

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



Sl No.	Category of Grid Event (GI for GI-2 to GI-5) GD-1 to GD-5	Affected Area	Time and Date of occurrence of Grid Event	Time and Date of Restoration	Duration (HH-MM)	Loss of generation / loss of load during the Grid Event		% Loss of generation / loss of load vs. Antecedent Regional/Load in the Regional Grid during the Grid Event		Antecedent Generation/Load in the Regional Grid*		Brief details of the event (pre fault and post fault system conditions)	Elements Tripped
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GI-2	Haryana	02-Mar-2024 19:24	02-Mar-2024 23:34	04:10	0	0	0.000	0.000	37364	46283	i) During antecedent condition, 800KV HVDC Champa-Kurukshetra was carrying total 600MW (approx. 150MW by each Pole). ii) As reported at 19:24hrs, 800 KV HVDC Kurukshetra (PG) Pole-01 and Pole-03 tripped due to DC differential protection operated at Kurukshetra (PG) end. (Further details yet to be received from PowerGrid). iii) Due to tripping of two poles (Pole-01 and Pole-03), power shifted to other two Poles (Pole-02 and Pole-04) and power order remained same 600MW. iv) As per PMU, fluctuation in voltage was observed. v) As per SCADA, no change in demand is observed in Haryana control area.	1) 800 KV HVDC Kurukshetra (PG) Pole-2 2) 800 KV HVDC Kurukshetra (PG) Pole-4
2	GD-1	Jammu and Kashmir	03-Mar-2024 00:19	03-Mar-2024 01:21	01:02	0	23	0.000	0.072	30649	31909	i) 220/66kV Drass (PG) have double main bus arrangement at 220kV side. 220KV Dras is connected with 220/132kV Kargil which is further connected with Khaltai and Leh. ii) During antecedent condition (at 00:17hrs) approx. 23MW power was coming from Alustung to Dras and approx. 22MW power was going out from Dras to Kargil. iii) As reported, at 00:19 hrs, 220 KV Alustung-Dras (PG) Ckt tripped on B-N phase to earth fault. iv) Due to this tripping supply to 220 KV Dras (PG) Kargil Ckt was lost and blackout occurred at 220/66kV Drass (PG), Kargil, Khaltai and Leh. v) 220 KV Dras (PG) Kargil Ckt was charged at 01:31 hrs and supply was restored. vi) As per PMU at Amargah, B-N phase to earth fault is observed with fault clearing time of 120ms. vii) As per SCADA, load loss of approx. 23MW at 00:19hrs is observed in J&K control area.	1) 220 KV Alustung-Dras (PG) Ckt
3	GD-1	Jammu and Kashmir	03-Mar-2024 03:09	03-Mar-2024 04:26	01:17	0	14	0.000	0.051	29266	27567	i) During antecedent condition (at 03:07hrs) approx. 04MW power was coming from Alustung to Dras and approx. 03MW power was going out from Dras to Kargil. Chutak HEP was generating "05MW". ii) At 03:09hrs, 220 KV Alustung-Dras (PG) Ckt tripped on B-N phase to earth fault. This again resulted into blackout at 220/66kV Drass (PG), Kargil, Khaltai and Leh. iii) Due to this tripping supply to 220 KV Dras (PG) Kargil Ckt was lost and blackout occurred at 220/66kV Drass (PG) S/s. iv) 220 KV Dras (PG) Kargil Ckt was charged at 04:26 hrs and supply to Dras was restored. v) As per PMU at Amargah, B-N phase to earth fault is observed with fault clearing time of 120ms. vi) As per SCADA, load loss of approx. 14MW at 03:09hrs is observed in J&K control area.	1) 220 KV Alustung-Dras (PG) Ckt
4	GI-2	Rajasthan	03-Mar-2024 14:01	05-Mar-2024 17:54	03:53	2510	0	5.612	0.000	44723	42911	i) On 03rd March, 2024, at 14:01 hrs, 400 KV Kankani-Jaisalmer (RS) Ckt-2 tripped on R-Y phase to phase fault. ii) As per PMU at Bhadaj (PG), R-Y phase to phase observed, which cleared within 300ms. iii) At the same time, drop in RE generation of approximately 2510 MW is observed as per SCADA data. Approx. 2200MW drop observed in STS RE generation, "60MW drop in Rajasthan wind generation and "310MW drop in Rajasthan solar generation. iv) During antecedent condition, 400 KV Singrauli (NT)-Vindhyachal (PG) (PG) Ckt-2 was already under planned outage. v) As reported, at 12:12 hrs, 400 KV Singrauli (NT)-Vindhyachal (PG) (PG) Ckt-2 was already under planned outage. vi) Due to tripping of 400 KV Singrauli (NT)-Vindhyachal (PG) (PG) Ckt-1, there was no outgoing path available at Vindhyachal B (PG) and all other elements tripped at Vindhyachal B (PG) and complete blackout occurred at Vindhyachal B (PG). vii) As per PMU at Singrauli (NT), no fault is observed in the system. viii) As per SCADA, no change in demand in UP control area and no generation loss at Singrauli (NT) is observed.	1) 400 KV Kankani-Jaisalmer (RS) Ckt-2
5	GD-1	Uttar Pradesh	07-Mar-2024 12:12	07-Mar-2024 13:57	01:45	0	0	0.000	0.000	52783	52018	i) During antecedent condition, only 115 MW Salal HPS - UNIT 5 was under running condition and it was generating approx. 115MW as per SCADA. ii) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 & 3, 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 and 115 MW Salal HPS - UNIT 5 were connected to 220KV Bus 1 at Salal (NH) and rest of the elements were connected to 220KV Bus 2 at Salal (NH). iii) As reported, at 22:39hrs, 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 & 3, 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 and 115 MW Salal HPS - UNIT 5 tripped due to LBB operation. Hence 220KV Bus 1 at Salal (NH) became dead. iv) As per PMU at Kishenpur (PG), B-N phase to earth fault is observed with delayed fault clearing time of 360ms. v) As per SCADA, no load loss is observed in J&K control area. vi) As per SCADA, generation loss of approx. 115MW is observed at Salal (NH) HEP.	1) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 2) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-3 3) 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 4) 220KV Bus 1 at Salal (NH) 5) 115 MW Salal HPS - UNIT 5
6	GI-1	Jammu and Kashmir	10-Mar-2024 22:35	10-Mar-2024 23:15	00:40	115	0	0.337	0.000	34098	39965	i) During antecedent condition, only 115 MW Salal HPS - UNIT 5 was under running condition and it was generating approx. 115MW as per SCADA. ii) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 & 3, 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 and 115 MW Salal HPS - UNIT 5 were connected to 220KV Bus 1 at Salal (NH) and rest of the elements were connected to 220KV Bus 2 at Salal (NH). iii) As reported, at 22:39hrs, 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 & 3, 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 and 115 MW Salal HPS - UNIT 5 tripped due to LBB operation. Hence 220KV Bus 1 at Salal (NH) became dead. iv) As per PMU at Kishenpur (PG), B-N phase to earth fault is observed with delayed fault clearing time of 360ms. v) As per SCADA, no load loss is observed in J&K control area. vi) As per SCADA, generation loss of approx. 115MW is observed at Salal (NH) HEP.	1) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-1 2) 220 KV Kishenpur (PG)-Salal (NH) (PG) Ckt-3 3) 220 KV Salal (NH)-Jammu (PDD) (PG) Ckt-2 4) 220KV Bus 1 at Salal (NH) 5) 115 MW Salal HPS - UNIT 5
7	GD-1	Rajasthan	11-Mar-2024 05:08	11-Mar-2024 06:51	01:43	0	265	0.000	0.697	33592	38005	i) As reported, at 05:08 hrs, interrupter of CB Pole (R-Ph) blasted at the time of opening of CB of 125MVAR Bus Reactor at Hindaun (RS) on voltage regulation. ii) During the same time, 400 KV Hindaun (RS)-Chhabra (VUN) (RS) Ckt, 400 KV Heerapur-Hindaun (RS) Ckt, 400 KV Alwar (RTI)-Hindaun (RS) (RTI) Ckt, 400/220 KV 315 MVA ICT 1 and 2 at Hindaun (Ra) also tripped (exact reason of tripping yet to be shared). Hence complete blackout occurred at 400/220kV Hindaun (Ra) S/s. iii) As per DR of 400 KV Hindaun (RS)-Chhabra (VUN) (RS) Ckt, zone-2 distance protection operated at Chhabra end. R-N phase to earth fault was observed with fault current of 1.97kA and delayed fault clearing time of "550ms. (DR non-availability is time-type issue in DR need to be corrected). iv) As per SCADA SOE, 220KV Hindaun-20-Sikra (RS) Ckt, 220KV Hindaun-220-Hindaun (RS) Ckt and 220KV Hindaun-220-Hindaun (RS) Ckt-1 also tripped during the same time (exact reason of tripping yet to be shared). v) As per PMU at Hindaun (RS), B-N phase to earth fault is observed with delayed fault clearing time of 360ms. vi) As per SCADA, load loss of approx. 265MW is observed in Rajasthan control area.	1) 400/220 KV 315 MVA ICT-1 at Hindaun (Ra) 2) 400 KV Hindaun (RS)-Chhabra (VUN) (RS) Ckt 3) 400 KV Heerapur-Hindaun (RS) Ckt 4) 400 KV Alwar (RTI)-Hindaun (RS) (RTI) Ckt
