# Details of Grid Events during the Month of July 2022 in Northern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid* | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 1 | GI-2 | UTTAR PRADESH | 02-Jul-2022 17:03 | 02-Jul-2022 18:16 | 1:13 | 0 | 0 | 0.000 | 0.000 | 48347 | 57885 | 1. 400/220kV Unnao(UP) substation have double main transfer bus scheme at both 400kV & 220kV level.<br>2. In antecedent condition, 400/220kV 315MVA ICT-2 at Unnao, 220/132kV 160MVA ICT-4 and 220kV lines to Phool Bagh-1, Kanpur Road were connected to 220kV Bus-1 and rest of the elements were connected to 220kV Bus-2.<br>3. At 17:03 hrs, insulation of Y-ph CT of 220kV Unnao-Phool Bagh ckt-1 at Unnao end failed and created Y-N phase to earth bus fault on Bus-1. As per PMU, Y-N phase to earth fault which cleared within 120ms is observed.<br>4. On this bus fault, bus bar protection of 220kV bus-1 at Unnao operated, which led to tripping of 400/220kV 315MVA ICT-2, 220/132kV 160MVA ICT-4 and 220kV lines to Phool Bagh-1, Kanpur Road.<br>5. At the same time, 400/220kV 315MVA ICT-1 & ICT-3 at Unnao also tripped on directional earth fault protection.<br>6. As per SCADA, no load loss is observed. | 1) 400/220 kV 315 MVA ICT 2 at Unnao(UP)<br>2) 400/220 kV 315 MVA ICT 3 at Unnao(UP)<br>3) 400/220 kV 315 MVA ICT 1 at Unnao(UP) |
| 2 | GD-1 | J & K | 07-Jul-2022 20:46 | 07-Jul-2022 22:30 | 1:44 | 0 | 300 | 0.000 | 0.423 | 51473 | 71000 | 1. At 20:46 hrs, flashover in Y-ph jumper between isolator and breaker of transformer bay at 132kV occurred. As per PMU, Y-N phase to earth followed by R-N fault with delayed clearance in 1040ms is observed.<br>2. On this fault, 220kV Salal-Jammu ckt-2 tripped from Salal end in Z-3 and 220kV Salal-Jammu ckt-1 tripped from jammu end only.<br>3. Due to tripping of both line, load loss of approx. 300MW is observed J&K control area. | 1) 220 KV Salal(NH)-Jammu(PDD) (PG) Ckt-2<br>2) 220 KV Salal(NH)-Jammu(PDD) (PG) Ckt-1 |
| 3 | GD-1 | RAJASTHAN | 08-Jul-2022 00:58 | 08-Jul-2022 04:00 | 3:02 | 650 | 0 | 1.316 | 0.000 | 49376 | 71628 | 1. During antecedent condition, 250MW STPS Unit-2,3,5 &6 were running.<br>2. At 00:58hrs, bus bar protection of 220kV Bus-1 B operated which resulted into failure of auxillary supply of 250MW Unit-3,5 &6 due to tripping of station transformer connected on this Bus-1 B.<br>3. On investigation it was found that, one cable of LBB relay of ST-6 was found earthed and also shorted to some voltage source which led to LBB tripping intiation and resulted into tripping of ST-5, ST-3 & ST-6 . Due to tripping of these STs, auxillary supply to Units failed. | 1) 250 MW Suratgarh TPS - UNIT 6<br>2) 250 MW Suratgarh TPS - UNIT 3<br>3) 250 MW Suratgarh TPS - UNIT 5<br>4) 400/220 kV 315 MVA ICT 1 at Suratgarh(RVUN) |
| 4 | GD-1 | HARYANA | 08-Jul-2022 02:11 | 08-Jul-2022 05:35 | 3:24 | 0 | 400 | 0.000 | 0.578 | 48130 | 69255 | 1. As reported, at 08:10hrs, R&Y phase CT orf 220kV Palli-Gurgaon Sec 65 ckt damaged and caught fire at Palli end.<br>2. On this fault, bus bar protection Z-1 & Z-2 operated at 220kV Palli.<br>3. Due to bus bar protection at 220kV Palli, all 220kv feeders connected at palli tripped.<br>4. As per PMU, R-Y phase to phase fault with delayed clearance in 480ms is observed.<br>5. As per SCADA, change in load of approx. 400MW is observed in Haryana control area. | 1) 220 KV Samaypur(BB)-Palli(HV) (HVPNL) Ckt-1<br>2) 220 KV Samaypur(BB)-Palli(HV) (HVPNL) Ckt-2<br>3) Palli-Faridabad ckt-1<br>4) Palli-Faridabad ckt-2<br>5) Palli- Badshahpur ckt<br>6) Palli- Gurgaon sec 65 ckt<br>7) Palli-Gurgaon Sec 56 ckt-1<br>7) Palli-Gurgaon Sec 56 ckt-2 |
| 5 | GI-2 | RAJASTHAN | 09-Jul-2022 04:27 | 09-Jul-2022 07:30 | 3:03 | 0 | 0 | 0.000 | 0.000 | 48025 | 69282 | 1. In antecedent condition, as there was no RE generation, ICTs were ideally charged.<br>2. At 04:27hrs, 765/400 kV 1500 MVA ICT-1, ICT-2 & ICT-3 at Fatehgarh_II(PG) all tripped on over flux protection operation.<br>3. As per PMU at Fatehgarh2(PG), in antecedent condition, voltage at Fatehgarh2 was ~1.04pu (793kV) and frequency was 50.05Hz. Hence, flux was approx. 1.04pu which is in operating range. | 1) 765/400 kV 1500 MVA ICT 1 at Fatehgarh_II(PG)<br>2) 765/400 kV 1500 MVA ICT 3 at Fatehgarh_II(PG)<br>3) 765/400 kV 1500 MVA ICT 2 at Fatehgarh_II(PG) |
