

Details of Grid Events during the Month of Nov 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 (HEMM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load w.r.t. Antecedent Generation/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid*		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GI-1	Rajasthan	01-11-2024 12:47	01-11-2024 15:04	02:17	300	0	0.604	0.000	49642	49437	i) Total generation of 220kV Saurya Urja (IP) S/s is evacuated to Bhadla (RS) at 220kV level through 220 kV Bhadla (RS)-Saurya Urja D/C. ii) During antecedent condition, 220 kV Bhadla (RS)-Saurya Urja Ckt-1 & 2 were carrying approx. 245 MW and 239 MW respectively. iii) As reported at 12:47 hrs, 220 kV Bhadla (RS)-Saurya Urja Ckt-1 tripped from Bhadla (RS) end only on R-N phase to earth fault with fault current of 5KA and fault distance of 1.85km from Bhadla (RS) end, fault sensed in zone-1 from Bhadla (RS) end. Exact reason of fault cannot be identified after patrolling. Hence it seems that fault was of transient nature and there was issue in A/R operation at Bhadla (RS) end. iv) As per PMU at Bhadla (PG), 3-phase to earth fault is observed with fault clearing time of 80msec. v) As per SCADA, change in solar generation of approx. 300 MW and no change in demand are observed in Rajasthan control area.	1) 220 kV Bhadla (RS)-Saurya Urja Ckt-1
2	GI-2	Uttar Pradesh	02-11-2024 01:51	02-11-2024 03:23	01:32	0	130	0.000	0.331	31301	39244	i) 800/220kV Aligarh (UP) has one and half breaker scheme at 400kV level and double main and transfer bus scheme at 220kV level. ii) As reported, at 01:51 hrs, 400 KV Aligarh-Muradnagar_1 (UP) Ckt tripped on B-N phase to earth fault with fault current of 2.912KA from Muradnagar_1 end and 18.916KA from Aligarh end; fault sensed in zone-1 at Aligarh end and zone-2 at Muradnagar_1 end. As per DR at Muradnagar_1 end, fault clearing time was ~377ms (delay in fault clearing at Muradnagar_1, carrier not received). As per DR at Aligarh end, unsuccessful A/R was observed with A/R dead time of 840 ms (less A/R dead time observed). iii) During the same time, 400 KV Aligarh-Shamli (UP) Ckt-1 & 2 also tripped on over-voltage at Aligarh end (as per EL of Main-1 at Aligarh). As per DR, R-ph voltage reached upto ~1.35 p.u. at Aligarh end of 400 KV Aligarh-Shamli (UP) Ckt-1 and B-N phase to earth fault with fault current of 642 A from Aligarh end is observed in 400 KV Aligarh-Shamli (UP) Ckt-2. Time sync issue is observed in Main-2 relay at Aligarh end of both 400 KV Aligarh-Shamli (UP) Ckt-1 & 2. As reported, DT received at Shamli end for both the lines. iv) As per PMU at Mainpuri (PG), B-N phase to earth fault with unsuccessful A/R is observed with fault clearing time of 80ms. v) As per SCADA, change in demand of approx. 130 MW is observed in UP control area.	1) 400 KV Aligarh-Muradnagar_1 (UP) Ckt 2) 400 KV Aligarh-Shamli (UP) Ckt-1 3) 400 KV Aligarh-Shamli (UP) Ckt-2
3	GI-1	Himachal Pradesh	06-11-2024 20:45	06-11-2024 22:54	02:09	125	0	0.319	0.000	39236	52045	i) During antecedent condition, 66MW Unit-2, 3, 5 & 6 at Pong HEP were running and generating approx. 66MW, 66MW, 64MW and 56MW respectively (as per SCADA), 66MW Unit-1 & 4 at Pong HEP were not in service. ii) As reported, at 20:45 hrs, while stopping 66 MW Unit-6 at Pong (BB), the Relay MICOM P643- CB Head Flashover operated. As informed by the site, the Earth Fault relay connected to Unit-06 GT neutral operated, and the CB of Unit-6 opened. However, the Earth Fault current did not reduce to 0 A immediately. As a result, due to the AND operation logic (where the CB is open and the Earth Fault remains active), the CB Head Flashover was initiated, causing simultaneous tripping of 220 kV Bus-2 at Pong (BB). iii) As 220 kV Jalandhar-Pong (BB) Ckt-2, 220 kV Jessor (HP)-Pong (BB) (PG) Ckt-1, 220 kV Pong (BB)-Dasuya (PS) (BBMB) Ckt-2 and 66 MW Pong HPS - UNIT 2 were connected to 220 kV Bus-2 at Pong (BB), all these elements tripped from Pong end along with Bus-2. iv) As discussed with BBMB personnel, a delay of 15 ms is kept for reduction of earth fault current to 0 A (in case of CB open condition) in CB Head Flashover protection logic to avoid overlapping conditions. v) As per PMU at Jalandhar (PG), no fault is observed in the system. However, fluctuation in voltage is observed. vi) As per SCADA, generation loss of approx. 125 MW at Pong HEP (BB) and no load loss is observed in HP control area.	1) 66 MW Pong HPS - UNIT 6 2) 66 MW Pong HPS - UNIT 2 3) 220KV Bus 2 at Pong (BB) 4) 220 KV Jalandhar-Pong (BB) Ckt-2 5) 220 KV Jessor (HP)-Pong (BB) (PG) Ckt-1 6) 220 KV Pong (BB)-Dasuya (PS) (BBMB) Ckt-2