8	GI-2	Uttar Pradesh	11-Mar-2024 01:56	11-Mar-2024 02:51	00:55	0	0	0.000	0.000	31852	34021	i) During antecedent condition, 400/220 KV 315 MVA ICT 1 & 6 and 765/400KV 1000 MVA ICT 1, 2 & 3 at Unnao (UP) were carrying 188MW, 140MW, 549MW, 551MW and 570MW respectively. 400/220 KV 315 MVA ICT 2 at Unnao (UP) was not in service. ii) As reported, at 01:56 hrs, R-N phase to earth fault occurred at 400 KV Bareilly-Unnao (UP) Ckt-2 with fault location of 85 km from Unnao (UP) end. Bus line CB at Unnao (UP) end of 400 KV Bareilly-Unnao (UP) Ckt-2 failed to clear the fault, hence LBB operated. iii) Due to LBB operation, 400 KV Agra-Unnao (UP) Ckt, 400 KV Unnao (UP)-Jehta, Hardoi Road (UP) (PG) Ckt-2, 400/220 KV 315 MVA ICT 1 at Unnao (UP), 765/400 KV 1000 MVA ICT 2 & 3 at Unnao (UP) also tripped and 400KV Bus 1 at Unnao (UP) became dead. iv) As per DR of 400 KV Bareilly-Unnao (UP) Ckt-2, zone-1 distance protection operated at Unnao end and fault was sensed in zone-1 (carrier-aided trip) at Bareilly end. Fault was cleared within 245ms at Unnao end and 370ms at Bareilly end. R-N phase to earth fault was observed with fault current of 6.329kA from Unnao end and 2.122kA from Bareilly end. v) As per DR of 400 KV Unnao (UP)-Jehta, Hardoi Road (UP) (PG) Ckt-2, DT received at Jehta, Hardoi Road end. vi) As per SCADA SOE, CB of FSC at Unnao (UP) end connected to 400KV Bareilly-Unnao (UP) Ckt-2 closed during the same time. (It is suspected that fault may have initiated due to this. Exact reason of fault need to be shared). vii) As per PMU at Agra (PG), R-N phase to earth fault is observed with delayed fault clearing time of 280ms. viii) As per SCADA, no load loss is observed in UP control area.	1) 400 KV Bareilly-Unnao (UP) Ckt-2 2) 400 KV Agra-Unnao (UP) Ckt 3) 400 KV Unnao (UP)-Jehta, Hardoi Road (UP) (PG) Ckt-2 4) 400/220 KV 315 MVA ICT 1 at Unnao (UP) 5) 765/400 KV 1000 MVA ICT 2 at Unnao (UP) 6) 765/400 KV 1000 MVA ICT 3 at Unnao (UP) 7) 400KV Bus 1 at Unnao (UP)
9	GD-1	Jammu & Kashmir	13-Mar-2024 18:49	13-Mar-2024 21:18	02:29	260	0	0.575	0.000	45219	52806	i) During antecedent condition, 130MW Unit-2 & 3 at Dulhasti HEP were running (generating approx. 130 MW each) and total generated power of 260MW was evacuating through 400 KV Dulhasti (NH)-Kishenpur (RS) (RS) Ckt-1 only. 130MW Unit-2 & 3 at Dulhasti HEP and 400 KV Dulhasti (NH)-Kishenpur (RS) (RS) Ckt-2 were not in service. ii) As reported, at 18:49hrs, 400 KV Dulhasti (NH)-Kishenpur (RS) (RS) Ckt-1 tripped on R-Y-B-N 3-phase to earth fault. As per DR, fault was sensed in zone-1 at Dulhasti (NH) end and fault currents were Ir=1.68kA, Iy=1.18kA and Iz=1.18kA from Dulhasti (NH) end. iii) Due to tripping of 400 KV Dulhasti (NH)-Kishenpur (RS) (RS) Ckt-1, 130MW Unit-2 & 3 at Dulhasti HEP also tripped due to loss of evacuation path on over-speed protection operation. iv) As per PMU at Kishenpur (RS), R-Y-B-N 3-phase to earth fault is observed with fault clearing time of 80ms. v) As per SCADA, generation loss of approx. 260MW is observed at Dulhasti HEP.	1) 400 KV Dulhasti (NH)-Kishenpur (RS) (RS) Ckt-1 2) 130MW Unit-2 at Dulhasti HEP 3) 130MW Unit-3 at Dulhasti HEP
10	GI-2	Rajasthan	14-Mar-2024 12:55	14-Mar-2024 13:34	00:39	0	335	0.000	0.623	53031	53777	i) During antecedent condition, MVA power flows of 400/220 KV 315 MVA ICT 1 & 2 and 220/132KV 1000MVA ICT-1, 2 & 3 at Merta (RS) were 275MVA, 261MVA, 60MVA, 55MVA and 58MVA respectively as per SCADA. 220KV Merta (RS)-Bhopalgarh (RS) Ckt was not in service. ii) As reported, at 12:55hrs, B-phase jumper of 220KV Merta (RS)-Bhopalgarh (RS) Ckt snapped and this broken jumper fell on conductor of ICT 1. As per DR, 400/220 KV 315 MVA ICT 1 at Merta (RS) tripped on O/C E/F protection operation with Ir=5.26kA. iii) Due to tripping of ICT 1, 400/220 KV 315 MVA ICT 2 at Merta (RS) got over-loaded. As per DR, 400/220 KV 315 MVA ICT 2 at Merta (RS) tripped on phase directional O/C protection operation with Ir=5.83kA. iv) During the same time, LBB of 220KV Merta (RS)-Bhopalgarh (RS) Ckt operated (exact reason for LBB CB at Merta (RS) end unable to clear the fault yet to be shared). v) Due to LBB operation, all the elements connected to 220KV Bus-1 & 2 at Merta (RS) tripped and both the buses became dead. vi) As per PMU at Merta (RS), R-N phase to earth fault is observed with delayed fault clearing time of 880 ms. vii) As per SCADA, change in demand of approx. 335MW is observed in Rajasthan control area.	1) 400/220 KV 315 MVA ICT 1 at Merta (RS) 2) 400/220 KV 315 MVA ICT 2 at Merta (RS) 3) 220KV Merta (RS)-Bhopalgarh (RS) Ckt 4) 220KV Merta (RS)-Kuchesar (RS) Ckt 5) 220KV Merta (RS)-Jethana (RS) Ckt 6) 220/132KV 1000MVA ICT-1 at Merta (RS) 7) 220/132KV 1000MVA ICT-2 at Merta (RS) 8) 220/132KV 1000MVA ICT-2 at Merta (RS)
11	GD-1	Uttar Pradesh	15-Mar-2024 02:49	15-Mar-2024 05:19	02:30	56	0	0.154	0.000	36385	39522	i) Power of 4*110MW Vishnuprayag HEP evacuates through 400 KV Alaknanda GVK (UPC)- Vishnuprayag (UP) (UP) Ckt and 400 KV Muzaffarnagar (UP)-Vishnuprayag (UP) (UP) Ckt. During antecedent condition, 110 MW Vishnuprayag HPS - UNIT 1 & 3 were under running condition and were generating approx. 10MW and 46MW respectively. ii) As reported, at 02:49 hrs, 400 KV Alaknanda GVK (UPC)- Vishnuprayag (UP) (UP) Ckt and 400 KV Muzaffarnagar (UP)-Vishnuprayag (UP) (UP) Ckt tripped due to bus bar protection operation at Vishnuprayag end (exact reason of fault yet to be shared). iii) As further reported, fault distance was 120.7km from Alaknanda end. DT received at Alaknanda GVK (UPC) and Muzaffarnagar (UP) end. iv) As per DR of 400 KV Alaknanda GVK (UPC)- Vishnuprayag (UP) (UP) Ckt, fault was sensed in zone-2 at Alaknanda (UP) end and fault current was 1.77kA from Alaknanda (UP) end; fault clearing time was "58ms". v) With the tripping of both the evacuating lines, 110 MW Vishnuprayag HPS - UNIT 1 and 3 tripped due to unavailability of power evacuation path. vi) As per PMU at Muzaffarnagar (UP), B-N phase to earth fault with fault clearing time of 120 ms is observed. vii) As per SCADA, no change in demand in UP control area is observed. Generation loss of approx. 56MW is also observed at Vishnuprayag HEP. viii) After bus bar protection operation, an inspection was carried out and a foul smell was observed from B-phase CB at Vishnuprayag (UP) end of 400 KV Muzaffarnagar (UP)-Vishnuprayag (UP) (UP) Ckt, hence the line was taken under shutdown.	1) 400 KV Muzaffarnagar (UP)-Vishnuprayag (UP) (UP) Ckt 2) 400 KV Alaknanda GVK (UPC)-Vishnuprayag (UP) (UP) Ckt 3) 110 MW Vishnuprayag HPS - UNIT 1 4) 110 MW Vishnuprayag HPS - UNIT 3

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						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
12	GD-1	Rajasthan	18-Mar-2024 13:32	18-Mar-2024 15:53	02:21	850	0	1.608	0.000	52873	53887	<p>i) Total power of 220/132kV AREPRL(P) (i.e., 250MW+Azare:200MW and Renew:50MW) evacuates through 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-1 and 2. During antecedent condition, 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-1 and 2 were carrying approx. 118MW each.</p> <p>ii) As reported, at 13:32 hrs, 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-1 tripped on B-N phase to earth fault, occurred as conductor of 111kV line passing through the bottom of 220kV line snapped and fell on 220kV line.</p> <p>iii) After this, loading of 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-2 reached approx. 236MW.</p> <p>iv) When at 13:38 hrs, 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-2 tripped on B-N phase to earth fault. Complete blackout occurred at 220/132kV AREPRL(P).</p> <p>v) As per PMU at Bhadla(PG), B-N phase to earth fault is observed with fault clearing time of 120ms.</p> <p>vi) As per SCADA, change in NR total solar generation of approx. 850MW @13:32hrs and approx. 550MW @13:38hrs are observed.</p>	<p>1) 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-1</p> <p>2) 220 KV Bhadla(PG) Bhadla Solar(Adani) (Adani) Ckt-2</p>
