT-1 & II of 220/33kV also tripped along with 220kV Bus-1 and Bus-II.</p> <p>iv) As per PMU, solar generation loss of approx. 312 MW is observed at 220kV RSRPL S/S.</p> <p>v) As per SCADA, during this event, dip in solar generation of approx. 326 MW is observed in NR control area.</p> <p>vi) Due to dip in RE generation, frequency dropped by 0.039 Hz (from 50.036 Hz to 49.997 Hz).</p> <p>vii) As per SCADA, no change in demand is observed in Rajasthan control area.</p>	1) 220 KV Fatehgarh III(PG)- RSRPL_Hyb_FTHG3_PG (RENEW SURYA ROSHNI PRIVATE LIMITED) Ckt
2	GD-1	Uttarakhand	05-10-2024 18:23	05-10-2024 19:06	00:43	70	0	0.106	0.000	53633	65902	<p>i) During antecedent condition, only 70 MW Unit-4 at Dhauliganga(NH) was running and generating approx. 69MW (as reported, SCADA data not available). Unit-1, 2 & 3 were under shutdown.</p> <p>ii) As reported, at 18:24hrs, 220 KV Jauljivi (PG)-Dhauliganga(NH) (PG) Ckt-1 & 2 tripped due to malfunction of GIS controller software.</p> <p>iii) Along with the same, 70 MW Unit-4 at Dhauliganga(NH) also tripped due to loss of evacuation path. Hence 220kV Dhauliganga(NH) S/S became dead.</p> <p>iv) As per PMU at 400kV Bareilly(PG), no fault signature was observed.</p> <p>v) As per SCADA, no change in NR hydro generation is observed.</p> <p>vi) As reported by Dhauliganga, Generation loss of 69MW was reported at Dhauliganga(NH).</p>	1) 220 KV Jauljivi (PG)-Dhauliganga(NH) (PG) Ckt-1 2) 220 KV Jauljivi (PG)-Dhauliganga(NH) (PG) Ckt-2 3) 70 MW Unit-4 at Dhauliganga(NH)
3	GI-2	Uttar Pradesh	09-10-2024 11:39	09-10-2024 12:22	00:43	0	0	0.000	0.000	9381	68876	<p>i) 800/220 KV Obra -B substation has 2*315 MVA (ICT-1&2) and one 240MVA ICT (ICT-3). During antecedent condition, 2*315 MVA & 240 MVA ICTs were carrying 104MW (ICT1), 101MW (ICT2) and 78MW (ICT3) respectively. ii) 800/220kV 315 MVA ICT-1, 240 MVA ICT-3 at Obra -B, 220kV Obra -A-Allahabad Rewa Road ckt-2 & 220kV Obra -A-Sahapuri ckt were all connected to 220kV Bus-1 during the antecedent condition. iii) As reported at 11:39 hrs, R-Y fault occurred on 220kV Obra-Sahapuri ckt. Fault location was 5km from Sahapuri end. Fault was in Z-1 from Obra end and Z-2 from Sahapuri end. iv) On this fault, distance protection at both ends operated. CB opened from Sahapuri end however, CB at Obra end failed to open. v) As reported, L&B protection didn't operate (relay is of static type) and fault cleared with the tripping of 220kV Obra -A-Allahabad Rewa Road ckt-2 on Z-4 distance protection operation and 400/220kV 315 MVA ICT-1, 240 MVA ICT-3 on directional O/C E/F protection operation. 220kV bus coupler CB also opened on over current protection and 220kV Bus-2 got isolated. vi) After tripping ICT-1 & 3 all the load shifted to ICT-2 and the loading of ICT-2 increased to 240 MW. vii) As per PMU at Anpara(UP), R-Y fault with delayed clearance of ~960msec is observed. viii) Both the transformers were restored back into service at 12:22 hrs (ICT-1) and 14:41 hrs (ICT-3) respectively. ix) As per SCADA, no generation or load loss was observed in UP control area. x) As per SCADA, no change in demand is observed in the Northern Region.</p>	1) 220kV Obra -A-Sahapuri ckt 2) 220kV Obra -A Rewa Road ckt-2 3) 800/220kV 315 MVA ICT-1 at Obra -B(UP) 4) 800/220kV 240 MVA ICT-3 at Obra -B(UP)
4	GI-2	Uttar Pradesh	09-10-2024 17:04	09-10-2024 17:43	00:39	215	100	0.352	0.164	13090	61049	<p>i) Obra-A has 3, 220/132 KV, 100MVA transformers which were carrying approx. 46MW, 51MW and 45MW during antecedent condition.</p> <p>ii) As reported, during inclement weather conditions, 220/132kV 100 MVA ICT-1 & ICT-2 tripped on B-N earth fault protection at Obra-A(UP) which led to complete shifting of load on 220/132kV 100 MVA ICT-3 at Obra-A (UP).</p> <p>iii) As a result of overloading of the 3rd transformer, ICT-3 also tripped on O/C protection at 17:04hrs.</p> <p>iv) At the same time 17:04hrs, 03 Units at Obra Hydro and 03 Units at Rihand HEP (connected at Bus-2) also tripped leading to a total generation loss of approx. 215 MW.</p> <p>v) Considering the above incident, Rihand manually tripped Obra-A, Obra H1, Obra H2 and Gharwad lines from perspective of safety.</p> <p>vi) As per SCADA, change in demand of approx. 100MW is observed in UP control area.</p>	1) 83 MW Unit-1 at Obra HEP (UP) 2) 83 MW Unit-2 at Obra HEP (UP) 3) 83 MW Unit-3 at Obra HEP (UP) 4) 80 MW Unit-1 at Rihand HEP (UP) 5) 80 MW Unit-2 at Rihand HEP (UP) 6) 80 MW Unit-4 at Rihand HEP (UP) 7) 220/132kV 100 MVA ICT-1 at Obra-A (UP) 8) 220/132kV 100 MVA ICT-2 at Obra-A (UP) 9) 220/132kV 100 MVA ICT-3 at Obra-A (UP)
5	GI-2	Uttarakhand	10-10-2024 10:56	10-10-2024 11:17	00:21	0	247	0.000	0.366	9411	67486	<p>i) 800/220/132kV Kashipur has 2*315 400/220kV and 2*160MVA 220/132kV ICTs. ii) As reported, at 10:56:13.086, LV side CB of 315MVA ICT-2 tripped. Uttarakhand-SLDC in its tripping report mentioned the reason for the fault was operation of Restricted Earth Fault (REF) as well as some external fault, which is of contradictory nature. REF is an internal fault of the transformer. Further clarification may be given by Uttarakhand-SLDC on this matter. iii) With the tripping of 315MVA ICT-1 at Kashipur, case-2 of SPS for transformers at 400kV Kashipur (PTCUL) substation operated. As a result of the SPS present in Kashipur sub-station, the following lines also tripped. 1) 220kV Jafarpur-Kashipur (UK) Ckt II. 2) 20kV Pantnagar - Kashipur (UK) Ckt III. 3) 232kV Kashipur - Jaspur (UK) Ckt IV. Even after tripping of the aforementioned lines, loading of 315MVA ICT-1 didn't reduce and increase to ~339MVA. As reported, load of 220kV Kamalwaganja was being fed from 220kV Pantnagar and 132kV Bajpur. After tripping of 220kV Kashipur-Pantnagar ckt, load of Kamalwaganja which was feeding through Kashipur-Pantnagar shifted to Bajpur source. Due to this, loading of 315MVA ICT-3 didn't reduce after SPS operation. v) Further, at 10:56:24.522, 315MVA ICT-1 HV and LV side tripped on Over Current Protection. However, from the DR of ICT-1, loading at ICT-1 before tripping was ~107%. vi) Further, 220/132kV 160 MVA ICT-3 also tripped at Kashipur. As reported, no flag was observed for the said tripping. vii) As per PMU at Roorkee(PG), no fault in system is observed. viii) As per SCADA, a change in demand of approx. 247MW is observed in Uttarakhand control area.</p>	1) 800/220kV 315 MVA ICT-1 at Kashipur(UK) 2) 800/220kV 315 MVA ICT-2 at Kashipur(UK) 3) 220/132kV 160 MVA ICT-3 at Kashipur(UK) 4) 220kV Jafarpur-Kashipur (UK) Ckt 5) 220kV Pantnagar - Kashipur (UK) Ckt 6) 232kV Kashipur - Jaspur (UK) Ckt