| 6 | GD-1 | RAJASTHAN | 09-Jul-2022 13:42 | 09-Jul-2022 14:34 | 0:52 | 3485 | 0 | 6.342 | 0.000 | 54952 | 65080 | 1. At 13:42hrs, 400 KV Bikaner(PG)-Bikaner(RS) (PG) Ckt-1 tripped on R-Y phase to phase fault. As per DR received from Bikaner(PG) end, fault current was 12kA. As per PMU at Fatehgarh2(PG), R-Y phase to phase fault which cleared within 80ms is observed.<br>2. At the same time, 400 KV Avaada Pooling SL_BKN_PG (AEPL)-Bikaner(PG) (AEPL) Ckt-1 (carrying 727MW) also tripped on maloperation of SOTF protection. With the tripping of line, solar generation of approx. 727MW at Avaada also tripped due to loss of evacuation path.<br>3. During same time, drop in solar generation is observed at many other RE stations connected at different RE pooling stations. Drop in total solar generation was approx. 3485MW (including Avaada solar generation) and pooling stations wise RE generation loss is: Bhadla(PG): 216MW, Bhadla2(PG): 297MW, Fatehgarh2(PG):1115MW, Adani Solar park: 648MW & Bikaner(PG): 1213MW.<br>4. Within around. 3min, approx. 2300MW solar generation recovered.<br>5. Further after 5secs of fault, over voltage occurred due to significant generation drop and 765 KV Bhadla_2 (PG)-Fatehgarh_II(PG) (PFTL) Ckt-1 tripped on over voltage protection operation at Bhadla2 end. | 1) 765 KV Bhadla_2 (PG)-Fatehgarh_II(PG) (PFTL) Ckt-1<br>2) 400 KV Avaada Pooling SL_BKN_PG (AEPL)-Bikaner(PG) (AEPL) Ckt-1<br>3) 400 KV Bikaner(PG)-Bikaner(RS) (PG) Ckt-1 |
| 7 | GD-1 | UTTRAKHAND | 12-Jul-2022 19:57 | 12-Jul-2022 20:33 | 0:36 | 0 | 680 | 0.000 | 0.986 | 53334 | 68943 | 1. 400/220/132kV Kashipur have 2*315 400/220kV and 2*160MVA 220/132kV ICTs. In antecedent condition, 400/220kV 315MVA ICT-1&2 were carrying 240MW each.<br>2. At 19:56:35 hrs, 220 KV Pantnagar(UK)-Bareilly(UP) (UP) Ckt-1 tripped on R-N phase to earth fault. As reported, fault distance was 2.15km & 63.15km from Pantnagar & Bareilly end respectively and fault current was 6kA & 2.65kA from Pantnagar & Bareilly end respectively. As per PMU, R-N phase to earth fault with delayed clearance in 400ms is observed.<br>3. With the tripping of 220 KV Pantnagar(UK)-Bareilly(UP) (UP) Ckt-1, loading of 400/220kV 315MVA ICT-1&2 at Kashipur(UK) rose to 283MW each and further after 1min, both the ICTs tripped on Over current protection operation.<br>4. At the same time, 132 KV Pithoragarh(PG)-Almora(PTCUL) (PTCUL) Ckt-1 also tripped on over current protection operation. As per SCADA, its loading loading also increased from 65MW to 92MW.<br>5. Due to tripping of aforementioned elements, load loss of approx. 680MW is observed in Uttarakhand control area.<br>6. As per SCADA SOE, Bus coupler breaker at Dhauliganga HEP also opened during the event. | 1) 220 KV Pantnagar(UK)-Bareilly(UP) (UP) Ckt-1<br>2) 132 KV Pithoragarh(PG)-Almora(PTCUL) (PTCUL) Ckt-1<br>3) 400/220 kV 315 MVA ICT 1 at Kashipur(UK)<br>4)400/220 kV 315 MVA ICT 2 at Kashipur(UK) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 8 | GD-1 | J & K | 13-Jul-2022 02:45 | 13-Jul-2022 04:47 | 2:02 | 710 | 315 | 1.455 | 0.470 | 48801 | 66990 | 1. 400/220kV Kishenpur(PG) have double main transfer bus scheme at 220kV level.<br>2. During antecedent condition, 400/220kV 315MVA ICT-1 & ICT-3 & 220kV lines to Salal-1&3, Ramban, Sarna-1, Barn-1, Udhampur-1 were connected to 220kV Bus-1 and 400/220kV 315MVA ICT-2 & 220kV lines to Salal-2&4, Sarna-2, Udhampur-2, Barn-2 were connected to 220kV Bus-2. Salal generation was approx. 710MW and each 220kV line from Salal to Kishenpur was carrying ~115MW.<br>3. As reported, at 02:43hrs, Y-ph jumper of 220kV Kishenpur-Sarna ckt-2 snapped at Kishenpur switchyard and touched B-ph of the line followed by 220kV bus-1 at Kishenpur. Thus, created Y-ph bus fault. As per PMU at Kishenpur, Y-B phase to phase fault which cleared within 80ms is observed.<br>4. On this bus fault, bus bar protection of 220kV Bus-1 at Kishenpur operated and all the elements connected to 220kV bus-1 tripped.<br>5. At the same time, 400/220kV 315MVA ICT-2 at Kishenpur(PG) also tripped on over current protection operation followed by tripping of all six units (115MW each) of Salal(NHPC) due to loss of evacuation path. Due to aforementioned tripping, 220kV bus-2 also became dead.<br>6. As per SCADA, change in generation of approx. 715MW at Salal HEP and change in load of approx. 315MW is observed in J&K control area observed. | 1) 220 KV Kishenpur(PG)-Salal(NH) (PG) Ckt-1<br>2) 220 KV Kishenpur(PG)-Barn(JK) (PDD JK) Ckt-1<br>3) 220 KV Kishenpur(PG)-Sarna(PS) (PG) Ckt-1<br>4) 220 KV Kishenpur(PG)-Barn(JK) (PDD JK) Ckt-2<br>5) 220 KV Kishenpur(PG)-Ramban(PDD) (PDD) Ckt-1<br>6) 220 KV Kishenpur(PG)-Salal(NH) (PG) Ckt-4<br>7) 220 KV Kishenpur(PG)-Udhampur(PDD) (PG) Ckt-2<br>8) 400/220 kV 315 MVA ICT 1 at Kishenpur(PG)<br>9) 400/220 kV 315 MVA ICT 3 at Kishenpur(PG)<br>10) 220 KV Kishenpur(PG)-Salal(NH) (PG) Ckt-2<br>11) 220 KV Kishenpur(PG)-Salal(NH) (PG) Ckt-3<br>12) 400/220 kV 315 MVA ICT 2 at Kishenpur(PG)<br>13) 220KV Bus 2 at Kishenpur(PG)<br>14) 220 KV Kishenpur(PG)-Sarna(PS) (PG) Ckt-2<br>15) 220KV Bus 1 at Kishenpur(PG)<br>16)220 KV Kishenpur(PG)-Udhampur(PDD) (PG) Ckt-1<br>17) 220 KV Sarna(PS)-Udhampur(PDD) (PDD) Ckt-1 |