13	GI-1	Jammu & Kashmir	18-Mar-2024 04:15	18-Mar-2024 06:15	02:00	0	225	0.000	0.560	33379	40178	<p>i) During antecedent condition, 220KV Amargah(NDIGRID)-Zankote(K) D/C (carrying 162MW each) was feeding Zankote load.</p> <p>ii) As reported, at 04:15 hrs, 220 KV Amargah(NDIGRID)-Zankote(K) (PDD JK) Ckt-1 tripped on B-N phase to earth fault from Zankote end only. But as per DR at Amargah end, current in B & N phase increased upto ~1.58kA and ~1.45kA respectively. (Exact reason, nature and location of fault yet to be shared)</p> <p>iii) As further reported, at the same time, 220 KV Amargah(NDIGRID)-Zankote(K) (PDD JK) Ckt-1 also tripped on B-N phase to earth fault from Zankote end only. But as per DR at Amargah end, current in B phase increased upto ~1.02kA. (Exact reason, nature and location of fault yet to be shared)</p> <p>iv) As per PMU at Amargah(PG), one B-N phase is observed.</p> <p>v) As per SCADA, change in demand of approx. 225MW is observed in JK control area.</p>	<p>1) 220 KV Amargah(NDIGRID)-Zankote(K) (PDD JK) Ckt-1</p> <p>2) 220 KV Amargah(NDIGRID)-Zankote(K) (PDD JK) Ckt-2</p>
14	GD-1	Himachal Pradesh	19-Mar-2024 19:18	19-Mar-2024 21:26	02:08	0	380	0.000	0.693	45527	54798	<p>i) As reported, at 19:18 hrs, 220 KV Nallagarh(PG)-Uperianangal (HP) (HPSEB) Ckt-1 & 2 tripped on R-N phase to earth fault. (Exact reason, nature and location of fault yet to be shared)</p> <p>ii) During antecedent condition, 220 KV Nallagarh(PG)-Uperianangal (HP) (HPSEB) Ckt-1 & 2 were carrying 260MW each. 220 KV Baddi-Uperianangal (HP) Ckt-1 was not in service (as per SCADA).</p> <p>iii) As further reported, 220 KV Uperianangal(HP)-Wardhman (HPSEB) Ckt, 220/66kV 80/100MVA ICT-1 & 2 at Uperianangal(HP) also tripped during the same time (Exact reason, nature and location of fault yet to be shared). Complete blackout occurred at 220/66kV Uperianangal(HP) S/s.</p> <p>iv) As per PMU at Nallagarh(PG), B-N phase to earth fault is observed with fault clearing time of 120ms.</p> <p>v) As per SCADA, change in demand of approx. 380MW is observed in HP control area.</p>	<p>1) 220 KV Nallagarh(PG)-Uperianangal (HP) (HPSEB) Ckt-1</p> <p>2) 220 KV Nallagarh(PG)-Uperianangal(HP) (HPSEB) Ckt-2</p> <p>3) 220 KV Uperianangal(HP)-Wardhman (HPSEB) Ckt</p> <p>4) 220/66kV 80/100MVA ICT-1 at Uperianangal(HP)</p> <p>5) 220/66kV 80/100MVA ICT-2 at Uperianangal(HP)</p>
15	GI-2	Haryana	21-Mar-2024 18:19	21-Mar-2024 19:33	01:14	0	0	0.000	0.000	44363	50373	<p>i) During antecedent condition, 800KV HVDC Champa-Kurukshetra was carrying total 1440MW (Pole 01- 490MW, Pole 02- 490MW, Pole 03- 230MW, Pole 04- 230MW).</p> <p>ii) As reported at 18:19hrs, 800 KV HVDC Kurukshetra (PG) Pole-02 and Pole-04 tripped due to DC supply failure from Champa end [Further details yet to be received from PowerGrid].</p> <p>iii) Due to tripping of two poles (Pole-02 and Pole-04), power order reduced from 1440MW to 1370MW and shifted to the other two Poles.</p> <p>iv) As per PMU, fluctuation in voltage was observed.</p> <p>v) As per SCADA, no change in demand is observed in Haryana control area.</p>	<p>1) 800 KV HVDC Kurukshetra(PG) Pole-02</p> <p>2) 800 KV HVDC Kurukshetra(PG) Pole-04</p>
16	GD-1	Haryana	23-Mar-2024 00:58	23-Mar-2024 02:45	01:47	0	170	0.000	0.404	35356	42057	<p>i) 220/132/132kV Hissar(BB) S/s has double main bus scheme at 220kV level.</p> <p>ii) As reported, at 00:58hrs, bursting of B-N CT of 220/132kV 100MVA ICT-1 at Hissar(BB) occurred.</p> <p>iii) During the same time, all the lines and 220/132kV ICTs connected at 220kV Hissar(BB) also tripped (Exact reason, nature and location of fault yet to be shared).</p> <p>iv) Due to tripping of all the elements connected to the busbar, both 220kV Bus 1 & 2 at Hissar(BB) and eventually the complete 220/132/132kV Hissar(BB) S/s became dead.</p> <p>v) As per PMU at Hissar(PG), two consecutive B-N phase to earth faults is observed with fault clearing time of 80ms and 360ms (delayed) are observed.</p> <p>vi) As per SCADA, change in demand of approx. 170MW is observed in Haryana control area.</p>	<p>1) 220 KV Hissar(BB)-Hissar (AHV) (HVPLN) Ckt-1</p> <p>2) 220 KV Hissar(BB)-Hissar (AHV) (HVPLN) Ckt-2</p> <p>3) 220 KV Bhiwani-Hissar (BB) Ckt-1</p> <p>4) 220 KV Bhiwani-Hissar (BB) Ckt-2</p> <p>5) 220 KV Hissar-Sangru (BB) Ckt-1</p> <p>6) 220 KV Hissar-Sangru (BB) Ckt-2</p> <p>7) 220 KV Hissar(BB)-Jaisalmer (HVPLN) Ckt</p> <p>8) 220 KV Hissar(BB)-Charawa (BB) Ckt</p> <p>9) 220 KV Barnala-Sangru(BB) Ckt</p> <p>10) 220/132kV 100MVA ICT-1 at Hissar(BB)</p> <p>11) 220/132kV 100MVA ICT-2 at Hissar(BB)</p> <p>12) 220/132kV 100MVA ICT-3 at Hissar(BB)</p>
17	GI-2	Haryana	27-Mar-2024 15:04	27-Mar-2024 16:16	01:12	0	0	0.000	0.000	50774	50034	<p>i) During antecedent condition, 800KV HVDC Champa-Kurukshetra was carrying total 1460MW (approx. 365MW by each Pole).</p> <p>ii) As reported at 15:04hrs, 800 KV HVDC Kurukshetra (PG) Pole-02 and Pole-04 were blocked due to unavailability of Lane-1 and 2 caused by software issue at Champa end [Further details yet to be received from PowerGrid].</p> <p>iii) Due to tripping of two poles (Pole-02 and Pole-04), power order slightly reduced from 1460MW to 1400MW and shifted to the other two Poles.</p> <p>iv) As per PMU, fluctuation in voltage was observed.</p> <p>v) As per SCADA, no change in demand is observed in Haryana control area.</p>	<p>1) 800 KV HVDC Kurukshetra(PG) Pole-02</p> <p>2) 800 KV HVDC Kurukshetra(PG) Pole-04</p>
18	GD-1	Rajasthan	29-Mar-2024 17:22	29-Mar-2024 18:54	01:32	0	120	0.000	0.239	47653	50240	<p>i) 220/132kV Bhiwad(PG) has double main bus scheme at 220kV level.</p> <p>ii) As reported, at 17:22hrs, 400 KV Khetri (PKTSL)-Bhiwad(PG) (PRTSL) Ckt-2 tripped on N phase to earth fault during heavy wing storm with fault distance of 123.3km from khetri and fault current of 2.34kA from khetri and 39.7kA from Bhiwad.</p> <p>iii) As per PMU at Bhiwad(PG), N phase to earth fault with unsuccessful A/R followed by R-N fault is observed with fault clearing time of 80ms and 80ms respectively.</p> <p>iv) As per SCADA, 132 KV Bhiwad(PG) Bhiwad132(RS) (RS) Ckt-1 tripped at 17:17hrs (exact reason, nature and location of fault yet to be shared). As per PMU, Y-N phase to earth fault with fault clearing time of 80ms is observed during the same time.</p> <p>v) Further, at 17:22hrs, bus bar protection operated at 220kV Bhiwad(PG) due to failure of B-phase CVT of 220kV Main Bus -II. Due to this, both 220 KV Bhiwad(PG)-Bhiwad(RS) (RS) Ckt-1 & 2 tripped from Bhiwad(RS) end only.</p> <p>vi) 220/132kV 160MVA ICT-1 & 2 and 100MVA ICT-1 at Bhiwad(PG) also tripped and supply to 132kV feeders connected to Bhiwad(RS) lost. Complete blackout occurred at 220/132kV Bhiwad(PG) S/s.</p> <p>vii) As per PMU at Bhiwad(PG), at 17:22hrs, B-N phase to earth fault is observed with fault clearing time of 120ms.</p> <p>viii) When, at 17:26 hrs, 220 KV Bhiwad(PG)-Kushkhera(PG) (RS) Ckt tripped on N phase to earth fault with fault distance of 0.863km from Bhiwad(PG) end.</p> <p>ix) As per DR at Bhiwad(PG) end of 220 KV Bhiwad(PG)-Kushkhera(PG) (RS) Ckt, fault current was 24.41kA from Bhiwad(PG). Fault was sensed in one-1, line was successfully auto-reclosed from Bhiwad(PG) end and tripped only from Kushkhera end.</p> <p>x) As per PMU at Bhiwad(PG), at 17:26 hrs, R-N fault followed by R-N fault with unsuccessful A/R is observed with fault clearing time of 120ms and 80ms respectively.</p> <p>xi) As per SCADA, change in demand of approx. 120MW in Rajasthan control area is observed.</p>	<p>1) 400 KV Khetri (PKTSL)-Bhiwad(PG) (PRTSL) Ckt-2</p> <p>2) 220 KV Bhiwad(PG)-Bhiwad(RS) (RS) Ckt-1</p> <p>3) 220 KV Bhiwad(PG)-Bhiwad(RS) (RS) Ckt-2</p> <p>4) 220/132kV 160MVA ICT-1 at Bhiwad(RS)</p> <p>5) 220/132kV 160MVA ICT-2 at Bhiwad(RS)</p> <p>6) 220/132kV 100MVA ICT-1 at Bhiwad(RS)</p> <p>7) 220 KV Bhiwad(PG)-Kushkhera(PG) (RS) Ckt</p>