6	GI-1	Jammu & Kashmir	11-10-2024 10:03	11-10-2024 11:09	01:06	0	175	0.000	0.269	9322	65076	<p>i) 220/132kV Ziankote S/S have two bus at 220kV side i.e., main bus & reserve bus. 220kV Amargarh-Ziankote ckt-1&2 are on the same tower (D/C tower) and line length is ~21.4km.</p> <p>ii) During antecedent condition, 220kV Amargarh(INDIGRID)-Ziankote(JK) D/C was carrying 114 MW each and feeding Ziankote load.</p> <p>iii) As reported, at 10:03 hrs, 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) D/C tripped from both ends on Y-B phase to phase fault. During pattering it was found that the fault had occurred between tower no. 76 and 77, as some locals were cutting trees in the vicinity of line and branches of tree had fallen on the line.</p> <p>iv) As per PMU at Amargarh(PG), B-N phase to earth fault which cleared within 50 msec is observed.</p> <p>v) As per SCADA, change in demand of approx. 175MW is observed in J&K control area.</p>	1) 220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1 2) 220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-2

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)				
7	GI-1	Jammu & Kashmir	16-10-2024 13:45	16-10-2024 13:49	00:04	0	350	0.000	0.605	46640	57853	<p>i) 220/132kV Pampore(PDD) has single main and transfer Bus arrangement at 220kV side.</p> <p>ii) During antecedent condition, power flow from Wagoor(PG) S/s to Pampore(PDD) S/s was approx. 140 MW (70 MW each) through 220 KV Wagoor(PG)-Pampore(PDD) (PG) D/C.</p> <p>iii) IAS reported, at 13:45 hrs, Y-phase disc ruptured in 220kV main Bus at Pampore.</p> <p>iv) Due to this, 220kV Wagoor(PG)-Pampore(PDD) (PG) Ckt-1 tripped from Pampore end on Y-N phase to earth fault (exact location of fault and nature of protection operated yet to be shared).</p> <p>v) During the same time, 220kV Wagoor(PG)-Pampore(PDD) (PG) Ckt-2 also tripped from Wagoor end sensing the fault in zone-2 with fault distance of 11.91km from Wagoor end.</p> <p>vi) IAS per PMU at Amargah(INDGRID), Y-N phase to earth fault converted to Y-B-N double phase to earth fault with delayed fault clearing time of 1000ms is observed.</p> <p>vii) IAS per SCADA, change in demand of approx. 350 MW is observed in J&K control area.</p>	1) 220 KV Wagoor(PG)-Pampore(PDD) (PG) Ckt-1 2) 220 KV Wagoor(PG)-Pampore(PDD) (PG) Ckt-2		
8	GI-2	Uttar Pradesh	17-10-2024 00:43	17-10-2024 02:48	02:05	0	0	0.000	0.000	30996	53675	<p>i) 400/220/132kV Muradnagar-New(UP) has one and half breaker scheme at 400kV level and double main and transfer bus scheme at 220kV level.</p> <p>ii) IAS reported, at 00:43 hrs, 400kV Muradnagar_2-Mathura (UP) Ckt tripped on Y-N phase to earth fault with fault current of 4.065KA from Muradnagar_2 end and fault clearing time of 291 ms; zone-1 distance protection operated (as per DR at Muradnagar_2 end) and DT received at Mathura end (as reported).</p> <p>iii) Due to delayed opening of CB at Muradnagar_2 end of 400kV Muradnagar_2-Mathura (UP) Ckt, LBB protection operated and both main and tie CBs at Muradnagar_2 end of 400 KV Dadr(NT)-Muradnagar_2(UP) (PG) Ckt and 400kV Muradnagar_2-Simbolhi_P MSTL (UP) Ckt-1 & 2 opened and all the 400kV lines connected at Muradnagar_2 tripped. DT received at remote ends (as reported).</p> <p>iv) IAS informed by SLDC-UP, the logic of LBB operation was wrong in 400kV Muradnagar_2-Simbolhi_P MSTL (UP) Ckt-1 & 2; on LBB operation opening command was sent to both main and tie CBs. Reason of opening of tie CB of 400 KV Dadr(NT)-Muradnagar_2(UP) (PG) Ckt is under investigation and yet to be shared.</p> <p>v) IAS per PMU at Muradnagar1(UP), Y-N phase to earth fault with delayed fault clearing time of 280ms is observed.</p> <p>vi) IAS per SCADA, no change in demand is observed in UP control area.</p>	1) 400kV Muradnagar_2-Mathura (UP) Ckt 2) 400kV Muradnagar_2-Simbolhi_P MSTL (UP) Ckt-1 3) 400kV Muradnagar_2-Simbolhi_P MSTL (UP) Ckt-2 4) 400 KV Dadr(NT)-Muradnagar_2(UP) (PG) Ckt		
9	GD-1	Rajasthan	21-10-2024 15:32	21-10-2024 16:08	00:36	0	170	0.000	0.285	47795	59608	<p>i) 220/132kV Dausa(RS) has double main and transfer bus scheme at 220kV level. ii) During antecedent condition, 220 KV Alwar(RS)-Dausa(RS) Ckt was not in service.</p> <p>iii) IAS reported, at 15:32 hrs, R-phase CVT of Main-Bus-1 flashover occurred due to reptile climbing on structure at Dausa end and bus fault created. Bus bar protection at Dausa(RS) was not operational during the event and due to delay in opening of bus coupler (bus coupler opening delay setting was 110ms), fault was also sensed by Main Bus II. iv) Due to this bus fault, all the 220kV lines connected to Bus-1 & II at Dausa(RS) sensed the fault in zone-4 and fault cleared from Dausa(RS) end in zone-4 (zone-4 delay setting was 160ms). But in 220 KV Lalote(RS)-Dausa(RS) (PG) Ckt and 220 KV Bassi(PG)-Dausa(RS) (PG) Ckt-2, CB didn't open from Dausa(RS) end and finally fault cleared in zone-2 from remote end. v) During the same time, 220/132kV 160MVA ICT-1 and 100MVA ICT-2 at Dausa(RS) also tripped on over-current protection operation (exact reason yet to be shared). vi) As all the elements connected to both the 220kV buses tripped and there was no source of supply at 132kV level, complete blackout occurred at 220/132kV Dausa(RS) S/s.</p> <p>vii) IAS per DR at Lalote end of 220 KV Lalote(RS)-Dausa(RS) (PG) Ckt, R-N phase to earth fault occurred with fault current of 1.729KA from Lalote end and fault sensed in zone-2 at Lalote end. viii) IAS per PMU at Bassi(PG), R-N phase to earth fault converted to R-B-N double phase to earth fault with delayed fault clearing time of 560ms is observed. ix) IAS per SCADA, change in demand of approx. 170 MW is observed in Rajasthan control area.</p>	1) 220 KV Lalote(RS)-Dausa(RS) (PG) Ckt 2) 220 KV Sawaimadhopur(RS)-Dausa(RS) (PG) Ckt 3) 220 KV Bassi(PG)-Dausa(RS) (PG) Ckt-1 4) 220 KV Bassi(PG)-Dausa(RS) (PG) Ckt-2 5) 220 KV Mandawar(RS)-Dausa(RS) Ckt 6) 220 KV Sikra(RS)-Dausa(RS) Ckt 7) 220/132kV 160MVA ICT-1 at Dausa(RS) 8) 220/132kV 100MVA ICT-2 at Dausa(RS)		
10	GI-1	Himachal Pradesh	21-10-2024 09:42	21-10-2024 09:52	00:10	0	215	0.000	0.354	48257	60747	<p>i) During antecedent condition, 220/132kV 100MVA ICT-1 & 2 at Giri(HP) were carrying approx. 108 MVA each.</p> <p>ii) IAS reported, at 09:42 hrs, 220/132kV 100MVA ICT-1 & 2 at Giri(HP) tripped on over-loading (exact reason of over-loading of ICTs yet to be shared).</p> <p>iii) IAS per SCADA, MVA loading of both the ICTs were approx. 86 MVA each at 09:33hrs. Suddenly within one minute loading increased to approx. 106 MVA each and it gradually increased further to approx. 108 MVA each within another 8 minutes and finally at 09:42 hrs, both the ICTs tripped on over-loading.</p> <p>iv) Since these ICTs were the only source of power at 132kV level, their tripping resulted in tripping of all the feeders connected at 132kV level.</p> <p>v) IAS per PMU at Shahranpur(PG), no fault is observed in the system.</p> <p>vi) IAS per SCADA, change in demand of approx. 215 MW is observed in HP control area.</p>	1) 220/132kV 100MVA ICT-1 at Giri(HP) 2) 220/132kV 100MVA ICT-2 at Giri(HP)		