| 9 | GD-1 | UTTAR PRADESH | 14-Jul-2022 19:11 | 14-Jul-2022 20:39 | 1:28 | 0 | 110 | 0.000 | 0.195 | 49800 | 56508 | 1. 220/132kV Raebareilly(PG) have double main transfer bus scheme.<br>2. As reported, at 19:11hrs, CB of 132kV Raebareilly-Gauriganj ckt blasted at Raebareilly end and created bus fault on 132kV bus at Raebareilly (owned by UP).<br>3. Fault was not cleared by bus bar protection of 132kV Raebareilly and later fault cleared with the tripping of 220/132 kV 100 MVA ICT 1 & 220/132 kV 200 MVA ICT 2 & ICT 3 at Raebareilly(PG) from HV side on over current protection operation.<br>4. As per PMU, R-Y-B three phase fault with delayed clearance in 1320ms is observed.<br>5. Due to tripping of 220/132kV ICTs load connected at 132kV level affected. As per SCADA, load loss of approx. 110MW occurred in UP control area.<br>6. In antecedent condition, 220/132 kV 100 MVA ICT 1 & 220/132 kV 200 MVA ICT 2 & ICT 3 at Raebareilly(PG) were carrying 22MW, 43MW & 44MW respectively. | 1) 220/132 kV 100 MVA ICT 1 at Raebareilly(PG)<br>2) 220/132 kV 200 MVA ICT 2 at Raebareilly(PG)<br>3) 220/132 kV 200 MVA ICT 3 at Raebareilly(PG) |
| 10 | GD-1 | RAJASTHAN | 16-Jul-2022 12:11 | 16-Jul-2022 13:42 | 1:31 | 720 | 0 | 1.276 | 0.000 | 56410 | 65330 | 1. 400/33kV Avaada Pooling station is connected at 765/400/220kV Biknaer(PG) with 400kV Avaada Pooling station-Bikaner ckt.<br>2. At 12:11hrs, 400kV Avaada Pooling station-Bikaner ckt tripped on over voltage stage-2 protection operation at Avaada end. As per PMU at Avaada end, over voltage up to 1.35pu is observed however, as per DR of Avaada end of the line, voltage was approx. ~1.4pu for more than 100ms.<br>3. With the tripping of 400kV Avaada Pooling station-Bikaner ckt, whole generation of Avaada RE stations approx. 720MW tripped due to loss of evacuation path. PMU plot of active power of Avaada RE station is attached. | 1) 400 KV Avaada Pooling SL_BKN_PG (AEPL)-Bikaner(PG) (AEPL) Ckt-1<br>2) 400/33 kV 150 MVA ICT 5 at Avaada Pooling SL_BKN_PG (AEPL)<br>3) 400/33 kV 150 MVA ICT 1 at Avaada Pooling SL_BKN_PG (AEPL)<br>4) 400/33 kV 150 MVA ICT 6 at Avaada Pooling SL_BKN_PG (AEPL)<br>5) 400/33 kV 150 MVA ICT 2 at Avaada Pooling SL_BKN_PG (AEPL)<br>6) 400/33 kV 150 MVA ICT 7 at Avaada Pooling SL_BKN_PG (AEPL)<br>7) 400/33 kV 150 MVA ICT 3 at Avaada Pooling SL_BKN_PG (AEPL)<br>8) 400/33 kV 150 MVA ICT 4 at Avaada Pooling SL_BKN_PG (AEPL) |
| 11 | GD-1 | J & K | 17-Jul-2022 14:05 | 17-Jul-2022 14:43 | 0:38 | 0 | 170 | 0.000 | 0.301 | 49800 | 56508 | 1. In antecedent condition, 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1 & Ckt-2 were carrying approx. 111MW each.<br>2. As reported, at 14:05hrs, 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1 & Ckt-2 both tripped from Pampore end only on over current protection operation.<br>3. As per PMU at New Wanpoh(PG), R-N phase to earth fault with delayed clearance in 440ms is observed.<br>4. Due to tripping of both the line, load loss of approx. 170MW occurred in J&K control area (as per SCADA). | 1) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-1<br>2) 220 KV Wagoora(PG)-Pampore(PDD) (PG) Ckt-2 |
| 12 | GD-1 | UTTRAKHAND | 17-Jul-2022 20:27 | 17-Jul-2022 21:47 | 1:20 | 0 | 55 | 0.000 | 0.088 | 50161 | 62793 | 1. 220/132kV Sitarganj(PG) substation feeds load of Uttarakhand through 132kV feeders. It is having three 220/132kV 100MVA ICTs.<br>2. As reported, at 20:27hrs, one snake climbed on R-phase main bus isolator of 132kV Kichha line at Sitarganj. It caused R-ph bus fault at 132kV Sitarganj. As per PMU at CB Ganj(UP), R-N phase to earth fault with delayed clearance in 1080ms is observed.<br>3. On this bus fault, three 132kV feeders to Sitarganj(PTCUL), three 220/132kV 100MVA ICTs at Sitarganj(PG) tripped and 132kV Sitarganj(PG) became dead. At the same time, 220 KV Tanakpur(NH)-Sitarganj(PG) (PG) Ckt-1 tripped on Z-3 distance protection operation.<br>4. As per SCADA, load loss of approx. 55MW occurred in Uttarakhand control area. | 1) 132 KV Pilibhit(UP)-Sitarganj(PTCUL) (PTCUL) Ckt-1<br>2) 220/132 kV 100 MVA ICT 3 at Sitarganj(PG)<br>3) 220/132 kV 100 MVA ICT 2 at Sitarganj(PG)<br>4) 220/132 kV 100 MVA ICT 1 at Sitarganj(PG)<br>5) 132 KV Sitarganj(PG)-Sitarganj(PTCUL) (PTCUL) Ckt-2<br>6) 132 KV Sitarganj(PG)-Sitarganj(PTCUL) (PTCUL) Ckt-3<br>7) 132 KV Sitarganj(PG)-Sitarganj(SIDCUL) (PTCUL) Ckt-1<br>8) 220 KV Tanakpur(NH)-Sitarganj(PG) (PG) Ckt-1 |
| 13 | GI-2 | HARYANA | 19-Jul-2022 08:09 | 19-Jul-2022 09:33 | 1:24 | 0 | 0 | 0.000 | 0.000 | 62345 | 62345 | 1. As reported, at 08:09hrs, 800 KV HVDC Kurukshetra(PG) Pole-03 & Pole-4 tripped due to filter power limit.<br>2. As per PMU at Kurukshetra(PG), no fault is observed and fluctuation in voltage is observed.<br>3. In antecedent condition, 800 KV HVDC Kurukshetra(PG) Bipole 1 & 2 total carrying approx. 4000MW. Due to tripping of 800 KV HVDC Kurukshetra(PG) Pole-03 & Pole-4, power order reduced to 3000MW from 4000MW. | 1) 800 KV HVDC Kurukshetra(PG) Pole-03<br>2) 800 KV HVDC Kurukshetra(PG) Pole-04 |