19	GI-2	Haryana	29-Mar-2024 20:26	29-Mar-2024 21:02	00:36	0	0	0.000	0.000	43682	53455	<p>i) During antecedent condition, 800KV HVDC Champa-Kurukshetra was carrying total 1450MW (Pole 01- 725MW, Pole 02- 365MW, Pole 03- 0MW, Pole 04- 360MW).</p> <p>ii) As reported at 20:26hrs, 800 KV HVDC Kurukshetra(PG) Pole-02 and Pole-04 tripped due to unavailability of Lane-1 and 2 caused by software issue at Champa end. Further details yet to be received from PowerGrid.</p> <p>iii) Due to tripping of two poles (Pole-02 and Pole-04), power order reduced from 1450MW to 1370MW and shifted to the Pole-01.</p> <p>iv) As per PMU, fluctuation in voltage was observed.</p> <p>v) As per SCADA, no change in demand is observed in Haryana control area.</p>	<p>1) 800 KV HVDC Kurukshetra(PG) Pole-02</p> <p>2) 800 KV HVDC Kurukshetra(PG) Pole-04</p>
20	GD-1	Rajasthan	29-Mar-2024 20:22	29-Mar-2024 21:58	01:36	2020	308	5.726	0.965	43506	53019	<p>i) As reported, at 20:22hrs, B-ph CT (220 KV side) of 220/132 KV ICT-1 at Kota Sakatpura blast. As per PMU, R-N fault converted into 3-ph fault with delayed clearance of 760msec is observed.</p> <p>ii) As bar protection is not available at Kota Sakatpura S/s and 2-4 time delay setting is kept as 160msec. 2-2 time delay setting of 220kV KTPS-Sakatpura ckt-1,2,3 & 4 are kept as 160msec.</p> <p>iii) In this fault, 220kV feeders to RAPS-A1, Rampur & Mandlagahar from Kota Sakatpura tripped on Z-4 distance protection at Kota Sakatpura end. 220kV KTPS-Sakatpura ckt-1 & 2 also tripped on Z-2 distance protection operation at KTPS end. 220/132kV ICT-1 at Kota Sakatpura also tripped on differential protection operation.</p> <p>iv) Due to tripping of aforementioned 220kV lines, loading of remaining 220kV lines at KTPS & Kota Sakatpura increased significantly. Within approx. 600-700msec of fault, 220kV KTPS-Heerapura ckt and 220kV KTPS-Bewar ckt tripped on Z-1 distance protection operation after power swing detection, 220kV KTPS-Bundi ckt & 220kV Bundi-Subatpura ckt and 220kV Kota Sakatpura-Anta ckt tripped on distance protection operation suggested due to load encroachment.</p> <p>v) Further, 220kV RAPS-C, Anta ckt and 220kV RAPS-B Kota Sakatpura ckt also tripped on Z-1 distance protection operation after power swing detection.</p> <p>vi) Further, at approx. 20:22:10hrs, SUI-4 at RAPS-B tripped on over frequency protection operation (setting: 51.5Hz with 200msec delay). Auto transfer initiated and load transferred to UI-4 however it failed after 1 sec. as per Auto transfer scheme resulting in one- one PC tripping and reactor trip on PHT pressure high.</p> <p>vii) At the same time, SUTS & SUT-6 at RAPS-C tripped on over frequency (51.5 Hz with 200 msec time delay). Auto transfer scheme initiated in both Units-5 & 6 however it failed due to frequency mismatch. Subsequently reactors of RAPS-S&K tripped on PHT pressure high. Highest frequency recorded was ~53.16Hz.</p> <p>viii) After aforementioned tripping, only RAPS-A Unit-2 was available which was feeding 220kV Debari, 220kV Chitorgarh and 220kV RAPS-A-RAPS-B line and load at 220/132kV Kota Sakatpura via 220kV RAPS-A Kota Sakatpura ckt-2.</p> <p>ix) Further, at 20:23hrs, frequency decreased to 47.8Hz and 220kV RAPS-A Kota Sakatpura ckt-2 tripped on under frequency as per standing scheme.</p> <p>x) With this tripping, system with RAPS-A Unit-2 and load at Debari & Chitorgarh got isolated. RAPS-A generation was reduced to 500MW. Island operated till approx. 22:47hrs. Frequency of island was maintained in the range of 51-52Hz and voltage was in the range of 30-20kV. Further, at ~22:47hrs, RAPS-A Unit-2 turbine generator tripped on over flowing (~132.5%), voltage recorded just before the tripping was ~282kV.</p> <p>xi) As per SCADA, total generation loss of approx. 2000MW is observed and at the same time load loss of approx. 300MW is observed in Rajasthan control area.</p>	<p>1) 132kV Kota TPS Unit-1, & 2</p> <p>2) 132kV Kota TPS Unit-3, 4 & 5</p> <p>3) 885 MW Kota TPS Unit-6 & 7</p> <p>4) 220kV KTPS Kota Sakatpura ckt-1 & 3</p> <p>5) 220kV KTPS-Bewar ckt</p> <p>6) 220kV KTPS-Bundi ckt</p> <p>7) 220kV KTPS-Heerapura ckt</p> <p>8) 220kV Kota Sakatpura-RAPS-A ckt-1 & 2</p> <p>9) 220kV Kota Sakatpura-Mandlagahar ckt</p> <p>10) 220kV Kota Sakatpura-RAPS ckt</p> <p>11) 220kV Kota Sakatpura-Anta ckt</p> <p>12) 220kV Kota Sakatpura-Rampur ckt</p> <p>13) 220kV RAPS-C-Anta ckt</p> <p>14) 220kV RAPS-A Unit-2</p> <p>15) 220 MW RAPS-B Unit-4</p> <p>16) 220 MW RAPS-C Unit-5 & 6</p>

Details of Grid Events during the Month of March 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
						Generation Loss(MW)	Load Loss (MW)	% Generation Loss (MW)	% Load Loss (MW)	Antecedent Generation (MW)	Antecedent Load (MW)		
1	GD-1	WR	00:07 / 04-03-2024	06:32 / 04-03-2024	06:25	162	-	0.27%	-	59749	52197	At 00:07 Hrs / 04-03-2024, 220kV Bhuj Gadhisia line tripped on R-E fault. On patrolling, it was found a foreign material (conductor) fell on the line conductor at tower No.3/2. At the same time, 220kV Bhuj-Baranda 5/3 tripped on R-E fault from Baranda end only. Wind generation loss of 122 MW at Gadhisia & 40 MW at Baranda reported.	1. 220kV Bhuj Gadhisia line 2. 220kV Bhuj Baranda
2	GD-1	WR	23:04 / 04-03-2024	14:55 / 05-03-2024	15:51	-	-	-	-	65030	55459	As informed by Pachora substation Pachora (Ghinfraj had taken outage in 400 kV Bhopal-Pachora-1 for Isolator alignment issue. For 400 kV Bhopal-Pachora-1 of line after completion of work, Pachora Bus Reactor was being opened, at 23:04 hrs / 04-03-2024, during opening of bus reactor their was issue in isolator of 411 bay at Pachora. IPS tube fell over at 411 (The bay of 400 kV Bhopal-Pachora-2) at Pachora and 410 bay at Pachora (Main bay of 400 kV Bhopal-Pachora-2) and DT was sent to Bhopal end. At Bhopal Circuit breaker of 413 Bay started due to falling of IPS tube and busbar protection operated at 400 kV Bhopal-BDTCL and 400 kV station became dead. No load loss / generation loss occurred due to the event.	Tripping of following Elements: 1. 400kV Bhopal- Pachora Ckt-2 2. 400kV Bhopal- Bhopal (MP) Ckt-1&2 3. 765/400KV ICT - 1 & 2 at Bhopal BDTCL 4. 400kV Bus- 1 & 2 at Bhopal BDTCL
3	GD-1	WR	15:35 / 05-03-2024	16:24 / 05-03-2024	00:49	174	-	0.25%	-	70296	63144	At 15:35 Hrs / 05.03.2024, 220 kV Rewa Barsatadesh - 2 tripped at Barsatadesh end only due to master trip relay operated at Barsatadesh leading to black out of 220 kV Barsatadesh substation. Since CB-1 was taken out few seconds back for awaiting planned S/D for power quality meter installation. Both the lines were in charged condition from Rewa end. Due to above incident solar generation loss of 174 MW reported at Barsatadesh (Arinsun).	1. 220kV Barsatadesh Rewa - 2 2. 220kV/33kV Barsatadesh ICT - 1 3. 220kV/33kV Barsatadesh ICT - 2 4. 220kV/33kV Barsatadesh ICT - 3
4	Near Miss	WR	10:31 / 11-03-2024	10:53 / 11-03-2024	00:22	-	752	-	1.07%	76933	70410	At 10:31 hrs / 11-03-2024, 400 kV Pune-Lonihand 2 tripped on B-E fault due to sugarcane burning by farmer between location 60-61. Same time 400 kV Pune-Chakan tripped due to maloperation of Main-2 relay at Chakan. 216 element operated and B phase tripped and remaining poles tripped after 1.5 seconds on pole discrepancy operation. On inspection it was found that Main-2 at Chakan end of 400 kV Pune-Chakan line maloperated. Load loss of 752 MW occurred due to the event (436 MW load relief due to L75 operation in 220 kV Chinchwad-Urse, 220/132 kV ICTs at Alkhehta, 220 kV Pune-Use-D/C and 400 kV Pune-Chakan (during charging, around 179 MW load relief at Shirur, Theer, Markal and Sanawadi due to under-voltage stage-1&2 scheme at Lonihand and 137 MW load shedding implemented for charging of 400 kV Pune-Chakan).	Tripping of following Elements: 1. 400 kV Pune-Lonihand-1 2. 400 kV Pune-Chakan
5	GI-2	WR	23:06 / 13-03-2024	01:13 / 14-03-2024	02:07	-	-	-	-	72885	61986	At 23:06 hrs / 13-03-2024, Y phase Bus-2 side current transformer of bus coupler at 400 kV Kansari caught fire resulting in Bus bar protection operation of 400 kV Kansari-Bus-1 and 400 kV Kansari-Bus-2 and tripping of all connected elements. With these tripping 400 kV side at Kansari became dead and 220 kV side was intact. No load loss occurred during the event.	Tripping of following Elements: 1. 400 kV Bansarkantha-Kansari 2. 400 kV Charanka-Kansari-1&2 3. 400 kV Soje-Kansari-1,3&4 4. 400 kV Kansari-Kankor-1&2 5. 400 kV Kansari-Veluda 6. 400/220 kV Kansari ICT-1,2,3&4 (315 MVA) 7. 400 kV Kansari-Bus-1&2