11	GI-2	Uttar Pradesh	23-10-2024 12:08	23-10-2024 12:52	00:44	0	0	0.000	0.000	52196	60961	<p>i) 400/220kV Aligarh(UP) has one and half breaker scheme at 400kV level and double main and transfer bus scheme at 220kV level.</p> <p>ii) IAS reported, at 12:08 hrs, differential protection of line reactor of 400 KV Panki-Aligarh (UP) Ckt operated (exact reason of differential protection operation of line reactor of 400 KV Panki-Aligarh (UP) Ckt yet to be shared).</p> <p>iii) During the same time, Bus bar protection operated at 400kV Bus-1 at Aligarh(UP) also operated (exact reason of bus bar operation of 400kV Bus-1 at Aligarh(UP) yet to be shared).</p> <p>iv) Due to this, all the elements connected to 400kV Bus-1 at Aligarh(UP) tripped and Bus-1 became dead (exact reason of opening of tie CBs of 400 KV lines connected to Bus-1 at Aligarh(UP) yet to be shared).</p> <p>v) IAS per PMU at Aligarh(PG), no fault is observed in the system.</p> <p>vi) IAS per SCADA, no change in demand is observed in UP control area.</p>	1) 400kV Bus 1 at Aligarh(UP) 2) 400 KV Panki-Aligarh (UP) Ckt 3) 400 KV Aligarh-Sikandrabad (UP) Ckt 4) 400 KV Aligarh-Mainpuri (UP) Ckt-1 5) 400 KV Aligarh-Shami (UP) Ckt-2		
12	GI-2	Uttar Pradesh	25-10-2024 12:52	25-10-2024 14:06	01:14	150	0	0.254	0.000	49979	59077	<p>i) 400/220kV Obra-B(UP) has double main and transfer bus scheme at both 400kV and 220kV level.</p> <p>ii) During antecedent condition, 200 MW Obra TPS - UNIT 11 and 13 were generating approx. 48 MW and 102 MW respectively. 200 MW Obra TPS - UNIT 09 was under tripped condition since 09:57 hrs on 25th Oct 24. 400/220kV 315 MVA ICT 1 at Obra_B(UP), 400 KV Obra_B-Rewa Road (UP) Ckt-1 and 200 MW Obra TPS - UNIT 09, 11 & 13 were connected to 400KV Bus 1 at Obra-B(UP) and rest of the elements were connected to 400kV Bus 2 at Obra-B(UP).</p> <p>iii) IAS reported, at 12:52 hrs, while synchronizing 200 MW Obra TPS - UNIT 09, busbar differential protection operated at 400KV Bus 1 at Obra-B(UP) (exact reason of busbar protection operation yet to be shared).</p> <p>iv) IAS reported, at 12:52 hrs, all the elements connected to 400KV Bus-1 at Obra-B(UP) tripped and Bus-1 became dead.</p> <p>v) IAS per PMU at Anpara-TH(UP), B-N phase to earth fault is observed with fault clearing time of 120 ms.</p> <p>vi) IAS per SCADA, no change in demand is observed in UP control area. However, generation loss of approx. 150 MW occurred at Obra-B(UP).</p> <p>vii) IAS reported by Obra-B, after investigation it was found that interrupter unit of CB at 400kV side of 200 MW Obra TPS - UNIT 09 was damaged. This CGL make SF6 type CB which was commissioned on 30th Nov 23 and was continuously in service since 16th Feb 24, is under warranty period. CGL service engineer was called for detailed analysis regarding the same as primarily it seems that there is some manufacturing defect of CB.</p>	1) 400KV Bus 1 at Obra-B(UP) 2) 400/220kV 315 MVA ICT 1 at Obra_B(UP) 3) 400 KV Obra_B-Rewa Road (UP) Ckt-1 4) 200 MW Obra TPS - UNIT 09 5) 200 MW Obra TPS - UNIT 11 6) 200 MW Obra TPS - UNIT 13		
13	GD-1	Rajasthan	30-10-2024 14:15	30-10-2024 16:33	02:18	0	500	0.000	0.818	53878	61088	<p>i) 400/220kV Alwar400(RS) has one and half breaker scheme at 400kV level and double main and transfer bus scheme at 220kV level. 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt is the only 400kV line connected to Alwar400(RS). The active power coming from Hindaun(RS) goes to Alwar(RS), Alwar MIA(RS), Mandawar(RS) and Dausa(RS) through two 400/220kV ICTs at Alwar400(RS).</p> <p>ii) During antecedent condition, 220kV Alwar400-Dausa(RS) Ckt was on no-load. 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt was carrying 356 MW.</p> <p>iii) IAS reported, at 14:15 hrs, 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt tripped on R-Y double phase to earth fault with fault current of 5.759KA and 5.272KA in R and Y phases respectively from Hindaun(RS) end. Fault sensed in zone-1 at Hindaun(RS) end (exact reason and location of fault yet to be shared).</p> <p>iv) IAS 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt is the only source of power at Alwar400(RS), with the tripping of this line there was no source of power left to any of the 220kV feeders. Hence complete blackout occurred at 400/220kV Alwar400(RS).</p> <p>v) IAS per SCADA SOE, 220kV Alwar-Kukas(RS) Ckt also tripped during the same time (exact reason of the same yet to be shared).</p> <p>vi) IAS per PMU at Bassi(PG), R-N phase to earth fault is observed with fault clearing time of 80 ms.</p> <p>vii) IAS per SCADA, change in demand of approx. 500 MW is observed in Rajasthan control area.</p>	1) 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt		

Details of Grid Events during the Month of Oct 2024 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 for GI2/ 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	01-10-2024 02:45	01-10-2024 06:41	03:56	63	-	0.09%	-	67761	53125	At 02:45 Hrs / 01-10-2024, 220 kV Bhuj-Baranda tripped on B-E fault, Autorecloser not attempted at Baranda end, line tripped at Bhuj end after autorecloser attempt. During patrolling Linger thrown by villagers found at tower location 233. Generation loss of 63 MW occurred at Baranda (Avikiran) Wind Power plant due to loss of evacuation path.	Tripping of following Elements: 1. 220 kV Bhuj-Baranda
2	GI-1	WR	01-10-2024 16:40	01-10-2024 17:05	00:25	77	14	0.11%	0.02%	73249	60985	At 16:40 Hrs / 01-10-2024, LBB protection maloperated of 220 kV Uran-Bus-1 resulting in tripping of all connected elements (as mentioned in elements tripped column). Generation loss of 77 MW and load loss of 14 MW occurred at Uran substation due to the event.	Tripping of following Elements: 1. 220 kV Uran Bus-1 2. Uran U-7 (108 MW) 3. 220 kV Uran-Apta-2 4. 220 kV Uran-Apta-4 5. 220 kV Uran-Ulwe-2 6. 220 kV Uran-ONGC 7. 220/33 kV Uran-ICT-1 (50 MVA)
3	GI-1	WR	07-10-2024 09:29	07-10-2024 13:40	04:11	-	-	-	-	68810	62753	At 09:29 Hrs / 07-10-2024, Bus bar protection operated in 220 kV Haldarwa-Bus-2 (Double Main Bus scheme) due to broken jumper over Y phase Bus side isolator of 220 kV GPEC-Haldarwa-1, resulting in of tripping of all the connected elements (as mentioned in elements tripped column). No Generation loss or load loss of occurred to the event.	Tripping of following Elements: 1. 220 kV Gandhar-Haldarwa 2 2. 220 kV Haldarwa-Kawas-2 3. 220 kV Haldarwa-Kakrapar(1&2)-2 4. 220 kV Dahej-Haldarwa-1 5. 220 kV GPEC-Haldarwa-1 6. 220 kV Jambuva-Haldarwa-1 7. 220 kV Suva-Haldarwa 8. 220 kV Haldarwa-Bus-2 9. 220/66 kV Haldarwa ICT-2&3