| 14 | GI-2 | PUNJAB | 21-Jul-2022 08:30 | 21-Jul-2022 12:49 | 4:19 | 0 | 0 | 0.000 | 0.000 | 45924 | 46400 | 1. 220kV Moga(PG) have double main transfer bus scheme.<br>2. In antecedent condition, 400/220kV 250MVA ICT-2, 400/220kV 500MVA ICT-3 and 220kV feeders to Mogan-2 & 4, Ajitwal, Badni Kalan, Mehal Kalan-1 were connected to 220kV Bus-2 and 400/220kV 500MVA ICT-1, 400/220kV 315MVA ICT-4 and 220kV feeders to Mogan-1 & 3, Mehal Kalan-2 were connected to 220kV Bus-1.<br>3. As reported, at 08:30hrs, R-ph jumper connecting CT & wave trap of 220 KV Moga(PG)-MEHAL- KALAN(PS) (PSTCL) Ckt-1 broken which created R-ph bus fault on 220kV Bus-2.<br>4. On this fault, bus bar protection of 220kV Bus-2 at Moga operated which led to tripping of all the elements connected to 220kV bus-2. All the elements connected to 220kV Bus-1 remained intact. As per PMU at Jalandhar(PG), R phase to earth fault which cleared within 80ms is observed.<br>5. As per SCADA, no load loss in Punjab control area observed. | 1) 220KV Bus 2 at Moga(PG)<br>2) 220 KV Moga(PG)-MEHAL- KALAN(PS) (PSTCL) Ckt-1<br>3) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-2<br>4) 220 KV Moga(PG)-BADNI KALAN(PS) (PSTCL) Ckt-1<br>5) 400/220 kV 250 MVA ICT 2 at Moga(PG)<br>6) 400/220 kV 500 MVA ICT 3 at Moga(PG)<br>7) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-4<br>8) 220 KV Moga(PG)-Ajitwal(PS) (PSTCL) Ckt-1 |

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| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 15 | GI-2 | UTTAR PRADESH | 22-Jul-2022 15:15 | 22-Jul-2022 16:27 | 1:12 | 0 | 0 | 0.000 | 0.000 | 48817 | 56668 | 1. As reported, at 15:15hrs, 765 KV Agra-Fatehpur (PG) Ckt-1 & 400 KV Singrauli(NT)-Fatehpur(PG) (PG) Ckt-1 both tripped due to DC source unbalance at Fatehgarh(PG). 765 KV Agra-Fatehpur (PG) Ckt-1 tripped from Agra end only.<br>2. As per PMU, no fault is observed.<br>3. In antecedent condition, 765 KV Agra-Fatehpur (PG) Ckt-1 & 400 KV Singrauli(NT)-Fatehpur(PG) (PG) Ckt-1 were carrying 136MW & 225MW respectively. | 1) 765 KV Agra-Fatehpur (PG) Ckt-1<br>2) 400 KV Singrauli(NT)-Fatehpur(PG) (PG) Ckt-1 |
| 16 | GD-1 | J & K | 24-Jul-2022 10:30 | 24-Jul-2022 11:20 | 0:50 | 0 | 315 | 0.000 | 0.566 | 50230 | 55643 | 1. As reported, at 10:30hrs, PT of 132kV Bus at Gladni switchyard burst.<br>2. This fault didn't clear from 132kV Gladni(jammu) end and hence 220 KV Samba(PG)-Jammu(PDD) (PG) Ckt-1 tripped from Sambha end in Z-3.<br>3. As per PMU at Kishenpur(PG), R-N & B-N fault is observed in system which cleared with delay of approx. 1480ms.<br>4. At the same time, 220 KV Salal(NH)-Jammu(PDD) (PG) Ckt-1 & Ckt-2 both tripped from Gladni(Jammu) end only.<br>5. Due to tripping of aforementioned three lines to Gladini(Jammu), load loss occurred at Gladini(Jammu). As per SCADA, load loss of approx. 315MW is observed in J&K(UT) control area which recovered after approx. 50min. | 1) 220 KV Samba(PG)-Jammu(PDD) (PG) Ckt-1<br>2) 220 KV Salal(NH)-Jammu(PDD) (PG) Ckt-1<br>3) 220KV Salal(NH)-Jammu(PDD) (PG) Ckt-2 |
| 17 | GD-1 | RAJASTHAN | 25-Jul-2022 11:41 | 25-Jul-2022 13:12 | | 420 | 0 | 0.781 | 0.000 | 53778 | 59370 | 1. 400/220kV RAPP C&D(NP) substation have one and half breaker scheme at 400kV side. During antecedent condition, Main CB of 220 MW RAPS-C - UNIT 1 & UNIT 2 and Tie CB of 400 KV RAPS_D(NP)-Kota(PG) (PG) Ckt-2 & 400 KV RAPS_D(NP)-Jaipur South(PG) (PG) Ckt-1 were in open condition.<br>2. As reported, at 11:41hrs, Y-B phase to phase fault occurred on 400 KV RAPS_D(NP)-Kota(PG) (PG) Ckt-2 & 400 KV RAPS_D(NP)-Jaipur South(PG) (PG) Ckt-1 at distance of approx. 10.37km from RAPP C&D end. Fault occurred on both lines as both lines are on same tower. As per PMU, Y-B phase to phase fault which cleared within 80ms is observed.<br>3. At the same time, 220 MW RAPS-C - UNIT 1 & UNIT 2 also tripped.<br>4. As per SCADA, loss of generation of approx. 420MW occurred at RAPP C (NP).<br>5. In antecedent condition, 400 KV RAPS_D(NP)-Kota(PG) (PG) Ckt-2 & 400 KV RAPS_D(NP)-Jaipur South(PG) (PG) Ckt-1 were carrying 85MW & 107MW respectively. | 1) 400 KV RAPS_D(NP)-Kota(PG) (PG) Ckt-2<br>2) 220 MW RAPS-C - UNIT 2<br>3) 220 MW RAPS-C - UNIT 1<br>4) 400 KV RAPS_D(NP)-Jaipur South(PG) (PG) Ckt-1 |
| 18 | GI-2 | UTTAR PRADESH | 25-Jul-2022 12:31 | 25-Jul-2022 14:31 | | 0 | 0 | 0.000 | 0.000 | 53126 | 59167 | 1. 765/400kV Anpara_C(UP) have one and half breaker bus scheme.<br>2. As reported, at 12:31hrs, B-N phase to earth fault occurred on 765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt-1 at distance 24.18km (Z-1) from Anpara_C end, fault current was 10.55kA from Anpara_C end.<br>3. On this fault, Main CB at Anpara_C opened but Tie CB didn't open. As Tie CB didn't open, LBB of Tie CB operated which initiated tripping command to Main CB of 765/400 kV 1000 MVA ICT 1 at Anpara_C(LAN) which was connected at same dia. Hence, 765/400 kV 1000 MVA ICT 1 at Anpara_C(LAN) also tripped.<br>4. In antecedent condition, 765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt-1 & 765/400 kV 1000 MVA ICT 1 at Anpara_C(LAN) were carrying 1091MW & 252MW respectively. | 1) 765/400 kV 1000 MVA ICT 1 at Anpara_C(LAN)<br>2) 765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt-1 |