6	GD-1	WR	00:48 / 18-03-2024	04:27 / 18-03-2024	03:39	922	-	1.36%	-	67727	56241	At 00:48 hrs / 18-03-2024, flashover occurred in Line Isolator of 765 kV Durg-Pharsuguda 2 (Line was under outage due to voltage regulation). The fault was not cleared by STUB protection because fault current was less than pickup value and all lines connected to 765 kV Durg tripped from remote ends. 765 kV Durg-Pharsuguda 1 tripped due to Directional Earth Fault Protection operation at Pharsuguda end. 765 kV Durg-Rajhanadgon-1&2 tripped on TEF protection at Rajhanadgon end and DT receipt at Durg. 765 kV Durg-Champa-2 tripped due to DEF Protection operation at Champa end. 765 kV Durg-Kotra-2 tripped from Kotra end on Zone 3 Protection. Due to no voltage source at Durg end 765/400 kV Durg-ICT-1&2 and 765 kV Durg-Bus-1 became dead. Generation loss of around 922 MW occurred at Rajpur Energen Limited due to loss of evacuation path.	Tripping of following Elements: A. Incident-1 1. 765 kV Durg-B/R 2. 765 kV Durg-Bus-2 3. 765 kV Durg-Wardha 3&4 4. 765 kV Durg- Kotra - 1 B. Incident-2 1. 765 kV Durg-Pharsuguda-1 2. 765 kV Durg-Rajhanadgon-1&2 3. 765 kV Durg-Champa-2 4. 765 kV Durg-Kotra-2
7	GD-1	WR	08:53 / 19-03-2024	11:01 / 19-03-2024	02:08	10	-	0.01%	-	74812	64831	At 08:53 Hrs / 19-03-2024, 220/33kV ICT 1 Srijan Wind RE Tripped due to LBB operation via feeder 4 resulting in loss of evacuation path and generation loss of 10 MW reported.	220/33kV ICT 1 at Srijan Wind RE
8	GD-1	WR	11:58 / 20-03-2024	12:57 / 20-03-2024	00:59	0.8	-	0.00%	-	73937	66129	At 11:58 Hrs / 20-03-2024, 220 kV Bhuj Kotda madh line tripped at Kotda madh end only due to false DT signal received at Kota madh end. Generation loss of 0.8 MW reported.	220 kV Bhj Kotda madh line
9	GD-1	WR	05:51 / 22-03-2024	06:42 / 22-03-2024	00:51	118	-	0.15%	-	77179	69196	At 05:51 Hrs / 22-03-2024, 220kV-Indore-SBES (Pitamnagar) Ckt tripped on R-G fault from Pitamnagar end only. Generation loss of 118 MW reported due to loss of evacuation path.	220 kV SBESS PRITAMNAGAR INDORE
10	GD-1	WR	01:28 / 25-03-2024	02:31 / 25-03-2024	01:03	130	-	0.20%	-	64274	57350	At 01:28 Hrs / 25-03-2024, 220 kV-Indore-Pitamnagar(AWEMF1P) tripped on R-E fault from Pitamnagar end due to Voltage Transformer fuse failure at Indore end, auto recloser successful at Indore end. During patrolling OPGW suspension clamp at Tower 26/5 was found open. Generation loss of 130 MW at Pitamnagar(AWEMF1P) reported due to loss of evacuation path.	Tripping of following Elements: 1. 220 kV Indore-Pitamnagar(AWEMF1P)
11	GD-1	WR	15:21 / 29-03-2024	15:55 / 29-03-2024	00:34	160	-	0.20%	-	79574	70554	At 15:21 Hrs / 29-03-2024, 400 kV JP Bina-Bina (PG) tripped on Y-E fault and at same time 400 kV JP Bina-Bina (MP) tripped on B-E fault from Bina(MP) end only, auto recloser successful at JP Bina end. Both the lines are in same tower. Heavy rain and thunderstorm were reported at the time of tripping. Generation loss of 160 MW occurred at JP Bina due to loss of evacuation path.	Tripping of following Elements: 1. 400 kV JP Bina-Bina (PG) 2. 400 kV JP Bina-Bina (MP) 3. JP Bina unit-2 (250 MW)
12	GD-1	WR	22:28 / 30-03-2024	23:50 / 30-03-2024	01:22	804	-	1.05%	-	76228	62984	At 22:28 Hrs / 30-03-2024, 400 kV Mahan Energen-Bilaspur-1&2 on R-E fault and R-Y phase to phase fault. No abnormality found during patrolling. Heavy rain and thunderstorm were reported at the time of tripping. Generation loss of 804 MW occurred at Mahan Energen Limited due to loss of evacuation path.	Tripping of following Elements: 1. 400 kV Mahan Energen-Bilaspur-1&2 2. Mahan Energen-Unit-1&2 (600 MW)
13	GD-1	WR	01:36 / 31-03-2024	02:13 / 31-03-2024	00:37	35	-	0.05%	-	73889	61724	At 01:36 Hrs / 31-03-2024, 220kV Kotda madh-Bhuj tripped at Kotda madh end only on DT receipt. From PMU plots, it was observed that no fault was there in the system and the tripping was undesirable. DT received at Kotda Madh end without any protection operation at Bhuj end. Generation loss of 35 MW occurred at 220 kV Kotda madh (Allfar) WPP due to the loss of evacuation path.	Tripping of following Elements: 1. 220kV Kotda madh-Bhuj

Details of Grid Events during the Month of March 2024 in Southern 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	Karnataka	16-03-2024 13:28	16-03-2024 14:15	0:47	0	380	0.00%	0.60%	53982	62981	Complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL. During the antecedent conditions 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and 220kV Bus-1 of 220kV/66kV Honnali SS were being radially fed through 400kV/220kV Guttur SS through 220kV Guttur-Davanagere-1,2 and 3 lines. The triggering incident is the suspected fault in 66kV network downstream to Davanagere leading to the tripping of 220kV Guttur-Davanagere-2 & 3 due to the logic issue wherein I-2 was given trip without any time delay at Guttur end. Owing to which load being shifted on Guttur-Davanagere-1. Subsequently after around 2 sec from line-2,3 tripping, 220kV Guttur-Davanagere-3 tripped on I-2 at Davanagere end. Tripping of 220kV Guttur-Davanagere-1,2&3 lead to the complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL.	220kV Guttur-Davanagere-1,2&3
2	GD-1	Karnataka	16-03-2024 15:39	16-03-2024 16:14	0:35	0	380	0.00%	0.60%	54025	63381	Complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL. During the antecedent conditions 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and 220kV Bus-1 of 220kV/66kV Honnali SS were being radially fed through 400kV/220kV Guttur SS through 220kV Guttur-Davanagere-1,2 and 3 lines of which line-2 was under forced outage. The triggering incident is the tripping of 220kV Guttur-Davanagere-1&3 leading to the complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL.	220kV Guttur-Davanagere-1,2&3
3	GD-1	Karnataka	19-03-2024 10:37	19-03-2024 11:15	00:38	0	186	0.00%	0.29%	53384	65093	Complete Outage of 220kV/110kV Bagalkot SS and Outage of 220kV Bus-1 of 220kV/110kV Vajramatti SS of KPTCL. As per the reports submitted, the triggering incident was V-phase CVT flashover in 220kV Bagalkot Vajramatti Line-2 at Bagalkot end. Subsequently due to which R-ph CT flash over was observed in 220kV Bagalkot Vajramatti Line-1 at Bagalkot end but due to DC issue the fault was not cleared at Vajramatti and BC, 220kV Kudgi-Vajramatti-1 and 220kV Mahalingapur-Vajramatti-1 tripped at remote ends to clear the fault. Subsequently, Y-B bus fault is observed at Bagalkot end and due to non-availability of bus bar protection all the remote ends at Bagalkot end on 22 leading to complete outage of 220kV/110kV Bagalkot SS and Outage of 220kV Bus-1 of 220kV/110kV Vajramatti SS of KPTCL.	220kV Vajramatti Bagalkot Line-1&2 220kV Vajramatti Mahalingapur Line-1 220kV Vajramatti Kudgi Line-1 220kV Gasting Bagalkot Line-1&2
4	GD-1	Tamil Nadu	19-03-2024 11:27	19-03-2024 11:52	00:25	0	53	0.00%	0.08%	53293	64897	Complete Outage of 230kV/110kV Karakudi, TN of TANTRANSOCO. As per the reports submitted, the triggering incident was an R-phase jumper failure between the Line switch to the breaker of 230kV Karakudi, PG Karakudi, TN line-4 at Karakudi, TN SS. Immediately, 230kV BBP operated and all the lines connected to be bus tripped except 230kV Karakudi NT Kudl Line-1. 230kV Karakudi NT Kudl Line-1 tripped on suspected delayed operation of 96 Relay. Subsequently, at 11:29hrs, 110kV Karakudi Valuchur Line tripped on line to ground fault. Tripping of the only source led to the outage of the 110kV system of 230kV/110kV Karakudi, TN SS which in turn led to complete outage of 230kV/110kV Karakudi SS.	1. 230kV Karakudi, TN Karakudi, PG Line-1&2 2. 230kV Karakudi NT Kudl Line-1 3. 230kV Karakudi Kavarur Line-1,2,3&4 4. 230kV/110kV Karakudi Auto Transformer-1
5	GD-1	Karnataka	20-03-2024 10:30	20-03-2024 10:41	00:11	0	200	0.00%	0.31%	52871	64448	Complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL. During the antecedent conditions 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and 220kV Bus-1 of 220kV/66kV Honnali SS were being radially fed through 400kV/220kV Guttur SS through 220kV Guttur-Davanagere-1,2 and 3 lines of which line-1 was under forced outage. The triggering incident is the tripping of 220kV Guttur-Davanagere-2&3 leading to the complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL.	220kV Guttur-Davanagere-1,2&3