4	GI-2	Uttar Pradesh	11-11-2024 15:56	11-11-2024 21:44	05:48	0	0	0.000	0.000	43687	53628	i) During antecedent condition, 400 kV Firozabad-Jawaharpur Ckt 2 (28 MW) and 400/220 kV 500 MVA ICT 4 (27 MW) were connected to 400 kV Bus 2. 400 kV Firozabad-Jawaharpur Ckt 1 (26 MW), 125 MVAR bus reactor, and 400/220 kV 500 MVA ICT 3 (27 MW) were connected to 400 kV Bus 1. The 765/400 KV ICT 1 and 2 were not in service at that point of time. ii) As reported at 15:56:14.463 hrs, R-N fault occurred at TEED portion of bay 401 & 402. On this fault, bus bar protection of 400KV Bus-2 at 400 KV JAWAHARPUR_TPS (UP) operated. This led to tripping of breakers 410, 407 & 401 bay connected to 400KV Bus 2. At the same time (with the gap of 20msec), TEED protection operated which tripped Bay 402 (The Bay of 400/220KV ICT 3 & 4). This led to tripping of 400/220KV ICT 4. Further after ~30msec, 400KV Bay No 403 breaker opened led to the tripping 400/220 KV ICT 3 at Jawaharpur (UP). Exact reason of operation of bus bar protection along with TEED protection is yet to be received from UP. DR/EL of the tripping events also yet to be received. iii) After further 60msec, 125 MVAR Bus Reactor No 1 at 400 KV Jawaharpur_TPS (UP) also tripped on back up impedance protection operation. DR of the tripping is yet to be received. iv) As per PMU at Mainpuri (PG), R-N fault which cleared within 100msec is observed. v) As per SCADA, no load loss is observed in UP control area.	1) 400 KV Jawaharpur_TPS (UP) - Bus 2 2) 400/220 kV 500 MVA ICT 3 at Jawaharpur_TPS (UP) 3) 400/220 kV 500 MVA ICT 4 at Jawaharpur_TPS (UP) 4) 410 MAIN BAY - 400 KV FIROZABAD (PJFTL)-JAWAHARPUR_TPS (UP) (UP) Ckt-2 (UPRVUNL) AT 400 KV JAWAHARPUR_TPS (UP) 5) 125 MVAR Bus Reactor No 1 at 400 KV Jawaharpur_TPS (UP)
5	GI-2	Rajasthan	11-11-2024 12:22	11-11-2024 23:55	11:33	0	635	0.000	1.110	50765	57194	i) During antecedent condition, loading of 400/220 kV 315 MVA ICT 1 & 2 and 220/132kV 100MVA ICT-1, 2 & 3 at Merta (RS) were 171 MW, 177 MW, 62 MW, 62 MW and 56 MW respectively as per SCADA. 220kV Merta (RS)-Makrana (RS) Ckt was not in service. ii) As reported, at 12:22hrs, R-phase jumper of 220 kV Merta-Jethana snapped, and this broken jumper conductor fell on both 220 kV Bus-A and Bus-B at Merta. Because of this, Bus Bar protection operated at 400/220/132kV Merta S/s. iii) As a result, both 220kV Bus 1 & 2, along with all the elements connected to them i.e., 400/220 ICT-1 & 2, 220KV MERTA-JETHANA (RS), 220KV MERTA-BHOPALGARH (RS), 220KV MERTA-KUCHERA (RS), 220/132 kV 100 MVA ICT 1, ICT 2 & ICT 3 AT MERTA (RS) tripped. iv) As per PMU at Merta (RS), R-B fault is observed with delayed fault clearance time of 720 msec. v) As per SCADA, change in demand of approx. 635 MW is observed in Rajasthan control area.	1) 220KV BUS1&2 AT MERTA (RS) 2) 400/220 kV 315 MVA ICT 1 AT MERTA (RS) 3) 400/220 kV 315 MVA ICT 2 AT MERTA (RS) 4) 220KV MERTA-BHOPALGARH (RS) CKT 5) 220KV MERTA-KUCHERA (RS) CKT 6) 220/132 kV 100 MVA ICT 1 AT MERTA (RS) 7) 220/132 kV 100 MVA ICT 2 AT MERTA (RS) 8) 220/132 kV 100 MVA ICT 3 AT MERTA (RS) 9) 220KV MERTA-JETHANA (RS) CKT

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
6	GI-1	Rajasthan	16-11-2024 05:21	16-11-2024 07:23	02:02	0	325	0.000	0.762	31398	42640	<p>i)As reported, at 05:21 hrs, interrupter of CB Pole (R-Pk.) blasted at the time of opening of CB of 125MVAR Bus Reactor at Hindaun (RS) on voltage regulation.</p> <p>ii)During the same time, 400 KV Hindaun(RS)-Chhabra(RVUN) (RS) Ckt, 400 KV Heerapura-Hindaun (RS) Ckt, and 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt at Hindaun(Raj) also tripped (exact reason of tripping yet to be shared).</p> <p>iii)As per DR of 400 KV Hindaun(RS)-Chhabra(RVUN) (end) (RS) Ckt, zone-2 distance protection operated at Chhabra end. R-N phase to earth fault was observed with fault current of 1.676kA and delayed fault clearance time of ~350ms. (DR nomenclature & time sync issue in DR need to be corrected.)</p> <p>iv)As per PMU at Heerapura (RS) and DR of Chhabra end, R-N fault is observed with delayed fault clearance time of 360 ms.</p> <p>v)As per SCADA, load loss of approx. 325 MW in Rajasthan control area was observed.</p>	<p>1) 125 MVAR BUS REACTOR NO 1 AT 400KV HINDAUN(RS)</p> <p>2) 400 KV Heerapura-Hindaun (RS) Ckt-1</p> <p>3) 400 KV Hindaun(RS)-Chhabra(RVUN) (RS) Ckt</p> <p>4) 400 KV Alwar(ATIL)-Hindaun(RS) (ATIL) Ckt</p>