| 19 | GD-1 | J & K | 29-Jul-2022 11:19 | 29-Jul-2022 12:17 | | 0 | 340 | 0.000 | 0.597 | 54502 | 56960 | 1. In antecedent condition, 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1 & 2 were carrying ~128MW each.<br>2. As reported, at 11:18hrs, Y-N phase to earth fault occurred on 220 KV Ziankote(JK)-Alusteng(PG) (PG) Ckt-2 at distance approx. 0.9km (Z-1) from Ziankote end.<br>3. As per the information received, bus bar protection operated at 220kV Ziankote end on same fault and 220 KV Ziankote(JK)-Alusteng(PG) (PG) Ckt-1 & 2 and 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1 & 2 tripped.<br>4. As per PMU, Y-N phase to earth fault which cleared within 80ms is observed.<br>5. As per DR of Main-2 relay of 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1 & 2 of Amargarh end, fault distance was 23.1km (100%, Z-2) from Amargarh end and Z-2 operated instantaneously.<br>6. As per SCADA, load loss of approx. 340MW is observed in J&K control area. | 1) 220 KV Ziankote(JK)-Alusteng(PG) (PG) Ckt-1<br>2) 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) Ckt-2<br>3) 220 KV Amargarh(INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1<br>4) 220 KV Ziankote(JK)-Alusteng(PG) (PG) Ckt-2 |
| 20 | GD-1 | PUNJAB | 30-Jul-2022 11:50 | 30-Jul-2022 14:20 | | 0 | 130 | 0.000 | 0.240 | 52573 | 54092 | 1. As reported, at 11:50hrs, R-phase conductor of 220kV Mogan-Bajakhanna(PS) ckt snapped at Mogan end. On this fault, bus bar protection operated at Mogan(PSTCL) end.<br>2. Due to bus bar protection operation, all 220kV lines connected at Mogan(PSTCL) tripped. Line tripped due to bus bar protection operation are 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-1,2,3 & 4, 220kV Mogan-Baghapurana(PS) ckt-1 & 2, 220kV Mogan-Ferozpur(PS) ckt, 220kV Mogan-Bajakhanna(PS) ckt and 132kV Mogan-Dhale (PS) ckt.<br>3. As per PMU, R-N phase to earth fault with the delayed clearance of 720ms is observed.<br>4. As per SCADA, change in load of approx. 130MW is observed in Punjab control area.<br>5. 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-1,2,3 & 4 were restored at 14:20hrs. | 1) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-2<br>2) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-3<br>3) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-4<br>4) 220 KV Moga(PG)-MOGAN(PS) (PSTCL) Ckt-1<br>5) 220kV Mogan-Baghapurana(PS) ckt-1<br>6) 220kV Mogan-Baghapurana(PS) ckt-2<br>7) 220kV Mogan-Bajakhanna(PS) ckt<br>8) 220kV Mogan-Ferozpur(PS) ckt<br>9) 132kV Mogan-Dhale (PS) ckt |
| 21 | GD-1 | HARYANA | 31-Jul-2022 04:42 | 31-Jul-2022 07:11 | | 0 | 75 | 0.000 | 0.151 | 40983 | 49547 | 1. As reported, at 04:41hrs, R-N phase to earth fault occurred on 220 KV Bhiwani-Hissar (BB) Ckt-2 at Bhiwani(BB) end.<br>2. As per telephonic communication with Bhiwani(BBMB), bus bar protection operated at Bhiwani end on this fault. 2. Due to bus bar protection operation, all the 220kV feeders connected to 220kV side and 400/220kV 500MVA ICT at Bhiwani(BB) tripped.<br>3. As per PMU, Y-N phase to earth fault within 80ms is observed.<br>4. As per SCADA, change in load of approx. 75MW is observed in Haryana control area. | 1) 220 KV Bhiwani(HV)-Bhiwani(BB) (HVPNL) Ckt-1<br>2) 220 KV Bhiwani(HV)-Bhiwani(BB) (HVPNL) Ckt-2<br>3) 220 KV Bhiwani-Hissar (BB) Ckt-2<br>4) 220 KV Bhiwani-Charkhi Dadri (BB) Ckt-2<br>5) 220 KV Bhiwani-Charkhi Dadri (BB) Ckt-4<br>6) 220 KV Bhiwani-Charkhi Dadri (BB) Ckt-3<br>7)220 KV Bhiwani-Hissar (BB) Ckt-1<br>8) 220 KV Bhiwani-Charkhi Dadri (BB) Ckt-1<br>9) 400/220 kV 500 MVA ICT 1 at Bhiwani(BB) |

# Details of Grid Events during the Month of July 2022 in Western Region

| Sl No. | Category of Grid Event | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid* | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ( GI 1or 2/ GD-1 to GD-5) | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 1 | GD-1 | WR | 08-Jul-22 04:59 | 08-Jul-22 07:07 | 2:08 | - | 86 | - | 0.002 | 54209 | 45552 | At 04:59 Hrs/08-07-2022, 220 kV Vagchipa Sayali tripped at on Y-B phase fault. Due to delayed clearance of fault,220 kV Sayali- Khadoli tripped on Zone 3 Distance protection operation at Khadoli end. As reported by DNH, load loss of around 86 MW occurred. | Tripping of<br>1. 220 kV Vagchipa- Sayali<br>2. 220 kV Sayali- Khadoli |
| 2 | GI-2 | WR | 10-Jul-22 20:53 | 11-Jul-22 00:10 | 3:17 | - | - | - | - | 54720 | 44025 | At 20.53 Hrs/10-07-2022,400 kV Jetpur Bus 2 and all connected elements tripped on Bus bar protection operation (R-B phase fault) due to lightning strike near the feeder bay of 400/220 kV ICT-2 (HV side). 400 kV Jetpur Bus 1 was under shutdown from 10:50 Hrs/08-07-2022 for broken insulator string replacement work. As reported by SLDC Gujarat, there was no load loss due to the event. | Tripping of<br>1. 400 kV Jetpur- CGPL 1&2<br>2. 400 kV Jetpur- Amreli 1&2<br>3. 400/220 kV Jetpur ICTs 1,2,3&4 |