6	GD-1	Karnataka	23-03-2024 11:42	23-03-2024 12:01	00:19	0	400	0.00%	0.62%	54238	64551	Complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL. During the antecedent conditions 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and 220kV Bus-1 of 220kV/66kV Honnali SS were being radially fed through 400kV/220kV Guttur SS through 220kV Guttur-Davanagere-1,2 and 3 lines of which line-1 was under forced outage. The triggering incident is the tripping of 220kV Guttur-Davanagere-2&3 leading to the complete outage of 220kV/66kV Davanagere SS, 220kV/66kV Hosadurga SS, 220kV/66kV Benikere SS and Tripping of 220kV Bus-1 of 220kV/66kV Honnali SS of KPTCL.	220kV Guttur-Davanagere-1,2&3
7	GD-1	Karnataka	29-03-2024 22:47	30-03-2024 01:43	02:56	0	140	0.00%	0.25%	45815	55625	Complete Outage of 220kV/110kV Raichur, KA SS of KPTCL 220kV Upper Jurala PH of TSGENCO. During antecedent conditions, 220kV Upper Jurala PH was being radially fed from 220kV/110kV Raichur, KA SS. As per the reports submitted, the triggering incident was fire in 110kV/11kV Transformer-6 of 220kV/110kV Raichur, KA SS. Other transformers tripped on high-volt earth fault protection and 220kV Raichur, KA RTPS lines tripped from remote ends. This resulted in complete outage of 220kV/110kV Raichur, KA SS which in turn resulted in complete outage of 220kV Upper Jurala PH.	220kV Raichur, KA RTPS Line-1&2 110kV/11kV Raichur, KA Transformer-4,5&6
8	GD-1	Karnataka	31-03-2024 16:12	31-03-2024 19:48	03:36	0	0	0.00%	0.00%	45515	59140	Complete Outage of 220kV Pulichinhala Generating station of TSGENCO. As per the reports submitted, the triggering incident is B-N fault in 220kV Pulichinhala Seethapuram Line. During Auto Re-closure dead time due to a problem in single phase tripping circuit of 220 KV Seethapuram line, LBB operated causing all the 220kV lines connected to 220kV Bus-1 of 220kV Pulichinhala Generating station.	220kV Chilkalku Pulichinhala 220kV Pulichinhala Seethapuram
9	GD-1	Karnataka	31-03-2024 11:36	31-03-2024 18:59	07:23	0	0	0.00%	0.00%	45815	55625	Complete outage of 220kV Bettedaverekere US of KPTCL. 220kV Bettedaverekere US is tripped from 220kV Shimoga Antrahsanahalli Line. The triggering incident was B-N fault in 220kV Shimoga Antrahsanahalli Line. Tripping of the line resulted in complete outage of 220kV Bettedaverekere US.	220kV Shimoga Antrahsanahalli Line
10	GI-2	Tamil Nadu	07-03-2024 13:59	10-03-2024 11:03	21:02	0	0	0.00%	0.00%	50578	64916	Tripping of 765kV Bus section-3 at 765kV/400kV NCPSS GIS of TANTRANSOCO. As per the reports submitted, the triggering incident was maloperation of BBP in 765kV Bus section-13 at 765kV/400kV NCPSS. Immediately, all the elements connected to the bus tripped.	1. 765kV NCPSS NCTPS1G3-2
11	GI-2	Karnataka	12-03-2024 07:19	12-03-2024 11:09	03:50	0	0	0.00%	0.00%	45003	58825	Tripping of 400kV Bus-1 of 400kV/220kV Guttur SS of KPTCL. As per the reports submitted, the triggering incident was R-N fault in 400kV Guttur Bus-1. Immediately, BBP operated and all the elements connected to the bus tripped.	1. 400kV Kaiga Guttur Line-1&2 2. 400kV Guttur Narendra Line-1&2 3. 400kV Guttur BTPS Line 4. 400kV Guttur Hirapur Line 5. 400kV/220kV Guttur CT-1

Details of Grid Events during the Month of March 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-1	Begusarai	05.03.2024 11:56	05.03.2024 12:25	00:29	0	100	0.00%	0.51%	25304	19707	At 11:56 Hrs on 05.03.2024, Y, B, N fault occurred in 220 kV Begusarai-ROCL-1, which was kept idle charged from Begusarai end. Distance protection operated at Begusarai but the breaker didn't open. Since LBB and bus bar protection is not available at Begusarai, other feeders tripped in Zone-3 from remote ends and total power failure occurred at Begusarai S/s. Around 100 MW load loss reported at Begusarai.	220 kV Begusarai-Barauni D/c 220 kV Begusarai-Sahana D/c
2	GD-1	Budhipadar	09.03.2024 14:07	09.03.2024 14:52	00:45	620	100	2.38%	0.50%	26093	19888	At 13:45 Hrs on 9th March 2024, 220 kV Budhipadar-Lapanga-2 tripped due to B-Earth fault. Loading of Budhipadar-Lapanga-1 reached around 350 MW, which was hand tripped at 14:00 Hrs. Entire Budhipadar complex generation with IBTPS and Vedanta, SMC, Bhushan Steel, AAL, Concast CPH started evacuating through remaining interconnection with grid through 220 kV Budhipadar-Raigarh and 220 kV Budhipadar-Korba D/c, which tripped one by one due to high loading and at 14:07 Hrs, this complex was isolated from the grid and formed an island which didn't survive due to large load generation imbalance. Net generation loss of around 620 MW occurred and load loss of around 100 MW occurred.	220 kV Budhipadar-Lapanga-2 220 kV Budhipadar-Lapanga-1 132 kV Budhipadar-Lapanga-1 220 kV Budhipadar-Raigarh-1 220 kV Budhipadar-Korba-1 220 kV Budhipadar-Korba-2 220 kV Budhipadar-IBTPS-1&2 220 kV Budhipadar-IBTPS-3&4 220 kV Budhipadar-Vedanta-1&2 U#1 & U#2 at IBTPS
3	GD-1	Garhwa	30.03.2024 22:27	30.03.2024 23:35	01:08	0	80	0.00%	0.31%	31097	26025	At 22:27 Hrs on 30.03.2024, 220 kV Daltonganj - Garhwa (New) D/C tripped due to single Phase to ground fault leading to total power failure at 220 kV Garhwa S/s with a load loss of around 80 MW. As per SLDC Jharkhand, the lines tripped due to inclement weather conditions in the area.	220 kV Daltonganj-Garhwa D/c
4	GI-2	Barh	31.03.2024 04:41	31.03.2024 07:00	02:19	1251	0	4.28%	0.00%	29220	27969	At 04:41 Hrs on 31.03.2024, 400 kV Bus-3 & Bus-4 at Barh tripped. As reported, B_ph CT of main of main bay of Barh-Patna-2 burst at Barh end and at that time 400 kV Bus-3 & Bus-4 and all associated elements tripped including U#4 & U#5 (660 MW each). Total generation loss of around 1251 MW occurred.	400 kV Barh-Moithari-1 400 kV Barh-Moithari-2 400 kV Barh-Patna-1 400 kV Barh-Patna-2 400 kV Barh-Kahalgaon-1 400 kV Barh-Kahalgaon-2 400 kV Bus-3&4 at Barh Barh Unit-4 (660 MW) Barh Unit-5 (660 MW)
5	GD-1	Garhwa(New)	31.03.2024 07:29	31.03.2024 07:36	00:07	0	30	0.00%	0.15%	27709	19938	At 07:29 Hrs on 31.03.2024, 220 kV Daltonganj-Garhwa(New)-1 tripped due to B, N fault which led to total power failure at 220 kV Garhwa(New) S/s as 220 kV Daltonganj-Garhwa (New)-2 was already under breakdown. Charging attempt of ckt-1 also failed at 08:06 Hrs. Presently both lines are under breakdown condition. Only Traction load was managed through 132 kV Garhwa- Japla T/L by 07:36 Hrs. Other loads have not been restored yet.	220 kV Daltonganj-Garhwa-1
6	GD-1	Bantala (KLC)	31.03.2024 21:49	31.03.2024 22:00	00:11	0	78	0.00%	0.30%	32052	25701	At 21:49 Hrs on 31.03.2024, Y-ph CT of 220 kV New Town AA-3- Bantala burst at Bantala end leading to tripping of the said line. At the same time 220 kV Subhasgram- Bantala also tripped from Subhasgram end with Y-Ph fault leading to total power failure at 220 kV Bantala S/s with a load loss of 78 MW.	220 kV Subhasgram-Bantala 220 kV New Town AA-3-Bantala

Details of Grid Events during the Month of March 2024 in North Eastern 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	GD1	Sonabil, Ghoramari, Depota, Rowta, Dhekiajuli and Tangla areas of Assam Power system	04-03-2024 13:07	04-03-2024 13:33	00:26:00	0	38	0.00%	2.00%	1562	1904	Sonabil, Rowta, Depota, Ghoramari, Dhekiajuli and Tangla areas of Assam Power System were connected with rest of NER Grid through 220kV Balpara-Sonabil II line. 220 kV Sonabil-Balpara-I line, 132 kV Rangia- Tangla Line, 132 kV Rangia- Sipahar Line was under outage prior to the event. At 13:07 Hrs of 04.03.2024, 220 kV Balpara-Sonabil II tripped. Due to tripping of this element, SPS at Sonabil operated due to which 200/132 kV ICT-1 & II at Sonabil tripped and Sonabil, Rowta, Depota, Ghoramari, Dhekiajuli and Tangla areas and Rowta Solar Generation of Assam Power System were isolated from NER Grid and collapsed due to load generation mismatch in these areas. Power supply was extended to Sonabil, Rowta, Depota, Ghoramari, Dhekiajuli and Tangla areas of Assam Power System by charging 220/132kV 100MVA ICT-1 at Sonabil at 13:33 Hrs of 04.03.2024.	220 kV Balpara-Sonabil II, 220/132 kV 100 MVA ICT-1 & II at Sonabil