7	GI-1	Himachal	21-11-2024 08:42	21-11-2024 08:57	00:15	0	155	0.000	0.285	41923	54379	<p>i)220/132 KV Hamirpur-II(HP) substation has double Bus scheme in both 220KV and 132KV system. It has 3 (three) 220/132 KV ICTs along with 2 circuits connecting to 220KV Hamirpur (PG) and in 132 KV Hamirpur I – Hamirpur-II Ckt1 & 2, 132 KV Hamirpur II – Kangoo Ckt.1 & 2 and 132KV Hamirpur-II – Dehra I & II.</p> <p>ii)As reported at 08:42hrs, 132 KV Hamirpur II – Kangoo Ckt-1 & 2 tripped (exact reason of tripping yet to be shared).</p> <p>iii)As per SCADA data for 132 KV Hamirpur II – Kangoo Ckt-1 & 2 wasn't available before or after the tripping incident.</p> <p>iv)As per PMU at Hamirpur (PG) end, no fault was observed.</p> <p>v)As per SCADA, a change in demand of approx. 155 MW is observed in Himachal Pradesh control area.</p>	<p>i)220 KV HAMIRPUR-II (Mattansidh)(HPSEBL)-Kangoo(HPSEBL) 1</p> <p>ii)220 KV HAMIRPUR-II (Mattansidh)(HPSEBL)-KANGOO(HPSEBL) 2</p>
8	GI-2	Rajasthan	23-11-2024 22:11	24-11-2024 00:02	01:51	0	0	0.000	0.000	29764	42355	<p>i)During antecedent condition, 400 kv Firozabad-Jawaharpur Ckt 2 (28 MW) and 400/220 kv 500 MVA ICT 4 (27 MW) were connected to 400 kv Bus 2. 400 kv Firozabad-Jawaharpur Ckt 1 (26 MW), 125 MVAR bus reactor, and 400/220 kv 500 MVA ICT 3 (27 MW) were connected to 400 kv Bus 1. The 765/400 kv ICT 1 and 2 were not in service at that point of time.</p> <p>ii)As reported at 15:56:14.463 hrs, R-N fault occurred at TEED portion of bay 401 & 402. On this fault, bus bar protection of 400KV Bus-2 at 400 KV JAWAHARPUR_TPS(UP) operated. This led to tripping of breakers 410, 407 & 401 bay connected to 400KV Bus 2. At the same time (with the gap of 20msec), TEED protection operated which tripped Bay 402 (Tie Bay of 400/220KV ICT 3 & 4). This led to tripping of 400/220KV ICT 4. Further after ~30msec, 400KV Bay No 403 breaker opened led to the tripping 400/220 KV ICT 3 at Jawaharpur(UP). Exact reason of operation of bus bar protection along with TEED protection is yet to be received from UP. DR/EL of the tripping events also yet to be received.</p> <p>iii)After further 60msec, 125 MVAR Bus Reactor No 1 at 400 KV Jawaharpur_TPS(UP) also tripped on back up impedance protection operation. DR of the tripping is yet to be received.</p> <p>iv)As per PMU at Mainpuri (PG), R-N fault which cleared within 100msec is observed.</p> <p>v)As per SCADA, no load loss is observed in UP control area.</p>	<p>i)400 KV Bhadla-Merta (RS) Ckt-1</p> <p>ii)400 KV Bikaner-Bhadla (RS) Ckt-1</p> <p>iii)400 KV Bikaner-Bhadla (RS) Ckt-2</p>
9	GI-1	Jammu & Kashmir	26-11-2024 14:13	26-11-2024 15:20	01:07	0	260	0.000	0.506	47538	51370	<p>i)220/132kv Ziankote S/s has 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 138 MW each and feeding Ziankote load.</p> <p>iii)As reported, at 14:13 hrs, 220 KV Amargarh (INDIGRID)-Ziankote(JK) Ckt-1 tripped on B-N phase to earth fault with fault distance of 22.34 km (as per EL) and fault current of I_b=2.81kA (as per DR) from Amargarh end. Fault sensed in zone-2 at Amargarh end.</p> <p>iv)During the same time, 220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-2 also tripped on B-N phase to earth fault with fault distance of 27.46km (as per EL) and fault current of I_b=2.43kA (as per DR) from Amargarh end. Fault sensed in zone-2 at Amargarh end.</p> <p>v)As confirmed by Amargarh (INDIGRID), in view of non-availability of carrier communication and A/R scheme at Ziankote end, A/R has been kept disabled at Amargarh end and time delay of Z-2 was also kept as instantaneous at Amargarh end.</p> <p>vi)As per PMU at Amargarh (PG), B-N phase to earth fault which cleared within 80 msec is observed.</p> <p>vii)As per SCADA, change in demand of approx. 260 MW is observed in J&K control area.</p>	<p>i)220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1</p> <p>ii)220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-2</p>