| 3 | GI-1 | WR | 11-Jul-22 18:16 | 11-Jul-22 19:32 | 1:16 | 940 | - | 0.018 | - | 52673 | 45878 | At 18:16 Hrs/11.07.2022, TAPS Stg II Unit 1&2 (540 MW each) tripped due to loss of auxiliary supply.220 kV TAPS 3&4- TAPS 1&2 interconnector and 220KV TAPS 3&4- Boisar(PG) tripped on Backup protection operation at TAPS 3&4 end and resulted in loss of auxillary supply of TAPS Stage II Units. At the same time 220 kV Boisar PG-Boisar MH-3 along with 400/220 kV ICT-4 at Boisar PG also tripped. 400/220 kV Boisar ICT 4 tripped on Backup impedance protection operation. As reported by SLDC Maharashtra, line jumper has fallen on 220 kV Boisar(PG)-Boisar(MH) 3 near Boisar(MH) end. Generation loss of 940 MW occurred due to the event. 220 kV Boisar(PG)-Nalasopara tripped at Nalasopara end only. | Tripping of<br>1. 220 kV TAPS 1&2- TAPS 3&4<br>2. 220 kV Boisar(PG)- TAPS 3&4<br>3. 540 MW TAPS Stage II Units 1&2<br>4. 220 kV Boisar- Viraj<br>5. 220 kV Dahanu- Viraj<br>6. 220 kV Boisar(PG)- Nalasopara<br>7. 400/220 kV Boisar(PG) ICT 4<br>8. 220 kV Boisar(PG)- Boisar(MH) 3 |
| 4 | GI-1 | WR | 12-Jul-22 10:14 | 12-Jul-22 10:55 | 0:41 | 150 | - | 0.003 | - | 52673 | 47668 | At 10:14 Hrs/12-07-2022, 220/33 kV Gadhsisa ICT-2 tripped on overcurrent protection operation (LV side). Since 20:52 Hrs/07-07-2022, 220/33 kV Gadhsisa ICT-1 was already under forced outage due to differential protection operation. Generation loss of 150 MW occurred during the event due to loss of evacuation path at Gadhsisa(Renew Power) wind power station. | Tripping of<br>1. 220/33KV Gadhsisa ICT 2 |
| 5 | GD-1 | WR | 12-Jul-22 14:43 | Not restored yet | - | 200 | - | 0.004 | - | 51265 | 45595 | At 14:43 Hrs/12-07-2022, 220 kV Bhuj- Dayapar 2 tripped on R-E fault due to tower collapse (Tower No:34, 8.13 km from Bhuj end). This tripping resulted in generation loss of around 200 MW at Dayapar(INOX) Wind power station. | Tripping of<br>1. 220 kV Bhuj- Dayapar 2 |
| 6 | GD-1 | WR | 13-Jul-22 09:49 | 15-Jul-22 15:31 | 5:42 | 117 | - | 0.002 | - | 51695 | 46809 | At 09:49 Hrs/13-07-2022, 220 kV Bhuj- Gadhsisa tripped on B-E fault and resulted in generation loss of 117 MW at Gadhsisa(Renew Power) wind power station. As reported by Renew Power, fault was found at Tower no: 206 and insulator replacement was done. While test charging at 20:31 Hrs/14-07-2022, line again tripped on B-E fault at Tower no: 225. The issue was attended and line charged at 15:31 Hrs/15-07-2022. | Tripping of<br>1. 220 kV Bhuj- Gadhsisa |
| 7 | GI-2 | WR | 15-Jul-22 20:49 | 15-Jul-22 21:42 | 0:53 | - | - | - | - | 56482 | 46523 | At 20:49 Hrs/15-07-2022, 400 kV Karad Bus 2 and all the connected elements tripped on Bus bar protection operation due to Y phase isolator broken at 400 kV Kolhapur(MH) bay. There was no load loss due to the event. | Tripping of<br>1. 400 kV Karad Bus 2<br>2. 400 kV Karad- Kolhapur 1<br>3. 400 kV Karad- Jaigad 2<br>4. 400 kV Karad- New Koyna 2<br>5. 400/220 kV Karad ICT 2 |
| 8 | GD-1 | WR | 16-Jul-22 04:46 | 16-Jul-22 06:39 | 1:53 | - | 442 | - | 0.010 | 51273 | 42348 | At 04:46 Hrs/16-07-2022, 400 kV Jhanor – Hazira 1&2 tripped on overvoltage & led to blackout of 400 kV Hazira substation. As reported by AMNSIL, load loss of around 442 MW occured due to tripping of both incoming breakers at MRSS2 end on E/F protection operation (due to unbalance in current). These tripping resulted into load throw off & High voltage & tripping of 400 KV Gandhar- Hazira 1&2 on Over Voltage Stage I protection operation. | Tripping of<br>1. 400 kV Jhanor- Hazira 1&2<br>2. 400/220 kV Hazira ICTs 1&2 |
| 9 | GI-1 | WR | 23-Jul-22 23:38 | 24-Jul-22 00:19 | 0:41 | 230 | - | 0.004 | - | 54023 | 44795 | At 23:38 Hrs/23-07-2022, 220/33 kV Nanavalka (Alfanar) ICT 2 tripped on Buchholz protection operation. After the tripping of ICT 2, 220/33 kV Nanavalka (Alfanar) ICT 1 tripped on Over current protection operation. 220/33 kV Nanavalka (Alfanar) ICT 1 charged at 00:19 Hrs/24-07-2022. As informed by Alfanar, ICT 2 tripping was due to Nitrogen Injection Fire Protection System (NIFPS) drain Valve failure and the same was replaced. There was a generation loss of 230 MW at Nanavalka (Alfanar) Wind power station. | Tripping of<br>1. 220/33 kV Nanavalka (Alfanar) ICTs 1&2 |
| 10 | GI-2 | WR | 28-Jul-22 03:39 | 28-Jul-22 04:09 | 0:30 | - | - | - | - | 48956 | 44494 | At 03:39 Hrs/28-07-2022, 400 kV Nagothane Bus 2 and all connected elements tripped on Bus bar protection operation due to blasting of R phase bushing of 167 MVA spare ICT. There was no load loss due to the event. | Tripping of<br>1. 400 kV Nagothane Bus 2<br>2. 400 kV Nagothane- Padghe 2<br>3. 400 kV Nagothane- RGPPL 1<br>4. 400/220 kV Nagothane ICTs 1&2 |