4	GI-1	WR	08-10-2024 23:37	09-10-2024 04:42	05:05	-	444	-	0.72%	74260	61651	At 23:37 Hrs / 08-10-2024, 220/66 kV Khadoli-ICT-2 tripped due to bursting of 66 kV side Y phase CT causing damage to R and Y phase circuit breakers. After 80 msec, 220/66 kV Khadoli-ICT-1&3 tripped on Earth Fault protection operation. Due to the above trippings of ICTs flow on 220 kV lines connected to Khadoli became zero due to load loss of 444 MW in DNHDD network.	Tripping of following Elements: 1. 220/66 kV Khadoli-ICT-2 2. 220/66 kV Khadoli ICT-1 3. 220/66 kV Khadoli ICT-3
5	GD-1	WR	10-10-2024 15:24	11-10-2024 17:30	26:06	96	-	0.14%	-	71006	64759	At 15:24 Hrs / 10-10-2024, 220kV Nakhatrana-Dedhiya tripped on R-E fault from Nakhatrana end only, Auto recloser successful at Dedhiya end. It is seen from DR at Nakhatrana end that all three phases tripped for a fault in single phase which is a maloperation. During patrolling it was found that R phase conductor fell from suspension insulator clamp at tower location 55. Generation loss of 96 MW occurred at Nakhatrana & Dedhiya wind power plant (Adani) due to the event.	Tripping of following Elements: 1. 220kV Nakhatrana-Dedhiya
6	GD-1	WR	11-10-2024 13:04	11-10-2024 15:32	02:28	98	-	0.15%	-	65386	60886	At 13:05 Hrs / 11-10-2024, 220 kV Bhawasingpura- Khandwa tripped on Y-E fault on Z-3 protection operation. The tripping was not in order because instantaneous trip issued at Bhawasingpura end for a fault in Zone-3 in 400 kV Khandwa-Dhule-1 at the same time. 220 kV Bhawasingpura- Kanwani line also tripped after 200 msec without any relay indication. Generation loss of 98 MW occurred at Bhawasingpura and Kanwani solar power plant (Masaya Solar) due to loss of evacuation path.	Tripping of following Elements: 1. 220 kV Bhawasingpura-Kanwani-1 2. 220 kV Bhawasingpura-Khandwa-1 3. 220/33 kV Kanwani-ICT-1

Details of Grid Events during the Month of Oct 2024 in Western Region



Sl No.	Category of Grid Event (GI for GI2/ 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)		
7	GD-1	WR	14-10-2024 16:43	14-10-2024 19:39	02:56	38	-	0.06%	-	68840	61457	At 16:43 Hrs / 14-10-2024, 220 kV Nakhatrana-Dedhiya ckt tripped on B Ph-E fault. As seen from DR at Nakhatrana end all 3-phases tripped due to tripping command from main-2 relay, fault was seen in zone-2. As seen from DR at Dhediya end even though fault was seen in zone-3, carrier was sent to Nakhatrana end which is not in order. During patrolling no abnormalities were found. Generation loss of 38 MW occurred at Nakatrana & Dedhiya wind power plant (Adani) due to the event.	Tripping of following Elements: 1. 220 kV Nakhatrana-Dedhiya line 2. 220kV Dedhiya SS Bus-1 3. 220kV Dedhiya SS Bus-2 4. 220/33kV Dedhiya ICT-1 5. 220/33kV Dedhiya ICT-2
8	GD-1	WR	14-10-2024 22:20	14-10-2024 23:58	01:38	140	-	0.21%	-	65928	54858	At 22:20 Hrs / 14-10-2024, 220 kV Bachau-Ostro-1&2 tripped on R-E fault. It is seen from Disturbance recorders at Ostro end that all three phases tripped for a fault in single phase which is a maloperation. During patrolling no abnormalities were found. Generation loss of 140 MW occurred at Ostro (Renew Power) Wind power plant due to loss of evacuation path.	Tripping of following Elements: 1. 220 kV Bachau-Ostro-1 2. 220 kV Bachau-Ostro-2
9	GD-1	WR	15-10-2024 00:29	18-10-2024 21:51	93:22	-	-	-	-	66357	56369	At 00:29 Hrs /15-10-2024, 220 kV Naranpar(Roha)-Bhuj S/C tripped on B-E fault. During patrolling it was found that tower no.67 and 68 collapsed due to conductor theft by miscreants. No generation loss occurred due to the event.	Tripping of following Elements: 1. 220 kV Naranpar(Roha)- Bhuj
10	GD-1	WR	15-10-2024 16:24	15-10-2024 17:49	01:25	84	-	0.12%	-	68383	61104	At 16:24 Hrs /15-10-2024, 220 kV Vadva-Bhuj S/C tripped on R-E fault from Vadva end only. A/R successful at Bhuj end. During inspection LA counter of transformer increased by 1 indicating presence of surges. Generation loss of 84 MW occurred at Vadva (GIWEL-2) wind power plant due to the event.	Tripping of following Elements: 1. 220 kV Vadva- Bhuj
11	GD-1	WR	18-10-2024 07:23	18-10-2024 09:06	01:43	726	-	1.05%	-	68938	60776	At 07:23 Hrs / 18-10-2024, Bus bar protection operated in 220 kV Raigarh-Bus-1&2 (Double Main and Transfer Bus scheme) due to breaking of jumper of Y phase CT of 220 kV Raigarh-Jindal and felling of conductor of same on 220 kV Raigarh-Auxiliary Bus, resulting in tripping of all connected elements (as mentioned in elements tripped column). Load loss of 726 MW occurred at Raigarh(CG), Saraipalli and associated down stream network due to the event.	Tripping of following Elements: 1. 220 kV Raigarh(PG)-Raigarh(CG)-1,2&3 2. 220 kV Raigarh(CG) Bus-1&2 3. 220 kV Raigarh-Saraipalli-1&2 4. 220 kV Raigarh-Gerwani 5. 220 kV Raigarh-JSPL-1&2 6. 220 kV Raigarh-Korba East
12	GD-1	WR	18-10-2024 13:02	18-10-2024 14:45	01:43	247	-	0.37%	-	66568	59582	At 13:02 Hrs /18-10-2024 220kV Umariya (Agar Unit-5) Pachora ckt tripped on Differential protection operation on Y-phase to Earth fault. A/R not operated for single phase fault. During patrolling no abnormalities found. Generation loss of 247 MW occurred at Umariya (Agar) Wind Power Plant due to loss of evacuation.	Tripping of following Elements: 1. 220kV Umariya (Agar)-Pachora
13	GD-1	WR	23-10-2024 22:36	01-11-2024 23:59	217:23	-	-	-	-	70192	58961	At 22:36 Hrs / 23-10-2024 220 kV Bhuj-Gadhsisa tripped on B-E fault. During patrolling it was found that Tower got damaged from Top section due to conductor theft of spare line at tower location 13/2. No Generation loss occurred due to the event.	Tripping of following Elements: 1. 220 kV Bhuj-Gadhsisa
14	GI-2	WR	25-10-2024 02:16	25-10-2024 04:13	01:57	-	-	-	-	66568	59582	At 02:16 hrs / 25-10-2024, Busbar protection operated in 400 kV New Koyna-Bus-2 due to B phase CT blast of 400 kV New Koyna-Karad-1 at Koyna, resulting in tripping of all connected elements (as mentioned in elements tripped column). Two machines at Koyna(4) running in condenser mode also got tripped. No generation or load loss occurred due to the event.	Tripping of following Elements: 1. 400 kV New Koyna Bus-2 2. 400 kV New Koyna-Karad2 3. 400 kV New Koyna-Jaigad-1 4. 400/200kV New Koyna ICT-1,3 5. 400 kV New Koyna-Dhabol-2 6. 400 kV New Koyna Bus Coupler. 7. 400 kV New Koyna-Koyna(4)-2