10	GD-1	Jammu & Kashmir	27-11-2024 14:50	27-11-2024 15:33	00:43	110	0	0.234	0.000	46964	52087	<p>i)During antecedent condition, 130MW Unit-2 at Dulhasti HEP were running generating approx. 110 MW and total generated power of 110MW was evacuating through 400 kv Dulhasti(NH)-Kishenpur(PG) (PG) Ckt-1 only, 130MW Unit-1 & 3 at Dulhasti HEP and 400 kv Dulhasti(NH)-Kishenpur(PG) (PG) Ckt-2 were not in service.</p> <p>ii)As reported, at 14:50hrs, 400 kv Dulhasti(NH)-Kishenpur(PG) (PG) Ckt-1 tripped on Y-N phase to earth fault (Exact reason, location and nature of fault along with DR/EL yet to be shared). As per PMU, unsuccessful A/R is observed with fault current of ~2.025kA followed by ~2.282kA from Kishenpur(PG) end.</p> <p>iii)Due to tripping of 400 kv Dulhasti(NH)-Kishenpur(PG) (PG) Ckt-1, 130MW Unit-2 at Dulhasti HEP tripped due to loss of evacuation path on over-speed protection operation.</p> <p>iv)As per PMU at Kishenpur (PG), Y-N phase to earth fault with unsuccessful A/R is observed with fault clearing time of 80ms.</p> <p>v)As per SCADA, generation loss of approx. 110MW is observed at Dulhasti HEP.</p>	<p>i)400 KV Dulhasti(NH)-Kishenpur(PG) (PG) Ckt-1</p> <p>ii)130MW Unit-2 at Dulhasti HEP</p>

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



Sl No.	Category of Grid Event (GI for GI-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	03-11-2024 19:25	03-11-2024 20:04	00:39	-	44	-	0.08%	51438	58515	At 19:25 Hrs / 03-11-2024, 220 kV Kalwa-Knowledge Park tripped from Kalwa end only on Z-2 protection operation on Y-E fault, due to Y phase CT flashover and snapping of Y phase jumper at Knowledge Park during hand tripping of 220 kV Nasik-Knowledge Park. Line didn't tripped from Knowledge Park end which is undesirable. Load loss of 44 MW occurred at 220 kV Knowledge Park (Maharashtra) substation due to the event.	Tripping of following Elements: 1. 220 kV Kalwa-Knowledge Park
2	GI-2	WR	05-11-2024 02:50	05-11-2024 08:08	05:18	-	-	-	-	57621	49265	At 02:46 Hrs / 05-11-2024, 400 kV Ukai-Vav tripped on over voltage protection operation at Ukai end. After two minutes at 02:48 hrs, 400 kV Ukai-Kosamba-2 tripped on overvoltage protection operation at Ukai end. Further, after two minutes at 02:50 hrs, 400/220 kV Ukai-ICT-1 (315 MVA) tripped on over flux operation. Prior to the incident 400 kV Ukai-Kosamba-3 was manually opened due to high voltage and all units at Ukai were under Reserved Shut Down (RSD). No Load loss or generation loss occurred due to the event and 220 kV Ukai network was unaffected.	Tripping of following Elements: 1. 400 kV Ukai-Vav 2. 400 kV Ukai-Kosamba-2 3. 400/220 kV Ukai-ICT-1 (315 MVA)
3	GI-2	WR	06-11-2024 02:51	06-11-2024 08:57	06:06	-	-	-	-	60628	50993	At 02:51 Hrs / 06-11-2024, 400 kV Ukai-Vav tripped on over voltage protection operation at Ukai end. Simultaneously, 400/220 kV Ukai-ICT-1 (315 MVA) tripped on over flux operation. Prior to the incident 400 kV Ukai-Kosamba-2&3 were manually opened due to high voltage and all units at Ukai were under Reserved Shut Down (RSD). No Load loss or generation loss occurred due to the event and 220 kV Ukai network was unaffected.	Tripping of following Elements: 1. 400 kV Ukai-Vav 2. 400/220 kV Ukai-ICT-1 (315 MVA)
4	GD-1	WR	10-11-2024 11:19	10-11-2024 12:14	00:55	-	68	-	0.11%	68067	64427	At 11:19 Hrs / 10-11-2024, 220 kV Bhandup-Mulund tripped on B-E fault on Z-1 protection at both end due to fault in underground cable portion near Bhandup end. Auto recloser was disabled in 220 kV Bhandup-Mulund (being an transmission line with a mix of over head and underground cable portion). Simultaneously 220 kV Bhandup-Borivali tripped from Borivali end only on Z-1 operation due to overreaching of relay at Borivali end (Fault in Z-2 seen as Z-1 fault). With this 220 kV Bhandup became dead. Prior to the incident 220 kV Borivali-Kalwa and 220 kV Borivali-CtrIS Datacenter circuit were under shutdown. Load loss of 68 MW occurred at Bhandup due to the event.	Tripping of following Elements: 1. 220 kV Bhandup-Mulund 2. 220 kV Bhandup-Borivali
5	GD-1	WR	25-11-2024 20:45	25-11-2024 21:28	00:43	-	200	-	0.36%	63730	55093	At 20:45 Hrs / 25-11-2024, all elements at 220 kV Apta (Details in elements tripped column) tripped on Busbar protection operation due to Y phase CT burst of 220 kV Apta-Bus Sectionalizer (Single Bus with Bus sectionalizer) . Load loss of 200 MW occurred at Apta substation during the event.	Tripping of following Elements: 1. 220 kV Uran-Apta-1,2,3&4 2. 220 kV Apta-ACCIL 3. 220 kV Apta-Bombay Dyeing 4. 220 kV Apta-Navi Mumbai-1&2 5. 220 kV Apta-Tambati 6. 220 kV Apta-HOC Apta 7. 220 kV Apta-ICT-1,2,3&4 (200 MVA)