| 11 | GD-1 | WR | 29-Jul-22 06:41 | 29-Jul-22 09:19 | 2:38 | - | - | - | - | 53947 | 50130 | At 06:41 Hrs/29-07-2022, 220 kV SSP CHPH- SSP 2 tripped along with 220 kV SSP CHPH Bus 1 while synchronising SSP Unit 1. Prior to the event, 220 kV SSP CHPH- SSP 1 tripped along with 220 kV SSP CHPH Bus 1 at 06:17 Hrs while synchronising SSP Unit 1. As reported by NCA, there was no generation at the time of event & 220 kV SSP CHPH Unit 1 tripped on Differential protection operation and 220 kV SSP CHPH Buses 1&2 tripped on LBB protection operation respectively. With these tripping, 220 kV SSP CHPH station went blackout. | Tripping of<br>1. 220 kV SSP CHPH Buses 1&2<br>2. 220 kV SSP CHPH- SSP 1&2<br>3. 50 MW SSP CHPH Unit 1 |

# Details of Grid Events during the Month of July 2022 in Southern Region

| Sl No. | Category of Grid Event | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Name of Elements (Tripped/Manually opened) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ( GI 1or 2/ GD-1 to GD-5) | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 1 | GD-1 | Karnataka | 05-Jul-22 04:48 | 05-Jul-22 20:04 | 15 hrs 16 mins | 0 | 40 | 0.00% | 0.11% | 37700 | 35010 | Complete Outage of 220kV/110kV Narendra SS of KPTCL: During antecedent conditions, all elements were connected to 220kV Bus-2 at 220kV/110kV Narendra SS. As per the reports submitted, the triggering incident was Y-phase PT failure of 220kV Bus-2 at Narendra SS. Immediately, BBP operated and all the elements connected to the Bus got tripped. This resulted in the complete outage of 220kV/110kV Narendra SS. | 1. 220kV Ambewadi Narendra Line-1&2<br>2. 220kV Narendra Hubli Line-1&2<br>3. 220kV Narendra Kanabargi Line-1&2<br>4. 220kV Narendra Bidanal<br>5. 220kV Narendra Haveri<br>6. 220kV/110kV/11kV 100MVA Transformer-1&2 at Narendra SS |
| 2 | GD-1 | Tamil Nadu | 14-Jul-22 12:04 | 14-Jul-22 12:37 | 33 mins | 0 | 210 | 0.00% | 0.55% | 44982 | 37893 | Complete Outage of 220kV/110kV Siruseri SS of TANTRANSCO: As per the reports submitted, the triggering incident was Y-phase 230kV Bus fault caused due to Y-phase conductor snapping of 230kV Sholinganallur line and falling on 230kV Bus. Immediately, BBP operated and all the elements connected to the bus tripped. Since 230kV/110kV Siruseri was operating with single bus configuration, this resulted in the complete outage of 230kV110kV Siruseri SS. | 1. 230kV Siruseri Bhavini-1&2<br>2. 230kV Siruseri Sholinganallur<br>3. 230kV Siruseri Kalivinthapattu<br>4. 230kV/110kV Auto Transformer-1&2 at Siruseri SS |
| 3 | GD-1 | Karnataka | 14-Jul-22 09:30 | 14-Jul-22 10:00 | 30 mins | 298 | 0 | 0.69% | 0.00% | 42919 | 39468 | Complete Outage of 220kV/33kV KSPDCL SS-1&2: As per the reports submitted, the triggering incident was R-phase isolator arcing in 220kV Pavagada KSPDCL Line-2 and B-phase isolator arcing in 220kV Pavagada KSPDCL Line-1 at Pavagada end. Immediately, both lines were hand tripped on emergency. Since 220kV/33kV KSPDCL SS-1&2 are radially connected to 400kV/220kV Pavagada SS, this resulted in complete outage of 220kV/33kV KSPDCL SS-1&2. | 1. 220kV Pavagada KSPDCL Line-1&2 |
| 4 | GD-1 | Karnataka | 16-Jul-22 12:42 | 16-Jul-22 12:48 | 6 mins | 589 | 158 | 1.26% | 0.37% | 46619 | 42674 | Complete Outage of 220kV/110kV Lingasugur SS, 220kV/110kV Bagewadi SS, & 220kV/110kV Mallat SS of KPTCL and Multiple Tripping at 220kV/110kV Sedam SS, 220kV/110kV Kushtagi SS, 220kV/110kV Humnabad SS, & 220kV/110kV Sindhanoor SS of KPTCL and 400kV/220kV RTPS of KPCL : During antecedent conditions, due to outage of 220kV Bagewadi Almatti lines and 220kV Bagewadi Nandhinal SWS lines, 220kV/110kV Bagewadi was radially connected to 220kV/110kV Lingasugur SS and due to Bus split operation at 220kV Kushtagi, 220kV Kushtagi Bus-2 was radially connected to 220kV/110kV Lingasugur SS. As per the information received, the triggering incident was tripping of 220kV Mallat RTPS line at Mallat end . 220kV Lingasugur RTPS line-1, and 2 at RTPS end due to suspected maloperation of Main-2 Zone-4 protection during Bus PT testing works at RTPS end. Due to tripping of these lines, there was complete loss of supply at 220kV/110kV Lingasugur SS, 220kV/110kV Bagewadi SS, & 220kV/110kV Mallat SS of KPTCL and multiple tripping at 220kV/110kV Sedam SS, 220kV/110kV Kushtagi SS, 220kV/110kV Humnabad SS, & 220kV/110kV Sindhanoor SS of KPTCL and 400kV/220kV RTPS of KPCL. | 1. 220kV Lingasugur RTPS line-1&2<br>2.220kV Mallat RTPS line<br>3. 220kV Lingasugur Sindhanoor line<br>4. 220kV Lingasugur Shahpur line |