15	GD-1	WR	27-10-2024 06:25	27-10-2024 07:53	01:28	28	-	0.05%	-	61455	56859	At 06:25 Hrs / 27-10-2024 220 kV Bhuj-Nanavaika tripped on B-E fault. It is seen from Disturbance recorders at Nanavaika end that all three phases tripped for a fault in single phase which is a maloperation. During patrolling no abnormalities were found. Generation loss of 28 MW occurred at Nanavaika (Alfanar) Wind power plant due to loss of evacuation path.	Tripping of following Elements: 1. 220 kV Bhuj-Nanavaika

Details of Grid Events during the Month of Oct 2024 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 (HHEMM)	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 for GI 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	KARNATAKA	02-10-2024 22:21	02-10-2024 22:46	00:25	0	137	0.00%	0.31%	45987.18	44260.4	Complete outage of 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli and 220kV Tataguni SS of KPTCL: During antecedent conditions 220kV Kanakpura TK Halli were under outage. 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli were being radially fed through 220kV Somanahalli Harohalli line and the line tripped. Also, it is also reported that, Earth fault protection operated at Tataguni end in 220kV Somanahalli Tataguni and 220kV Vrishabhavathy Tataguni. Tripping of both lines led to complete outage of 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli and 220kV Tataguni SS of KPTCL.	220KV-TATAGUNI-SOMANAHALLI-1, 220KV-HAROHALLI-SOMANAHALLI-1
2	GD - 1	KARNATAKA	03-10-2024 00:58	03-10-2024 01:06	00:08	0	80	0.00%	0.19%	40617.48	41997.15	Complete outage of 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli and 220kV Tataguni SS of KPTCL: 220kV During antecedent conditions 220kV Kanakpura TK Halli were under outage. 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli were being radially fed through 220kV Somanahalli Harohalli line. As per the reports submitted, the triggering incident was Y-N fault which Subsequently became a YB-N fault. It is reported that and the line sensed in Z1 but the breaker did not open. At the same time, 400kV/220kV Somanahalli ICT-1&2 tripped on HV side E/F protection. It is also reported that, Earth fault protection operated at Tataguni end in 220kV Somanahalli Tataguni and 220kV Vrishabhavathy Tataguni. This led to complete outage of 220kV/66kV Kanakpura , 220kV/66kV KIADB Harohalli, 220kV Harohalli and 220kV Tataguni SS of KPTCL.	400KV/220KV SOMANAHALLI-ICT-2, 400KV/220KV SOMANAHALLI-ICT-1, 220KV-HAROHALLI-SOMANAHALLI-1, 220KV-TATAGUNI-SOMANAHALLI-1
3	GD - 1	KARNATAKA	03-10-2024 05:51	03-10-2024 06:29	00:38	0	40	0.00%	0.09%	39942.35	43298.53	Complete Outage of 220/66kV Khodays: 220/66kV Khodays is equipped with single bus and 2 lines 220kV Somanahalli-Khodays and 220kV Subramanyapura-Khodays. The triggering incident is suspected charging of 220kV Somanahalli-Harohalli on fault, during which 220kV Khodays-Somanahalli tripped at Khodays end on Z2 extension. However 3ph tripped and closed again within 40 ms which led to the operation of LBB and led to tripping of one and only Bus at Khodays. This led to the Complete Outage of 220/66kV Khodays.	220KV-SOMANAHALLI-KHODAYS-1, 220KV-SUBRAMANYAPURA-KHODAYS-1
4	GD - 1	PONDICHERRY	06-10-2024 03:50	06-10-2024 06:24	02:34	0	64	0.00%	0.15%	38271.11	41539.62	Complete outage of 230kV/110kV Bahoor SS of Pondicherry: During antecedent conditions, 230kV Pondicherry Bahoor was under outage. As per the reports submitted, the triggering incident was R-N fault in 230kV Bahour Karaikal line. Tripping of the only source resulted in complete outage of 230kV/110kV Bahoor SS.	230KV-BAHOOR-KARAIKAL-1, BAHOOR - 230KV
5	GD - 1	KARNATAKA	09-10-2024 12:48	09-10-2024 13:08	00:20	0	159	0.00%	0.30%	48333.23	53107.05	Complete Outage of 220kV/66kV Khodays SS and 220kV/66kV Subramanyapura SS of KPTCL: 220/66kV Khodays is equipped with single bus and 2 lines 220kV Somanahalli-Khodays and 220kV Subramanyapura-Khodays. As per the reports submitted, the triggering incident was B-N fault in 220kV Subramanya Pura Peenya line and the line tripped. At the same time, 220kV Somanahalli Khodays line tripped at Somanahalli end, on DPR. Tripping of both lines led to complete outage of 220kV/66kV Subramanyapura SS and 220kV/66kV Khodays SS.	220KV-SUBRAMANYAPURA-KHODAYS-1, 220KV-SUBRAMANYAPURA-PEENYA-1

Details of Grid Events during the Month of Oct 2024 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 (HHEMM)	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)		
6	GD - 1	KARNATAKA	09-10-2024 13:38	09-10-2024 13:57	00:19	0	123	0.00%	0.24%	47345.6	51655.96	Complete Outage of 220kV Exora SS, 220kV Vikas Tech and Bus-1 outage at 220kV Malur SS : 220kV Malur SS was operating with split bus condition with 220kV Hoody Malur line feeding 220kV Malur Bus-1. 220kV Exora and 220kV Vikas Tech Park were being radially fed from 220kV Malur Bus-1. As per the reports submitted, the triggering incident was R-N fault in 220kV Hoody Malur line. Tripping of this line led to loss of power supply to 220kV Malur Bus-1 which intrun led to complete outage of 220kV Exora SS and 220kV Vikas Tech Park.	220KV-HOODY-MALUR-1
7	GD - 1	TAMILNADU	09-10-2024 17:34	09-10-2024 18:40	01:06	98	0	0.22%	0.00%	44726.43	47953.9	Complete Outage of 230kV JSW Savalaperi Wind Station: As per the reports submitted, the triggering incident was RN fault in 230KV- TTGS-JSW_Savalaperi-1. Line tripped on operation of differential protection at both ends. A/r not operated due to receipt of DT from JSW_Savalaperi end. Tripping of the only connected line resulted in the complete outage of 230kV JSW Savalaperi Wind Station.	230KV-TTGS-JSW_Savalaperi-1
8	GD - 1	PONDICHERRY	10-10-2024 12:55	10-10-2024 13:54	00:59	0	74	0.00%	0.14%	49597.49	51523.34	Complete outage of 230kV/110kV Bahoor SS of Pondicherry : During antecedent conditions, 230kV Pondicherry Bahoor was under outage. As per the reports submitted, the triggering incident was R-N fault in 230kV Bahour Karaikal line. Tripping of the only source resulted in complete outage of 230kV/110kV Bahoor SS.	230KV-BAHOOR-KARAIKAL-1
9	GD - 1	ANDHRA PRADESH	10-10-2024 14:22	10-10-2024 20:43	06:21	0	0	0.00%	0.00%	46891.77	49223.67	Complete Outage of 220kV/132kV Borampalli SS, 220kV/33kV Saipuram, 220kV Theta and 220kV Maddelacheru: 220kV/33kV Saipuram, 220kV Theta and 220kV Maddelacheru are being radially fed from 220kV/132kV Borampalli SS. As per the reports submitted, the triggering incident was LBB maloperation in 220kV Borampalli Kalyandurgam Line-2. subsequently, all elements connected to 220kV Bus-1 and Bus-2 tripped due to erratic isolator status in 220kV Borampalli Ecoron feeder-1 bay. This led to complete outage of 220kV/132kV Borampalli SS which inturn led to complete outage of 220kV/33kV Saipuram, 220kV Theta and 220kV Maddelacheru.	220KV-BORAMPALLI-URAVAKONDA-2, 220KV-BORAMPALLI-URAVAKONDA-3, 220KV-BORAMPALLI-SAIPURAM-1, 220KV-BORAMPALLI-SAIPURAM-2, 220KV-BORAMPALLI-URAVAKONDA-4, 220KV-BORAMPALLI-MADDELACHERU-2, 220KV-BORAMPALLI-GURUVEPALLI-2, 220KV-BORAMPALLI-GURUVEPALLI-1