6	GI-1	WR	27-11-2024 16:20	27-11-2024 17:16	00:56	-	-	-	-	72782	68152	At 16:20 Hrs / 27-11-2024, all elements connected to 220 kV Kansari-Bus-1 (Details in elements tripped column) tripped on bus bar protection operation of 220 kV Kansari-Bus-1 (Double main and transfer bus scheme) due to conductive wire coming in induction zone of Busbar Jumper. No Load loss or generation loss occurred due to the event and 220 kV Kansari-Bus-2 network was unaffected.	Tripping of following Elements: 1. 220 kV Kansari-Palanpur-1 2. 220 kV Kansari-Thaver-1 3. 220 kV Kansari-Deodar-1 4. 220 kV Kansari-Agthala 5. 400/220 kV Kansari-ICT-2&3 (315 MVA)
7	GI-1	WR	28-11-2024 17:17	28-11-2024 18:25	01:08	260	-	0.36%	-	72826	66865	At 17:17 Hrs / 28-11-2024, all elements connected to 220 kV Omkareshwar-Bus-2 (Details in elements tripped column) tripped on LBB operation during synchronizing of Omkareshwar-Unit-2 (65 MW) (Double main bus scheme). LBB operation was undesirable, Omkareshwar-Unit-2 (65 MW) should have been tripped on Pole Discrepancy operation due to non-closing of R phase circuit breaker. Generation loss of 260 MW occurred at Omkareshwar Hydro Plant due to tripping of Omkareshwar-Unit-3,4,6&8 (65 MW).	Tripping of following Elements: 1. 220 kV Omkareshwar-Bus-2 2. 220 kV Omkareshwar-Barwaha 3. 220 kV Omkareshwar-Julwaniya 4. 220 kV Omkareshwar-Bus Coupler 5. Omkareshwar-Unit-3,4,6&8 (65 MW)
8	GI-1	WR	29-11-2024 08:41	29-11-2024 10:41	02:00	195	-	0.26%	-	76111	68815	At 08:41 Hrs / 29-11-2024, all elements connected to 220 kV Omkareshwar-Bus-2 (Details in elements tripped column) tripped on LBB operation during de-synchronizing of Omkareshwar-Unit-2 (65 MW) (Double main bus scheme). Earlier, at 17:17 Hrs / 28-11-2024, all elements connected to 220 kV Omkareshwar-Bus-2 tripped on LBB operation during synchronizing of Omkareshwar-Unit-2 (65 MW). SLDC MP was advised to take corrective measures to avoid recurrence of such incidences. Generation loss of 195 MW occurred at Omkareshwar Hydro Plant due to tripping of Omkareshwar-Unit-4,6&8 (65 MW).	Tripping of following Elements: 1. 220 kV Omkareshwar-Bus-2 2. 220 kV Omkareshwar-Nimrani 3. 220 kV Omkareshwar-Julwaniya 4. 220 kV Omkareshwar-Khandwa 5. 220 kV Omkareshwar-Bus Coupler 6. Omkareshwar-Unit-4,6&8 (65 MW)

Details of Grid Events during the Month of Nov 2024 in Southern 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 - 1	KARNATAKA	01-11-2024 11:20	01-11-2024 12:04	00:44	5	144	0.01%	0.32%	43225.14	45209.78	Tripping of 220kV Bus-1 and Bus-2 of 400kV/220kV Guttur SS and Complete outage of 220kV/66kV Guttur SAS, 220kV/66kV Neelagunda, 220kV/66kV Davanagere, 220kV Bus-1 at Honnali, 220kV /66kV Benkikere, 220kV/66kV Hosadurga SS , 220kV Suzlon Wind and 220kV Wish Wind of KPTCL. During antecedent conditions, 220kV Neelagunda Ittagi was under outage. 220kV Honnali was operating with bus split condition. 220kV Guttur Davanagere Line-3 was charged through bus coupler breaker. As per the reports submitted, the triggering incident was Y-N fault in 220kV Guttur Davanagere Line-3. At 220kV Guttur end, due to non operation of protection, fault was cleared by tripping of 400kV/220kV Guttur ICT#1 and ICT#2 on operation of backup Earth fault protection. This resulted in 220kV Bus outage at 400kV/220kV Guttur SS. Further, this led to complete outage of 220kV Guttur SAS, 220kV Neelagunda, 220kV Bus-1 of Honnali, 220kV Suzlon Wind, 220kV Wish Wind, 220kV Benkikere, 220kV Hosadurga.	220KV-GUTTUR-DAVANGERE-3, 400KV/220KV GUTTUR-ICT-1, 400KV/220KV GUTTUR-ICT-2
2	GD - 1	KARNATAKA	01-11-2024 12:10	01-11-2024 14:23	02:13	0	0	0.00%	0.00%	42320.27	45500.4	Complete Outage of 220kV Kalyani and Tripping of 220kV Bus-2 of 400kV/220kV Munirabad SS: As per the submitted reports, the triggering incident was R-N fault in 220kV Bus-2 of 400kV/220kV Munirabad SS causing Bus-2 BBP to operate . Since 220kV Munirabad Kalyani steel was being radially fed from 220kV Bus-2 of 400kV/220kV Munirabad SS, tripping of the line led to complete outage of 220kV Kalyani Steel SS.	MUNIRABAD - 220KV - Bus 2, KALYANI - 220KV