2	GD1	Churachandpur and Thanlon areas of Manipur Power system	05-03-2024 13:25	05-03-2024 13:34	00:09:00	0	8	0.00%	0.46%	1810	1730	Churachandpur and Thanlon areas of Manipur Power system were connected to the rest of the grid through 132 kV Ningthoukhong-Churachandpur D/C lines. 132 kV Ningthoukhong-Churachandpur line is under outage since 13.03.2024. At 13:25 Hrs of 05.03.2024, 132 kV Loktak-Ningthoukhong and 132 kV Ningthoukhong-Churachandpur II lines tripped. Due to tripping of these elements, Churachandpur and Thanlon areas of Manipur power system got isolated from rest of the grid due to no source available in these areas. Power supply was extended to Churachandpur, Thanlon and Elangangkopi areas by charging 132 kV Ningthoukhong-Churachandpur II line at 13:34 Hrs of 05.03.2024.	132 kV Loktak-Ningthoukhong and 132 kV Ningthoukhong-Churachandpur II lines
3	GD1	Pasighat area of Arunachal Pradesh Power system	07-03-2024 15:46	07-03-2024 17:26	01:40:00	0	5	0.00%	0.25%	1796	1973	Pasighat area of Arunachal Pradesh Power system was connected with the rest of the grid through 132 kV Along-Pasighat & 132 kV Roing-Pasighat lines. At 15:46 Hrs of 07.03.2024, 132 kV Along - Pasighat and 132kV Pasighat - Roing lines tripped. Due to tripping of these lines, Pasighat area of Arunachal Pradesh Power System was isolated from rest of the grid due to no source available in this area. Power supply was extended to Pasighat area of Arunachal Pradesh Power System by charging 132kV Pasighat - Roing line at 17:26 Hrs of 07.03.2024.	132 kV Roing-Pasighat & 132 kV Along-Pasighat lines
4	GD1	NRPP & LRPP generation of Assam Power system	08-03-2024 14:56	08-03-2024 17:43	02:47:00	157	0	9.21%	0.00%	1705	1832	NRPP Generating Station of Assam Power System was connected with rest of NER Grid through 220kV Tinsuka-NRPP and 220 kV NTPS-NRPP lines. At 14:56 Hrs of 08.03.2024, 220kV Tinsuka-NRPP and 220 kV NTPS-NRPP lines tripped. Due to tripping of these lines, NRPP Generating Station was isolated from NER grid and collapsed due to load generation mismatch in this area. At the same time, LRPP generating units also tripped due to voltage sink. Power supply was extended to 220kV NRPP Generating Station of Assam Power System by charging 220kV Tinsuka-NRPP line at 17:43 Hrs of 08.03.2024.	220 kV Amguri-NTPS, 220 kV NTPS-NRPP, 220 kV NTPS-Tinsuka lines, NRPP Unit-I & II and LRPP Unit-1,2,3,4,5,6,7
5	GD1	Dharmanagar area of Tripura Power system	10-03-2024 10:24	10-03-2024 11:54	01:30:00	0	13	0.00%	0.71%	1855	1843	Dharmanagar area of Tripura Power System is connected with the rest of the grid by 132 kV Dharmanagar-Dullavchera & 132 kV Dharmanagar-PK Bari lines. 132 kV Dharmanagar-PK Bari line tripped at 10:24 Hrs of 10.03.2024. At 10:24 Hrs of 10.03.2024, 132 kV Dharmanagar-Dullavchera line also tripped. Due to tripping of this element, Dharmanagar area of Tripura Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Dharmanagar area of Tripura Power System by charging 132 kV Dharmanagar-PK Bari line at 11:54 Hrs of 10.03.2024.	132 kV Dharmanagar-Dullavchera lines
6	GD1	Wokha area of Nagaland Power system	12-03-2024 10:30	12-03-2024 11:05	00:35:00	0	5	0.00%	0.25%	1758	2020	Wokha area of Nagaland Power System was connected with rest of NER Grid through 132 kV Wokha-Sanis and 132 kV Wokha-Chiephebozo lines. At 10:30 Hrs of 12.03.2024, 132 kV Wokha-Sanis and 132 kV Wokha-Chiephebozo lines. Due to tripping of this element, Wokha area of Nagaland Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Wokha area of Nagaland Power System by charging 132 kV Wokha-Sanis line at 11:05 Hrs of 12.03.2024. 132 kV Wokha-Chiephebozo line was charged at 11:45 Hrs of 12.03.2024.	132 kV Wokha-Chiephebozo & 132 kV Wokha-Sanis lines
7	GD1	Sarusajai, Kahelipara, AIIMS, Kamakhya and Dispur areas of Assam Power system	16-03-2024 05:57	16-03-2024 06:33	00:36:00	0	115	0.00%	6.21%	1680	1853	Sarusajai, Kahelipara, AIIMS, Kamakhya and Dispur areas of Assam Power System were connected with rest of the NER grid through 220kV Sarusajai - Mirza II, 220kV Sarusajai - Jawaharnagar, 220kV Sarusajai - Sonapur and 132kV Dispur - Chandrapur lines. At 05:57 Hrs, 220kV Sarusajai - Mirza II, 220kV Sarusajai Jawaharnagar, 220kV Sarusajai-Sonapur and 132kV Dispur - Chandrapur lines tripped leading to blackout of 220kV Sarusajai S/S, 132kV Kahelipara S/S, 132kV AIIMS S/S, 132kV Kamakhya S/S and 132kV Dispur S/S. 220kV Sarusajai Bus-1, 220kV Sarusajai - Mirza I was under PSD for Bay re-closing work of 220kV Sarusajai - Mirza I at Sarusajai end from 05:55 Hrs of 16.03.2024. 132kV Kamakhya - Sishugram and 132kV AIIMS-Amingaon lines were in opened condition to avoid overloading of 220kV Rangia ICTL. As Reported by SLDC, Assam telephonically, 220kV Bus II at Sarusajai energized at 06:12 Hrs by charging 220kV Sarusajai - Mirza II, then Power extended to Kahelipara S/S at 06:31. Power was restored to Dispur S/S by charging 132kV Dispur - Chandrapur at 06:30 Hrs. Power restored to Kamakhya S/S at 06:17 Hrs by charging 132kV Sarusajai -Kamakhya line. Power fully restored to Sarusajai Area at 06:33 Hrs. Power Extended to AIIMS at 06:53 Hrs.	220kV Sarusajai - Mirza II, 220kV Sarusajai Jawaharnagar, 220kV Sarusajai-Sonapur and 132kV Dispur -Chandrapur lines
8	GD1	Dharmanagar area of Tripura Power system and Dullavchera area of Assam Power system	16-03-2024 15:54	16-03-2024 16:31	00:37:00	0	18 MW in Dharmanagar & 13 MW in Dullavchera	0.00%	1.33%	2000	2326	Dharmanagar area of Tripura Power System and Dullavchera area of Assam Power System were connected with rest of NER Grid through 132 kV Dharmanagar-PK Bari line and 132 kV Dullavchera-Halakandi line. At 15:54 Hrs of 16.03.2024, 132 kV Dharmanagar-PK Bari line, 132 kV Dharmanagar-Dullavchera & 132 kV Dullavchera-Halakandi lines tripped. Due to tripping of these lines, Dharmanagar area of Tripura Power System and Dullavchera area of Assam power system were isolated from NER grid and collapsed due to no source available in these areas. Power was extended to Dharmanagar area of Tripura Power System by charging 132 kV Dharmanagar-PK Bari line at 16:14 Hrs of 16.03.2024. Power was finally restored to Dullavchera area of Assam Power System by charging 132 kV Dullavchera-Halakandi at 16:31 Hrs of 16.03.2024.	132 kV Dharmanagar-PK Bari line, 132 kV Dharmanagar-Dullavchera & 132 kV Dullavchera-Halakandi lines
9	GD1	Rangia, Kamalpur, Amingaon, Sishugram, Nalbari, Kamkhya and Natkuchi areas of Assam Power System	20-03-2024 05:33	20-03-2024 06:29	00:56:00	0	86	0.00%	5.11%	1700	1684	Rangia, Kamalpur, Amingaon, Sishugram, Nalbari, Kamkhya and Natkuchi areas of Assam Power System were connected with rest of the NER grid through 220kV Rangia - BTPS D/C lines. At 05:33 Hrs, 220kV Rangia - BTPS D/C lines tripped leading to SPS operation at Rangia S/S which led to blackout of 220 kV Rangia, Kamalpur, Amingaon, Sishugram, Nalbari, Kamakhya and Natkuchi areas of Assam Power System. Power supply was extended to 220 kV Rangia S/S and subsequently to Kamalpur, Amingaon, Sishugram, Nalbari, Kamakhya and Natkuchi areas of Assam Power System by charging 220kV Rangia - BTPS 2 line at 06:29 Hrs of 20.03.2024. 220kV Rangia - BTPS 1 line was charged at 06:36 Hrs.	220 kV BTPS-Rangia D/C
10	GD1	North Lakhimpur, Dhemaji, Silpathar and Majuli areas of Assam Power System	22-03-2024 12:31	22-03-2024 13:19	00:48:00	0	44	0.00%	2.15%	2292	2049	North Lakhimpur, Dhemaji, Silpathar and Majuli areas of Assam Power System were connected with rest of NER Grid through 132 kV North Lakhimpur - Pare line, 132 kV North Lakhimpur - Nirjuli line, and 132 kV North Lakhimpur -Gohpur 1 line, 132 kV Gohpur - North Lakhimpur 2 line was under PSD for 06:26 Hrs. At 22:31 Hrs of 22-03-2024, 132 kV North Lakhimpur - Pare line, 132 kV North Lakhimpur Nirjuli line, and 132 kV North Lakhimpur -Gohpur 2 line tripped due to LBB operation. Due to tripping of these elements, North Lakhimpur, Dhemaji, Silpathar and Majuli areas of Assam Power System were isolated from NER Grid and collapsed due to no source available in these areas. Power was extended to North Lakhimpur by charging 132 kV North Lakhimpur - Nirjuli line at 13:19 Hrs.	132 kV North Lakhimpur - Pare, 132 kV North Lakhimpur Nirjuli, and 132 kV North Lakhimpur -Gohpur 1 lines