10	GD - 1	KARNATAKA	13-10-2024 15:01	13-10-2024 17:14	02:13	120	0	0.28%	0.00%	42922.57	42680	Tripping of 220kV Bus-4 at 400kV/220kV Koppal SS and Complete Outage of 220kV Renew_Surya_Ojas_Koppal_W and 220kV Ayana_Six_Koppal: The triggering incident was 220kV Bus-4 fault at the Koppal end resulting in the tripping of all the elements connected to 220kV Bus-4 of 400kV/220kV Koppal SS. At the same time, 220KV-RSOPL_Koppal-1 and 220kV Ayana Koppal line tripped only at RSOPL and Ayana ends respectively due to suspected maloperation of SOTF protection. This resulted in the complete outage of 220kV Renew_Surya_Ojas_Koppal_W and 220kV Ayana_Six_Koppal.	400KV/220KV KOPPAL-ICT-5, KOPPAL - 220KV - Bus 4, Renew_Surya_Ojas_Koppal_W - 220KV
11	GD - 1	KARNATAKA	16-10-2024 15:59	16-10-2024 16:46	00:47	0	0	0.00%	0.00%	46265.12	43573.59	Complete outage of 220kV Ayana_Six_Koppal: As per the reports submitted, the triggering incident was RY-N fault in 33kV feeder of Ayana_Six_Koppal. At the same time, 220kV Kppal Ayana_Six_Koppal line tripped at Ayana_Six_Koppal on over current protection. Tripping of the only connected line led to complete outage of 220kV Ayana_Six_Koppal.	Ayana_Six_Koppal - 220KV, 220KV-KOPPAL-Ayana_Six_Koppal-1
12	GD - 1	ANDHRA PRADESH	18-10-2024 01:09	18-10-2024 02:14	01:05	0	0	0.00%	0.00%	37366.65	37833.19	Complete Outage 220kV Chinakampalli (Cuddadah) SS of APTRANSCO: As per the reports submitted, the triggering incident is the B-ph CT failure of 220kV Cuddadah-RTPP-1 at Cuddadah end. The fault was sensed in Z1 in the line and BBP operated leading to the tripping of all elements connected to Bus-1. Due to fire from the failed CT coming into the vicinity of 220kV Cuddadah-RTPP-2 at Cuddadah end led to the operation of BBP of 220kV Bus-2 and led to the complete outage of 220kV Cuddadah (Chinkampalli) SS	220KV-CUDDAPAH-RAJAMPET-1, 220KV-CUDDAPAH-RAYALSEEMA TPP-3, 220KV-CUDDAPAH-RENGIGUNTA-1, 220KV-CUDDAPAH-RAYALSEEMA TPP-2, 220KV-CUDDAPAH-RAYALSEEMA TPP-4, 220KV-CUDDAPAH-RAYALSEEMA TPP-1, 220KV-CUDDAPAH-THIMAPURAM-1
13	GD - 1	KARNATAKA	22-10-2024 06:04	22-10-2024 10:40	04:36	3	0	0.01%	0.00%	36408.47	40226.14	Complete Outage of 220kV Vena_GadagPS: As per the reports submitted, the triggering incident was R-N fault in 220kV Gadag Vena Line and the line tripped. Tripping of the only connected line led to complete outage of 220kV Gadag PS.	220KV-GADAG_PSS-Vena_GadagPS-1

Details of Grid Events during the Month of Oct 2024 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 (HHEMM)	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)		
14	GD - 1	KARNATAKA	22-10-2024 11:08	22-10-2024 14:46	03:38	0	0	0.00%	0.00%	45666.61	45736.45	Complete Outage of 220kV Vena_GadagPS: As per the reports submitted, the triggering incident was tripping of 220kV Gadag Vena line at Gadag end on receiving DT from Vena end. Tripping of the only connected line to complete outage of 220kV Vena_Gadag PS.	220KV-GADAG_PSS-Vena_GadagPS-1
15	GI-2	ANDHRA PRADESH	02-10-2024 19:11	02-10-2024 21:35	02:24	0	0	0.00%	0.00%	45409.25	44968.23	Tripping of 400kV Bus-2 and 220kV Bus-2 at 400/220kV Podili SS: In the antecedent conditions, 400/220kV Podili substation had only one DC supply as the other DC source was being replaced. As per the reports submitted, due to the station supply failure and complete discharge of the only available DC source led to the tripping of Bus Reactor and 220kV Podili-Podili(old)-1&2 lines. During the supply restoration process, due to control circuit issue led to the tripping of ICT-1,2 &3, 220kV lines and bus coupler other than 220kV Podili-Atmakur-1. This led to the tripping of 400kV Bus-2 and 220kV Bus-2 at 400/220kV Podili SS.	400KV/220KV PODILI-ICT-1, 400KV/220KV PODILI-ICT-2, 400KV/220KV PODILI-ICT-3, 220KV-ATMAKUR-PODILI-2, 220KV-PODILI_OLD-PODILI-2, 220KV-PODILI_OLD-PODILI-1, 220KV-PODILI-KANDUKUR-1, 220KV-PODILI-KANDUKUR-2
16	GI-1	TAMILNADU	04-10-2024 06:00	04-10-2024 06:26	00:26	0	0	0.00%	0.00%	42892.55	46132.19	Tripping of 230kV Bus-2 400kV/230kV Sholinganallur SS of TANTRANSCO: As per the reports submitted, the triggering incident was a momentary Y-N fault in 230kV Sholinganallur Bus-2 with a fault current of approximately 22.78KA. Immediately, 230kV BBP operated and all elements connected to the bus tripped.	SHOLINGANALLUR - 230KV - Bus 2, 400KV/230KV SHOLINGANALLUR-ICT-2, 230KV-OMEGA-SHOLINGANALLUR-1, 230KV-SHOLINGANALLUR-SIRUSERI-1
17	GI-2	ANDHRA PRADESH	11-10-2024 01:33	11-10-2024 18:40	17:07	300	0	0.79%	0.00%	37995.6	39426.67	Tripping of 400kV Bus-1 400kV/220kV HNPLC Generating station: As per the reports submitted, the triggering incident was R-N fault in 400kV Bus-1. Immediately, 400kV Bus-1BBP operated and all elements connected to Bus-1 tripped. At the same time, GT-2 connected to 400kV Bus-2 also tripped on REF protection.	HINDUJA - 400KV - Bus 1, 420KV/21KV HINDUJA-GT-1, 400KV-HINDUJA-KALPAKKA-2, 400KV-GUDDIGUDEM-HINDUJA-1, 420KV/21KV HINDUJA-GT-2
18	GI-1	KARNATAKA	13-10-2024 15:01	13-10-2024 16:37	01:36	0	32	0.00%	0.07%	42922.57	42679.54	Tripping of 220kV Bus-2 of 220kV/66kV Yerrandahally SS of KPTCL: 220kV/66kV Yerrandahally SS was operating with bus split condition at 220kV Yerrandahally with 220kV Yerrandahally Hosur line radially feeding 220kV Bus-2. As per the reports submitted, the triggering incident was Y-N fault in 230kV Yerrandahally Hosur line and the line tripped. Tripping of the only source led to loss of power supply to 220kV Yerrandahally Bus-2.	220KV-YERRAANDAHALLI-HOSUR-1,
19	GI-2	ANDHRA PRADESH	19-10-2024 16:35	19-10-2024 18:57	02:22	0	0	0.00%	0.00%	42933	44466	Tripping of 400kV Bus-2 at 400/220kV Kalpakka : As per the reports submitted, the triggering incident is the R-N bus fault where in TBC isolator in 400kV Kalpakka-Simhadri-4 line bay at 400kV Kalpakka got disconnected and created an R-N fault in Bus-2. This led to the operation of BBP in Bus-2 and tripping of all elements connected to 400kV Bus-2 at 400/220kV Kalpakka	400KV-HINDUJA-KALPAKKA-2 400KV-SIMHADRI-KALPAKKA-4 400KV-MARADAM-KALPAKKA-1 400KV/220KV KALPAKKA-ICT-2