3	GD - 1	KARNATAKA	01-11-2024 13:11	01-11-2024 18:26	05:15	0	117	0.00%	0.26%	42173.6	44420.54	Complete outage of 220kV/66kV Hebbal SS and 220kV/66kV CPRI SS of KPTCL During antecedent condition, 220kV Manyatha-Hebbal line was under idle charged condition from Manyatha end. As per the reports submitted, the triggering incident was RY fault in the 220kV Sahakarinaragar-Hebbal line. The line tripped at Sahakarinaragar end on operation of Zone-2(Time trip) distance protection. Tripping of 220kV Sahakarinaragar-Hebbal line resulted in main supply failure to Hebbal 220kV Sub station and CPRI EHT resulting in the complete outage of Hebbal SS.	220KV-HEBBAL-SAHKARI_NAGAR-1
4	GD - 1	KARNATAKA	03-11-2024 23:30	04-11-2024 00:42	01:12	0	320	0.00%	0.85%	35170.38	37723.34	Tripping of 220kV Bus-1 and Bus-2 400kV/220kV Talaguppa SS: During antecedent conditions at the 400/220kV Talaguppa substation, the 220kV Talaguppa-Sharavathy Line-1 was under a scheduled outage, and the 220kV bus coupler was kept open as per SLDC instructions. As per the reports submitted, due to fault in 110kV/66kV Talaguppa ICT, fault current was induced in 220kV Talaguppa-Sharavathy Line-1 causing LBB to operate. Immediately elements connected to 220kV Bus-1 and Bus-2 tripped at 400kV/220kV Talaguppa SS.	220KV-SHARAVATHY-TALGUPPA-2, 220KV-SHARAVATHY-TALGUPPA-3, 220KV-GERUSOPPA-TALGUPPA-1, TALGUPPA - 220KV - Bus 1, TALGUPPA - 220KV - Bus 2, 400KV/220KV TALGUPPA-ICT-2, 400KV/220KV TALGUPPA-ICT-3
5	GD - 1	TAMILNADU	04-11-2024 06:54	04-11-2024 09:11	02:17	0	0	0.00%	0.00%	38248.05	44055.17	Complete Outage of 230kV/33kV Karur_JSW_Dharapuram Wind Station. The triggering incident was failure of the 230kV dropper Bus gantry insulator connected to Bus-2 at 230kV/33kV Karur_JSW_Dharapuram Wind Station. Immediately, the 230kV Bus-2 BBP operated at 230kV/33kV Karur_JSW_Dharapuram Wind Station and DT was sent to remote end. Tripping of the only connected line resulted in complete outage of 230kV/33kV Karur_JSW_Dharapuram Wind Station.	230KV-KARUR-PERAMIUM-2, 230KV-KARUR-KARUR_JSW_Dharapuram-1, KARUR_JSW_Dharapuram - 230KV
6	GD - 1	KARNATAKA	05-11-2024 13:22	05-11-2024 15:20	01:58	126	0	0.27%	0.00%	45858.02	48469.2	Complete outage of 220kV Tirumani: As per the reports submitted, the triggering incident was RY fault in the line due to jumper damage in 220 kV line CT in the 220kV Pavagada_PG-Tirumani line-2. At both ends, line differential protection operated and the line tripped. Tripping of only connected line led to complete outage of 220kV Tirumani.	220KV-PAVAGADA_PG-TIRUMANI2, TIRUMANI2 - 220KV
7	GD - 1	TAMILNADU	17-11-2024 13:09	18-11-2024 16:01	26:52	0	0	0.00%	0.00%	41435.85	41738.27	Complete Outage of 230kV Sprng Pugalur As per the reports submitted, the triggering incident was LBB maloperation at 230kV Sprng Pugalur causing tripping of elements connected to 230kV Bus at 230kV Sprng Pugalur including 230kV Sprng Pugalur Pugalur line. Tripping of the only connected line led to complete outage of 230kV Sprng Pugalur	SPRING_PUGALLUR - 230KV - Bus 1, 230KV-PUGALLUR-SPRING_PUGALLUR-1
8	GD - 1	ANDHRA PRADESH	23-11-2024 11:51	23-11-2024 13:29	01:38	0	0	0.00%	0.00%	49807.51	52487.33	Complete Outage of 400kV GREENKO_PSP: During relay testing works, 400kV Bus-1 BBP operated resulting in the complete outage of 400kV GREENKO_PSP due to the tripping of the only connected 400kV Kurnool Greenko_PSP line.	GREENKO_PSP - 400KV, GREENKO_PSP - 400KV - Bus 3, GREENKO_PSP - 400KV - Bus 4

Details of Grid Events during the Month of Nov 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 (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)		
9	GD - 1	ANDHRA PRADESH	24-11-2024 17:37	24-11-2024 18:12	00:35	15	10	0.04%	0.02%	39153.8	42257.65	Complete Outage of 220KV SS Porumamilla, 132KV SS Brahmangari matam,132KV SS Porumamilla,132KV SS Kalasapadu, 132KV Inox and 220KV Ecoren Stations. Triggering incident was tripping of 220KV Porumamilla-Jammalamadugu line 2 (only grid connected line that was in service by that time) due to transient fault. This resulted in the complete outage of 220KV SS Porumamilla, 132KV SS Brahmangari matam,132KV SS Porumamilla,132KV SS Kalasapadu, 132KV Inox and 220KV Ecoren Stations.	220KV Porumamilla-Jammalamadugu line 2
10	GI-1	KARNATAKA	11-11-2024 14:27	11-11-2024 15:53	01:26	461	0	0.96%	0.00%	47796.48	52102.32	Tripping of 220KV South East bus of 220KV Sharavathy PH: As per the reports submitted, the triggering incident was tripping of Sharavathy Unit-3 on loss of excitation. However, LBB operated as the breaker of Unit-3 failed to open tripping all elements connected to the 220KV South East bus of 220KV Sharavathy PH.	220KV-MRS SHIMOGA-SHARAVATHY-1, 220KV-SHARAVATHY-TALGUPPA-1, 220KV-SHARAVATHY-TALGUPPA-3, 220KV-SHIRALKOPPA-SHARAVATHY-1