Details of Grid Events during the Month of March 2024 in North Eastern 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)		
11	GD1	Depota, Rowta, Dhekiajuli, Sipajhar and Tangla areas of Assam Power system	22-03-2024 05:03	22-03-2024 05:25	00:22:00	0	19	0.00%	1.45%	2124	1307	Depota, Rowta, Dhekiajuli, Sipajhar and Tangla areas of Assam power system were connected to the rest of the grid through 132 kV Sonabil-Depota line & 132 kV Sonabil-Ghoramari-Depota link. At 05:03 Hrs of 22.03.2024, 132 kV Sonabil-Depota, 132 kV Depota-Ghoramari, 132 kV Depota-Rowta, 132 kV Depota-Dhekiajuli & 132 kV Rowta-Dhekiajuli lines tripped. Due to tripping of these elements, Depota, Rowta, Dhekiajuli, Sipajhar and Tangla areas of Assam power system were isolated from NER grid and collapsed due to no source available in these areas. 132 kV Sipajhar and Tangla GSS were shifted to 132 kV Rangia side to restore power at 05:11 hrs and 05:15 hrs respectively. Power was extended to Depota and connected substations by charging 132 kV Sonabil-Depota line at 05:25 Hrs of 22.03.2024.	132 kV Sonabil-Depota, 132 kV Depota-Ghoramari, 132 kV Depota-Rowta, 132 kV Depota-Dhekiajuli & 132 kV Rowta-Dhekiajuli lines
12	GD1	Jirania area of Tripura Power system	23-03-2024 22:25	23-03-2024 22:47	00:22:00	0	14	0.00%	0.70%	2020	2014	Jirania area of Tripura Power System is connected with rest of NER Grid via 132kV Budhjungnagar – Jirania and 132kV Baramura – Jirania lines. At 22:25 Hrs of 23.03.2024, 132kV Budhjungnagar – Jirania line tripped and 132kV Baramura – Jirania line was out since 20:30 Hrs of 23.03.2024. Due to tripping of these lines, Jirania area of Tripura Power System was isolated from NER Grid and collapsed due to no source available in this area. Power supply was extended to Jirania area of Tripura Power System by charging 132 kV Budhjungnagar – Jirania line at 22:47 Hrs of 23.03.2024.	132kV Budhjungnagar-Jirania and 132kV Baramura-Jirania lines
13	GD1	Rengpang area of Manipur Power system	23-03-2024 22:44	23-03-2024 23:53	01:09:00	0	2	0.00%	0.12%	2001	1642	Rengpang area of Manipur Power System was connected with rest of NER Grid through 132 kV Rengpang - Loktak and 132 kV Jiribam(MA) - Rengpang lines. 132 kV Jiribam(MA) - Rengpang line was under outage since 18:18 Hrs of 17-11-2023. At 22:44 Hrs of 23-03-2024, 132kV Loktak - Rengpang and 132kV Loktak - Ningshokhong lines tripped. Due to tripping of these lines, Rengpang area of Manipur Power System got isolated from NER grid and collapsed due to no source available in these areas. Power was extended to Rengpang by charging 132 kV Loktak - Rengpang at 23:53 Hrs of 23-03-2024.	132 kV Loktak-Rengpang & 132 kV Loktak-Ningshokhong lines
14	GD1	Nangalibira, Rongkhon, Ampati and Phulbari areas of Meghalaya Power system	26-03-2024 01:56	26-03-2024 02:28	00:32:00	0	14	0.00%	1.13%	2010	1235	Nangalibira, Rongkhon, Ampati and Phulbari areas of Meghalaya Power System are connected with the rest of NER Grid through 132 kV Agia- Nangalibira line, 132 kV Mendipathar- Nangalibira and 132 kV Nangalibira-Nongstoin lines. Prior to the event, 132 kV Nangalibira-Nongstoin line tripped at 01:23 Hrs. At 01:56 Hrs of 26-03-2024, 132 kV Agia- Nangalibira line and 132 kV Mendipathar- Nangalibira line tripped. Due to tripping of these elements, Nangalibira, Rongkhon and Ampati areas of Meghalaya Power System were isolated from NER Grid and collapsed due to no source available in these areas. Power was extended to Nangalibira, Rongkhon, Ampati and Phulbari areas of Meghalaya Power System by charging 132 kV Agia- Nangalibira line at 02:28 Hrs.	132 kV Agia-Nangalibira & 132 kV Mendipathar-Nangalibira lines
15	GD1	Lumshnong area of Meghalaya Power system	26-03-2024 00:32	26-03-2024 01:18	00:46:00	0	27	0.00%	2.04%	2049	1325	Lumshnong area of Meghalaya Power System is connected with rest of NER Grid through 132 kV Lumshnong – Khliehriat and 132 kV Lumshnong-Panchgram lines. 132 kV Lumshnong – Panchgram line was under outage since 23:35 of 25.03.2024. At 00:32 Hrs of 26-03-2024, 132 kV Lumshnong – Khliehriat line tripped. Due to tripping of this element, Lumshnong area of Meghalaya Power System was isolated from NER Grid and collapsed due to no source available in this area. Power was extended to Lumshnong area of Meghalaya Power System by charging 132 kV Lumshnong – Khliehriat line at 01:18 Hrs.	132 kV Lumshnong-Khliehriat line
16	GD1	Hatsingimari area of Assam Power system	31-03-2024 19:31	31-03-2024 21:55	02:24:00	0	2	0.00%	0.20%	221	989	Hatsingimari area of Assam Power System was connected with rest of NER Grid through 132 kV Agia - Hatsingimari line. 132 kV Ampati-Hatsingimari D/C lines are under construction. At 19:31 Hrs of 31-03-2024, 132 kV Agia - Hatsingimari line tripped. Due to tripping of this element, leading to blackout of Hatsingimari area of Assam Power System due to no source available mismatch in this area. Power supply was extended to Hatsingimari area of Assam Power System by charging 132 kV Agia - Hatsingimari line at 21:55 Hrs of 31.03.2024	132 kV Agia-Hatsingimari line
17	GD1	Tezu and Namsai areas of Arunachal Pradesh Power system	31-03-2024 23:59	Not yet restored		0	0.3	0.00%	0.02%	2143	1236	Tezu and Namsai areas of Arunachal Pradesh Power System was connected with rest of NER Grid via 132 kV Roing – Tezu line. At 23:59 Hrs of 31.03.2024, 132 kV Roing – Tezu line tripped due to tower collapse in loc. no. 72 leading to blackout of Tezu and Namsai areas of Arunachal Pradesh Power System. Power is yet to be extended to Tezu and Namsai areas of Arunachal Pradesh.	132 kV Roing-Tezu line
18	GD1	Monarchak, Rabindranagar and Udaipur areas of Tripura Power system	31-03-2024 07:36	31-03-2024 08:54	01:18:00	110	2	5.64%	0.10%	1950	1963	Monarchak, Rabindranagar, and Udaipur areas of Tripura Power System are connected with rest of NER Grid through 132 kV Monarchak-Udaipur and 132 kV Palatana-Udaipur lines. 132 kV Palatana-Udaipur line is under outage since 07:32 hrs of 31-03-2024. At 07:36 Hrs of 31-03-2024, 132 kV Monarchak-Udaipur line tripped. Due to tripping of this element, Monarchak Generating station, Rabindranagar, and Udaipur areas of Tripura Power System were isolated from NER Grid and collapsed due to load generation mismatch in these areas. Rokhia Unit-7 & 8 also tripped. Power was extended to Monarchak Generating station, Rabindranagar, and Udaipur areas of Tripura Power System by charging 132 kV Palatana-Udaipur line at 08:54 Hrs of 31-03-2024.	132 kV Monarchak-Udaipur line, Monarchak GT & ST, Rokhia Unit-7 & 8
19	GD1	Rokhia generating station of Tripura Power system	31-03-2024 09:29	31-03-2024 10:09	00:40:00	0	0	0.00%	0.00%	1760	1927	Rokhia Generating Station of Tripura Power System is connected with rest of NER Grid through 132 kV Rokhia-Agartala D/C and 132 kV Monarchak-Rokhia lines. 132 kV Rokhia-Agartala 2 line was under outage since 07:30 Hrs & 132 kV Monarchak-Rokhia line was under outage since 07:36 Hrs of 31.03.2024. At 09:29 Hrs of 31-03-2024, 132 kV Rokhia-Agartala 1 line tripped leading to blackout of Rokhia Generating Station of Tripura Power System. Power was extended to Rokhia Generating Station of Tripura Power System by charging 132 kV Rokhia-Agartala 1 line at 10:09 Hrs of 31-03-2024.	132 kV Rokhia-Agartala 1 line
20	GD1	Serchhip area of Mizoram Power system	31-03-2024 09:18	31-03-2024 10:14	00:56:00	0	8	0.00%	0.44%	1917	1806	Serchhip area of Mizoram Power System was connected with rest of NER Grid through 132 kV Zuangtui - Serchhip line. 132 kV Lunglei-Serchhip line is kept open due to system requirement. At 09:18 Hrs of 31-03-2024, 132 kV Zuangtui - Serchhip line tripped. Due to tripping of this element led to blackout of Serchhip area of Mizoram Power System due to no source available in this area. Power was extended to Serchhip area of Mizoram Power System by charging 132 kV Zuangtui - Serchhip line at 10:14 Hrs.	132 kV Zuangtui-Serchhip line