20	GI-1	ANDHRA PRADESH	21-10-2024 06:26	21-10-2024 08:08	01:42	0	0	0.00%	0.00%	37872.1	41271.99	Tripping of 220kV Bus-2 at Nagarjunasagar SS of APTRANSCO: As per the reports submitted, the triggering incident is the Y-B fault in 220kV Nagarjunasagar(Talpapalli)-Chalakerthy near Nagarjunasagar end (Loc-1). At Nagarjunasagar end the fault was sensed in Zone-1 and 3ph tripped (initially Y-N fault, then Y-B fault, then B-N fault). During the fault since being near the vicinity of the Nagarjunasagar station led to the tripping of 400/220kV Nagarjunasagar ICT-3 on high set over current and later external LBB operated leading to the tripping of all the elements connected to 220kV Bus-2 due to suspected cable issue. This led to the tripping of 220kV Bus-2 Nagarjunasagar SS.	400KV/220KV NAGARIJUNASAGAR_PG-ICT-3, 400KV/220KV NAGARIJUNASAGAR_PG-ICT-1, 220KV-NAGARIJUNASAGAR_AP-NAGARIJUNASAGAR_TS-3, 220KV-NAGARIJUNASAGAR_AP-NAGARIJUNASAGAR_TS-2, 220KV-NAGARIJUNASAGAR_AP-INAPARAJUPALLI-2, 220KV-SRISAILAM_RIGHT_BANK-NAGARIJUNASAGAR_AP-2, 220KV-NAGARIJUNASAGAR_AP-RENTACHINTHALA-1
21	GI-1	TAMILNADU	24-10-2024 17:35	24-10-2024 19:15	01:40	370	257	0.87%	0.56%	42667.65	45757.93	Complete Outage of 230kV TTPS of TANGENDCO: As per the reports submitted, while closing Isolator of spare Generator transformer isolator failed causing Bus fault. Immediately, 230kV Bus-1 and Bus-2 BBP operated and all elements connected to the bus tripped. Tripping of all elements connected to the buses resulted in complete outage of 230kV TTPS of TANGENDCO.	230KV-TTPS-AUTO-TTPS-1, 230KV-TTPS-AUTO-TTPS-2, TTPS - 230KV - Bus 1, TTPS - 230KV - Bus 2, 230KV-KAYATHAR(TN)-TTPS-1

Details of Grid Events during the Month of Oct 2024 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 (HHEMM)	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-I	BALIMELA PH & BALIMELA	05-10-2024 19:03	05-10-2024 19:34	00:31	00:00	20	1.19%	0.07%	36047	26757	At 19:03 Hrs 220KV-Balimela PH-Jayanagar-1 & 2 tripped on B_N fault simultaneously. Entire generation of Balimela PH around 430 MW was now being evacuated through single line 220KV-Balimela-Jeynagar ckt#3(via Gobindapally). 220 kv Gobindapally Jayangar tripped on O/c. This led to islanding of generation at Balimela PH (430 MW) and 20 MW load at Balimela S/s. U#2,3,4 at Balimela PH tripped on BackUp impedance protection and U#5,6,7,8 remained on House load operation but could not sustain. Later at 19:06 Hrs, all 4 units were handtripped and total power failed at Balimela PH and Balimela S/s Generation loss of around 430 MW and load loss of around 20 MW occurred. Power extended at Balimela PH through 220KV- Balimela PH-Jayanagar-1 at 19:22 Hrs and unit#6 was synchronised.	220 KV Balimela-Jayanagar-1 220 KV Balimela-Jayanagar-2 220 KV Balimela-Gobindapally 220 kv Gobindapally-Jayanagar 220 kv Balimela PH-Balimela 220 kv Balimela PH-Upper Sileru (Idle Charged) Balimela Unit #2, 3, 4 Tripped Balimela Unit #5, 6, 7 & 8 Hand Tripped
2	GD-I	BARGARH NEW	10-10-2024 19:04	10-10-2024 19:10	00:06	00:00	190	0.00%	0.72%	35559	26521	At 19:04 Hrs on 10.10.2024, 220KV- Bargarh New-Katapalli tripped on over current from Bargarh end. Bargarh New was being radially fed from Katapalli and 220 kv Bolangir (GR)-Bargarh New was kept open to control loading of 220 kv Bolangir (PG) Bolangir (GR) D/C. Consequently, total power failed at Bargarh New S/s. Around 190 MW load loss occurred. Power extended at 19:10 Hrs through 220KV-Bargarh New-Katapalli.	220 kv Bargarh- Katapalli
3	GD-I	JORETHANG HEP	17-10-2024 10:19	17-10-2024 10:28	00:09	82	0	0.30%	0.00%	27075	23680	At 10:19 Hrs 220KV-Jorethang-New Melli ckt #1 tripped on B phase to earth fault (Jorethang Generation radially connected to New Melli due to breakdown of 220KV-Jorethang-New Melli ckt#2) as a result total generation loss of 82 MW occurred at Jorethang S/s. At 10:28 Hrs power extended through 220KV-Jorethang-New Melli ckt #2 and generation restored at 10:32 Hrs.	220KV-JORETHANG-NEW MELLI-1 220KV-JORETHANG-NEW MELLI-2
4	GD-I	RAMCHANDRAPUR	22-10-2024 05:08	22-10-2024 06:30	01:22	0	319	0.00%	1.42%	31963	22416	At 05:08 hrs, B ph PT of 220 kv Ramchandrapur Bus-2 blast which caused tripping of 220 kv Bus-2 at Ramchandrapur. Simultaneously 220 kv Bus-1 at Ramchandrapur also tripped at the same time causing total power failure at 220KV Ramchandrapur S/s. Total Load loss occurred around 319 MW at Ramchandrapur. Power was extended by charging 220KV RAMCHANDRAPUR-CHAIBASA(JUSNL)-1 at 06:30 Hrs.	220KV-RAMCHANDRAPUR-JAMSHEDPUR-1 220KV-RAMCHANDRAPUR-JAMSHEDPUR-2 220KV-RAMCHANDRAPUR-JAMSHEDPUR-3 220KV-RAMCHANDRAPUR-CHAIBASA(JUSNL)-D/C 220KV-RAMCHANDRAPUR-CHANDIL-1 220KV-RAMCHANDRAPUR-JODA
5	GD-I	DUMKA, JASIDIH, GIRIDIH, GOVINDPUR, GODDA, TENUGHAT TPS	29-10-2024 17:50	29-10-2024 18:05	00:15	140	560	0.41%	2.13%	34480	26286	220KV-Maithon Dumka D/c loading touched 210 MW which triggered SPS at Dumka S/s. Tripping command generated for tripping of Pakur load(As per Dumka SPS), simultaneously one tripping command also extended (Due to mal operation of SPS at Dumka) for 220 kv Maithon - Dumka D/C line which got tripped at 17:50 hrs. This led to over loading of 220KV-Tenughat TPS- Bihararif-1, which also tripped (Tripped on over current from Bihararif). As a result, a complete power outage occurred at 220 kv Dumka, 220 kv Govindpur, 220 kv Jasidih, 220 kv Giridih, 220 kv Tenughat, 220 kv Godda. Power extended at 18:05 Hrs by charging 220KV-Tenughat TPS- Bihararif-1.	220KV-MAITHON(PG)-DUMKA-D/C 220KV-TENUGHAT TPS- BIHARSARIF-1 220KV-DUMKA-GOVINDPUR-D/C 220KV-GOVINDPUR-TENUGHAT TPS-D/C 220KV-DUMKA-JASIDIH-D/C 220KV-JASIDIH-GIRIDIH-D/C 220KV-DUMKA-GODDA-D/C 132KV-DUMKA-PAKURPUR-D/C 132KV-DUMKA-DUMKA(oid)-D/C TENUGHAT - UNIT 1 400 KV- TENUGHAT-PUVNL
6	GD-I	DUMKA, JASIDIH, GIRIDIH, GOVINDPUR, GODDA, TENUGHAT TPS	30-10-2024 10:55	30-10-2024 11:15	00:20	145	510	0.49%	2.22%	29782	22968	At 10:56 Hrs 220KV-Maithon-Dumka #2 tripped on B_N fault (A/r attempt failed due to persisting fault) Prior to fault loading in each line was around 180 MW. After tripping of Ckt.-2, flow in 220KV-Maithon-Dumka Ckt#1 went beyond 305 MW (800 A) and SPS operated and 220 kv Maithon-Dumka-1 also tripped after 4 second(SPS current setting of 220KV-Maithon Dumka D/C was changed after disturbance on 29.10.2024). Thereafter, 220 kv Tenughat Bihararif tripped (on overcurrent from Bihararif end) which result islanding of Tenughat Unit which collapse due to load generation unbalance resultant total power failure at 220 kv Dumka, 220 kv Govindpur, 220 kv Jasidih, 220 kv Giridih, 220 kv Tenughat, 220 kv Godda. Total loss of 510 MW occurred. Power extended 11:15 Hrs by charging 220KV-Tenughat TPS- Bihararif-1.	220KV-MAITHON(PG)-DUMKA-D/C 220KV-TENUGHAT TPS- BIHARSARIF-1 220KV-DUMKA-GOVINDPUR-D/C 220KV-GOVINDPUR-TENUGHAT TPS-D/C 220KV-DUMKA-JASIDIH-D/C 220KV-JASIDIH-GIRIDIH-D/C 220KV-DUMKA-GODDA-D/C TENUGHAT - UNIT 1 400 KV- TENUGHAT-PUVNL