11	GI-1	KARNATAKA	13-11-2024 11:46	13-11-2024 12:23	00:37	0	246	0.00%	0.48%	46306.55	50937.04	Tripping of 220kv Bus-1 of 400kv/220kv Mylasandra SS of KPTCL: As per the reports submitted, the triggering incident was 220kv Bus-1 BBP. Immediately all elements connected to 220kv Mylasandra Bus-1 tripped.	220KV-JIGANI-MYLASANDRA-1, 220KV-MYLASANDRA-ELECTRONIC_CITY-1, 220KV-SOMANAHALLI-MYLASANDRA-1, 220KV-SOMANAHALLI-MYLASANDRA-2, 220KV-YERRAANDHALLI-MYLASANDRA-2, 220KV-YERRAANDHALLI-MYLASANDRA-3, MYLASANDRA - 220KV - Bus 1
12	GI-2	ANDHRA PRADESH	16-11-2024 03:49	16-11-2024 20:35	16:46	0	0	0.00%	0.00%	32103.12	36339.75	Tripping of 400KV Bus-2 of 400KV RYTPP Generating Station As per the reports submitted, the triggering incident was maloperation of 400KV Bus-2 BBP at RYTPP Generating Station. Immediately, all elements connected to Bus-2 tripped.	400KV/11.5KV RAYALSEEMA TPP-ST-6, 400KV/21KV RAYALSEEMA TPP-GT-6, 400KV-RAYALSEEMA TPP-KALIKIRI-2
13	GI-1	TELANGANA	16-11-2024 09:29	16-11-2024 09:56	00:27	0	0	0.00%	0.00%	45517.52	46946.86	Tripping of 220kv Bus-2 of 400kv/220kv Ghanapur SS of TGTRANSCO As per the reports submitted, the triggering incident was R-N fault in 220kv Ghanapur Hayathnagar Line-2. At Ghanapur end, the fault was sensed in zone-1 and the line tripped. However, after around 200ms, 220kv Bus-2 BBP maloperated at 400kv/220kv Ghanapur SS.	220KV-GHANAPUR-HAYATHNAGAR-2, 400KV/220KV GHANAPUR-ICT-4, 220KV-GHANAPUR-MOULALI-1, 220KV-GHANAPUR-NAGOLE-2, 220KV-GHANAPUR-CHNDRAYANGUTTA-2
14	GI-2	TAMILNADU	19-11-2024 12:44	19-11-2024 14:43	01:59	0	0	0.00%	0.00%	45343.83	48353.57	Tripping of 400kv Bus-2 of 400kv/220kv Alamathy SS As per the reports submitted, the triggering incident was an LBB trip that extended to the main breaker of Bus-8 elements during LBB testing on the 400kv Thiruvalem Line-1 at the Alamathy. Although the LBB trip was disabled for the 400kv Alamathy Thiruvalem Line-1, a wiring issue during the commissioning of ICT-6 resulted in the trip signal being extended to the 96 relay of the 400kv/110kv Alamathy ICT-6. Consequently, the main breakers connected to Bus-2 tripped. Since the tie breaker of the 400kv/220kv Alamathy ICT-6 was not in service, the tripping of the main breaker resulted in the ICT to trip as well.	400KV/110KV ALAMATHY-ICT-6
15	GI-1	TELANGANA	25-11-2024 06:20	25-11-2024 11:48	05:28	0	0	0.00%	0.00%	36831.75	42469.39	Tripping 220kv/132kv Malayalalapalli Bus-2 Triggering incident was fault in 220kv RSS(Malayalalapally)-Dursheed feeder-1. At the same time, 220kv Bus-2 BBP maloperated resulting in the tripping of all the connected elements at 220kv Bus-2 of 220kv/132kv Malayalalalli SS	220KV-MALYALAPALLI-DURSHED-1, 220KV-MALYALAPALLI-JAGITIYAL-1, 220KV-MALYALAPALLI-JAGITIYAL-2, 220KV-MALYALAPALLI-MANTHANI-1, 220KV-MALYALAPALLI-MURMUR-1, 220KV-RAMAGUNDAM-MALYALAPALLI-2, 220KV-RAMAGUNDAM-MALYALAPALLI-4
16	GI-1	ANDHRA PRADESH, TELANGANA	27-11-2024 07:43	27-11-2024 09:24	01:41	300	0	0.68%	0.00%	44399.84	49350.31	Tripping of 220kv Bus-2 of 220kv/132kv NAGARJUNASAGAR_TS PH:220kv Bus-2 at 220kv/132kv NAGARJUNASAGAR_TS PH got deenergised due to maloperation of LBB in Bay-13 (100MVA PTR-2).	220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-2, 220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-3, 220KV-NAGARJUNASAGAR_TS-CHALAKURTHY-1, NAGARJUNASAGAR_TS - 220KV Bus 2, 220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-2, 220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-3, 220KV-NAGARJUNASAGAR_TS-CHALAKURTHY-1, NAGARJUNASAGAR_TS - 220KV - Bus 2, 220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-2, 220KV-NAGARJUNASAGAR_AP-NAGARJUNASAGAR_TS-3, 220KV-NAGARJUNASAGAR_TS-CHALAKURTHY-1, NAGARJUNASAGAR_TS - 220KV - Bus 2,

Details of Grid Events during the Month of Nov 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
	(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-I	MOTIPUR(BIHAR)	15-11-2024 18:23	15-11-2024 18:41	00:18	00:00	84	0.00%	0.38%	32279	21941	At 18:23 hrs, a bus fault occurred in 220 kV Bus of 220/132 kV Motipur S/s which led to tripping of all emanating lines from Motipur S/s. Total load loss of around 84 MW occurred at Motipur station. Power was restored through 132kV Motipur-Motihari ckt 1 at 19:08 Hrs..	220kV Motipur-Sitamarhi D/C 220kV Motipur-Darbhanga D/C 220 kV Motipur -MTPS-2 220kV Motipur-Mushari D/C 132kV Motipur-MTPS 132kV Motipur-Muzaffarpur D/C 132kV Motipur-Chakia S/C
2	GI-I	TENUGHAT TPS	21-11-2024 04:28	21-11-2024 08:23	03:55	00:00	0	1.36%	0.00%	25020	17031	At 04:28 Hrs, Y_ph CT of 220kv Tenughat Govindpur-1 burst at Tenughat . The line tripped, however, the two running units at Tenughat also tripped at the same time. Total generation loss of 341 MW occurred at Tenughat TPS. Tenughat unit 1 & 2 synchronised at 08:23 Hrs & 14:41 Hrs respectively.	220 kV TTPS-Govindpur ckt 1 T/L 210 MW Tenughat Unit 1 210 MW Tenughat Unit 2
3	GI-I	LAPANGA	22-11-2024 11:03	22-11-2024 13:08	02:05	330	0	1.21%	0.00%	27353	19009	A bus fault occurred at 400 kV side of 400/220 kV Lapanga S/s while availing shutdown of 400 kV Lapanga-Sterlite-2. Bus bar protection didn't operate and thereafter, all 400 kV elements tripped at Lapanga. At the same time, auxiliary drives of thermal units at IB TPS (220 kV) also tripped which led to tripping of both running units. Around 330 MW generation loss occurred at IB TPS.Lapanga power restored at 13:52 hrs and IB.TPS - unit 1 & unit 2 synchronised at 19:08 hrs & 15:53 hrs respectively.	400KV-LAPANGA-OPGC (IB THERMAL)-1 & 2 400KV-MERAMUNDALI-LAPANGA-1 & 2 400KV-LAPANGA-STERLITE-1 400KV-MEERAMUNDALI-TSTPP-2 IB.TPS - UNIT 1 & 2 400KV/220KV 315 MVA ICT 1 AT LAPANGA 400KV/220KV 315 MVA ICT 2 AT LAPANGA 400KV MAIN BUS - 1 AT LAPANGA 400KV MAIN BUS - 2 AT LAPANGA

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



Sl No.	Category of Grid Event	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH:MM)	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 I	Lumshnong area of Meghalaya Power System	04-11-2024 12:50	04-11-2024 13:21	00:31	0	25	0.00%	1.15%	2060	2179	Lumshnong area of Meghalaya Power System were connected to NER Power system via 132 kV Lumshnong-Panchgram line. Prior to the event, 132 kV Lumshnong-Khlehriat line was under planned shutdown since 07:15 Hrs of 04.11.2024. At 12:50 Hrs of 04-11-2024, 132 kV Lumshnong-Panchgram Line tripped. Due to tripping of this line, Lumshnong area of Meghalaya Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Lumshnong area of Meghalaya Power System by charging 132 kV Lumshnong-Panchgram line at 13:21 Hrs of 04-11-2024.	132 kV Lumshnong-Panchgram Line
2	GD I	Lumshnong area of Meghalaya Power System	15-11-2024 22:13	15-11-2024 23:14	01:01	0	43	0.00%	2.05%	2108	2093	Lumshnong area of Meghalaya Power System were connected to NER Power system via 132 kV Lumshnong-Panchgram line and 132 kV Lumshnong-Khlehriat line. At 22:13 Hrs of 15-11-2024, 132 kV Lumshnong-Panchgram Line and 132 kV Lumshnong-Khlehriat line tripped. Due to tripping of this line, Lumshnong area of Meghalaya Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Lumshnong area of Meghalaya Power System by charging 132 kV Lumshnong-Khlehriat line at 23:14 Hrs of 15.11.2024.	132 kV Lumshnong-Panchgram Line and 132 kV Lumshnong-Khlehriat line
3	GD I	Pasighat area of Arunachal Pradesh Power System	16-11-2024 06:13	16-11-2024 07:03	00:50	0	8	0.00%	0.40%	1992	2004	Pasighat area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Along-Pasighat & 132 kV Roing-Pasighat lines. At 06:13 Hrs of 16-11-2024, 132 kV Along-Pasighat Line and 132 kV Roing-Pasighat line tripped. Due to tripping of these elements, Pasighat area of Arunachal Pradesh Power System got isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Pasighat area of Arunachal Pradesh Power System by charging 132 kV Roing-Pasighat Line at 07:03 Hrs of 16.11.2024.	132 kV Along-Pasighat Line and 132 kV Roing-Pasighat line
4	GD I	Umrangsho area of Assam Power System	24-11-2024 04:55	24-11-2024 05:30	00:35	0	2	0.00%	0.13%	1861	1556	Umrangsho area of Assam Power System was connected with NER Power system via 132 kV Haflong(PG) - Umrangsho Line & 132 kV Khandong - Umrangsho Line. At 04:55 Hrs of 24.11.2024, 132 kV Haflong(PG) - Umrangsho Line & 132 kV Khandong - Umrangsho tripped due to which Umrangsho 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 Umrangsho area of Assam Power System by charging 132 kV Khandong - Umrangsho Line at 05:30 Hrs of 24.11.2024.	132 kV Haflong(PG) - Umrangsho Line & 132 kV Khandong - Umrangsho