7	GD-I	BALIMELA PH & BALIMELA	30-10-2024 09:05	30-10-2024 09:21	00:16	290	20	0.93%	0.06%	31180	30890	At 09:05 bus fault occurred at 220KV Balimela S/s(All feeders and unit connected to 220KV-Main Bus#2) which leads to tripping of all emanating line and all running units at Balimela. This causes total power failure at Balimela S/s Generation loss of around 290 MW and load loss of around 20 MW occurred. power extended at 09:21 Hrs through 220 kv BALIMELA JAYANAGAR-1 and 2.	220 KV Balimela-Jayanagar-1 220 KV Balimela-Jayanagar-2 220 KV Balimela-Gobindapally 220 kv Gobindapally-Jayanagar 220 kv Balimela PH-Balimela 220 kv Balimela PH-Upper Sileru (Idle Charged) All running unit at Balimela HEP

Details of Grid Events during the Month of Oct 2024 in North Eastern Region



Sl No.	Category of Grid Event (GI for GI2/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 I	Pailapool area of Assam Power System	02-10-2024 13:21	02-10-2024 13:44	00:23	26	31	1.15%	1.24%	2261	2498	Pailapool area of Assam Power System was connected with rest of NER Power system through 132 kV Pailapool - Srikona Line & 132 kV Pailapool - Jiribam Line. At 13:21 Hrs of 02-10-2024, 132 kV Pailapool - Srikona Line & 132 kV Pailapool - Jiribam Line tripped. Due to tripping of these elements, Pailapool area of Assam Power System was isolated from NER Grid and collapsed due to load-generation mismatch in this area. Power supply was extended to Pailapool area of Assam Power System by charging 132 kV Pailapool - Srikona Line at 13:44 Hrs of 02-10-2024.	132 kV Pailapool - Srikona Line & 132 kV Pailapool - Jiribam Line
2	GD I	Karong area of Manipur Power System	04-10-2024 02:32	04-10-2024 03:16	00:44	0	7	0.00%	0.39%	3061	1812	Karong area of Manipur Power System was connected with rest of NER Grid through 132 kV Kohima Karong line. 132 kV Yurembam -Karong line was under outage condition since 16:35 Hrs of 26.09.2024. At 02:32 Hrs of 04-10-2024, 132 kV Kohima-Karong line tripped. Due to tripping of this element, Karong area of Manipur Power System was isolated from NER Grid and collapsed due to no source available in this area. Power was extended to Karong area of Manipur Power System by charging 132kV Kohima-Karong line at 03:16 Hrs of 04.10.2024.	132 kV Kohima-Karong line
3	GD I	Karong area of Manipur Power System	13-10-2024 23:37	14-10-2024 00:07	00:30	0	7	0.00%	0.37%	3026	1899	Karong area of Manipur Power System was connected with rest of NER Grid through 132 kV Kohima Karong line and 132 kV Imphal(MA) -Karong line. At 23:37 Hrs of 13-10-2024, 132 kV Kohima-Karong line and 132 kV Imphal(MA) -Karong line tripped. Due to tripping of these elements, Karong area of Manipur Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Karong area of Manipur Power System by charging 132 kV Imphal(MA) -Karong line at 00:07 Hrs of 14.10.2024.	132 kV Kohima-Karong line and 132 kV Imphal(MA) -Karong line
4	GD I	Basar, Along and Pasighat areas of Arunachal Pradesh Power System	17-10-2024 14:44	17-10-2024 15:23	00:39	0	8	0.00%	0.34%	2355	2375	Pasighat, Along and Basar areas of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV Roing-Pasighat line only. At 14:44 Hrs of 17-10-2024, 132 kV Roing-Pasighat line tripped. Due to tripping of this element, Basar, Along and Pasighat areas of AP Power System were isolated from NER Grid and collapsed due to no source available in this area as there was planned shutdown of 132 kV Daporijo-Basar Line. Power supply was extended to Pasighat area by charging 132 kV Roing -Pasighat line at 15:23 Hrs of 17.10.2024. 132 kV Pasighat-Along was charged at 15:39 Hrs and 132 kV Along-Basar at 16:23 Hrs of 17.10.2024.	32 kV Roing-Pasighat line
5	GD I	Renggang area of Manipur Power System	19-10-2024 10:28	19-10-2024 10:56	00:28	0	1	0.00%	0.05%	1806	2096	Renggang area of Manipur Power System was connected with rest of NER Grid through 132kV Loktak Renggang line. 132kV-Jiribam-Renggang line was under long outage since 18:18 Hrs of 17.11.2023. At 10:28 Hrs of 19-10-2024, 132 kV Loktak-Renggang line tripped. Due to tripping of this element, Renggang area of Manipur Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Renggang area by charging 132kV Loktak-Renggang line at 10:56 hrs of 19-10-2024.	132 kV Loktak-Renggang line
6	GD I	Dibrugarh area of Assam Power System	28-10-2024 09:05	28-10-2024 09:41	00:36	0	20	0.00%	0.94%	2101	2135	Dibrugarh area of Assam Power System was connected with rest of NER Grid through 132 kV Behiating- Dibrugarh line. 132kV Tinsukia-Dibrugarh was under S/D for corridor cleaning. At 09:05 Hrs of 28-10-2024, 132 kV Behiating- Dibrugarh line tripped. Due to tripping of this element, Dibrugarh area of Assam Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Dibrugarh area by charging 132kV Behiating- Dibrugarh line at 09:41 hrs of 28-10-2024.	132 kV Behiating- Dibrugarh line
7	GD I	Imphal(Yurembam) area of Manipur Power System	28-10-2024 13:30	28-10-2024 15:08	01:38	0	50	0.00%	2.24%	2127	2236	Imphal(Yurembam) area of Manipur is connected with rest of the NER grid mainly through 3 numbers of 132 kV Imphal(PG)- Imphal(Yurembam) Lines. Also, Imphal(Yurembam) is connected with Yaingangkopi SS through 2 numbers of 132 kV Imphal (Yurembam) - Yaingangkopi 1&2 Lines and connected with Karong SS through 1 number of 132 kV Imphal (MSPCL) - Karong Line. Before the event, 132 kV Imphal(PG)-Imphal(Yurembam) 2 Line and 132 kV Imphal (Yurembam) - Yaingangkopi 2 Lines was under planned shutdown. At 13:30 Hrs of 28-10-2024, due to heavy fault in Imphal(Yurembam) SS, all the connected lines i.e. 132 kV Imphal(PG)-Imphal(Yurembam) 1 & 3 Lines, 132 kV Imphal (Yurembam) - Yaingangkopi 1 Lines and 132 kV Imphal (MSPCL) - Karong Line tripped resulted into the Grid Disturbance in the Imphal(Yurembam) substation of Manipur power system. Additionally, tripping of 400/132 kV, 315 MVA, ICT I at Imphal(PG), 132 kV Imphal (PG) - Loktak Line and 400 kV Imphal(PG) - New Kohima 1 Line observed during the time. Power supply was extended to Imphal(Yurembam) area by charging 132 kV Imphal(PG)- Imphal(Yurembam) 2 Line at 15:08 hrs of 28-10-2024.	132 kV Imphal(PG)- Imphal(Yurembam) 1 & 3 Lines, 132 kV Imphal (Yurembam) - Yaingangkopi 1 Lines and 132 kV Imphal (MSPCL) - Karong Line
8	GD I	Renggang area of Manipur Power System	29-10-2024 22:26	29-10-2024 23:27	01:01	0	1	0.00%	0.04%	3091	2577	Renggang area of Manipur Power System was connected with rest of NER Grid through 132kV Loktak Renggang line. 132kV-Jiribam-Renggang line was under long outage since 18:18 Hrs of 17.11.2023. At 22:26 Hrs of 29-10-2024, 132 kV Loktak-Renggang line tripped. Due to tripping of this element, Renggang area of Manipur Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Renggang area by charging 132kV Loktak-Renggang line at 23:27 hrs of 29-10-2024.	132 kV Loktak-Renggang line