| 5 | GD-1 | Puducherry | 27-Jul-22 05:55 | 27-Jul-22 07:20 | 1hr 25mins | 0 | 333 | 0.00% | 0.93% | 31749 | 35707 | Complete Outage of 230kV/110kV Thondamanatham SS, 230kV/110kV Bahour SS, and 230kV/110kV Villianur SS of Puducherry: During antecedent conditions, due to outage of 230kV Villianur NLCTS-2 line, 230kV/110kV Villianur SS is radially fed from 400kV/230kV Pondy SS. As per the reports/DRs furnished, it is suspected that the triggering incident was B-N fault in 230kV Pondy Thondamanatham line-1. Fault was cleared by tripping of 230kV Pondy Thondamanatham line-1 on DEF protection (Fault clearance time-950ms) at Pondy end and Zone-1 at Thondamanatham end . Due to non-operation of distance protection at Pondy end, fault was cleared at remote ends on operation of Zone-3 distance protection (Fault clearance time-830ms). 230kV Karaikal Bahour line and 230kV Bahour Pondy line tripped on operation of Zone-3 distance protection at Karaikal end and Bahour end respectively. At the same time, 400kV NNTPP Pondy line tripped on operation of Zone-3 at NNTPP end. It was also reported that 230kV/110kV Villianur Transformer-1 tripped on HV OC protection.230kV Pondy Thondamanatham line-2 was feeding the fault till the opening of 230kV Pondy Thondamanatham line-1 at Thondamanatham end and later tripped on operation of DEF protection at Pondy end due to high current in R and Y phases (Fault clearance time-855ms) as observed from DR. Due to the tripping of these connected lines, there was complete loss of supply at 230kV/110kV Thondamanatham SS, 230kV/110kV Bahour SS, & 230kV/110kV Villianur SS. | 1. 230kV Pondy Thondamanatham line-1, and 2<br>2. 230kV Karaikal Bahour line<br>3. 220kV Bahour Pondy line<br>4. 400kV NNTPP Pondy line |
| 6 | GD-1 | Karnataka | 28-Jul-22 13:59 | 28-Jul-22 14:13 | 14mins | 215 | 0 | 0.52% | 0.00% | 41178 | 44309 | Complete Outage of 220kV/66kV KSPDCL SS-8: As per the reports submitted, 220kV Pavagada KSPDCL SS-8 line and 220kV/66kV 150MVA KSPDCL SS-8 Transfomer-2 tripped on EF protection. Tripping of the only connected line resulted in complete outage of 220kV/66kV KSPDCL SS-8. | 1. 220kV Pavagada KSPDCL SS-8<br>2. 220kV/66kV 150MVA KSPDCL SS-8 Transformer-2<br>3. 66kV feeder-1 and feeder-2 of M/s Fortum Block no-40 |
| 7 | GD-1 | Telangana | 29-Jul-22 18:17 | 29-Jul-22 19:22 | 1hr 5mins | 0 | 0 | 0.00% | 0.00% | 35301 | 39991 | Complete Outage of 220kV/132kV N'Sagar PH of TSGENCO: During antecedent conditions, 220kV Bus-1 was under LC at 220kV/132kV N'Sagar PH. While charging the Bus-1, isolator of 220kV Nsagar Tallapally Line-1 was closed without opening the Earth switch. This resulted in a Bus fault which led to operation of differential protection of 220kV Bus-1 and Bus-2 and all the elements connected to the Buses got tripped. This resulted in complete outage of 220kV/132kV N'Sagar PH. | 1. 220kV Tallapally Nsagar Line-1,2&3<br>2. 220kV/132kV 100MVA PTR-1&2<br>3. 220kV Tallapally Chalakurthy line<br>4. 220kV Tallapally Srisailam RB line |
| 8 | GD-1 | Karnataka | 30-Jul-22 22:07 | 30-Jul-22 23:04 | 57mins | 0 | 250 | 0.00% | 0.63% | 36067 | 39732 | Complete Outage of 220kV/66kV Kolar_Kar SS, 220kV/66kV Malur SS, 220kV/66kV Vikas Tech Park SS, 220kV/66kV Sarjapur SS and 220kV/66kV Exora SS of KPTCL and 220kV Bangarpet Traction Station: During antecedent conditions, since 220kV Somanahally Sarjapur line and 220kV Hoody Malur line were under outage, 220kV/66kV Kolar_Kar SS, 220kV/66kV Malur SS, 220kV/66kV Vikas Tech Park SS, and 220kV/66kV Sarjapur, 220kV/66kV Exora SS were radially fed from 400kV/220kV Kolar_PG. As per the reports submitted, the triggering incident was B-N fault in 220kV Kolar_PG Kolar_KA line-1 &2 and the lines got tripped. This resulted in the complete loss of 220kV/66kV Kolar_Kar SS, 220kV/66kV Malur SS, 220kV/66kV Vikas Tech Park SS, 220kV/66kV Sarjapur SS, 220kV/66kV Exora SS and 220kV Bangarpet Traction Station. | 1. 220kV Kolar_PG Kolar_KA line-1 &2 |
| 9 | GI-1 | Telangana | 13-Jul-22 02:08 | 13-Jul-22 03:24 | 1 hrs 16 mins | 0 | 0 | 0.00% | 0.00% | 36441 | 29804 | Tripping of 220kV Bus-2 at 220kV/132kV N'Sagar PH of TSGENCO: As per the reports submitted, while de-synchronising Unit-8 from 220kV Bus-2 at 220kV/132kV N'Sagar PH of TSGENCO, B-phase limb of the circuit breaker failed to open and this led to LBB operation. Immediately, BBP operated and all the elements connected to 220kV Bus-2 got tripped at 220kV/132kV N'Sagar PH | 1. 220kV Tallapally N'Sagar Line-2&3<br>2. 220kV N'Sagar Chalakurthy<br>3. 220kV/132kV PTR-2 at N'sagar PH<br>4. Unit-4 at N'sagar PH |

## Details of Grid Events during the Month of July 2022 in Southern Region

| Sl No. | Category of Grid Event | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Name of Elements (Tripped/Manually opened) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ( GI 1or 2/ GD-1 to GD-5) | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 10 | GI-1 | Andhra Pradesh | 14-Jul-22 00:35 | 14-Jul-22 01:36 | 1 hrs 1 mins | 0 | 0 | 0.00% | 0.00% | 37379 | 31477 | Tripping of 220kV Bus-2 at 220kV/33kV Lower Sileru PH of APGENCO: As per the reports submitted, while de-paralleling Unit-2 from 220kV Bus 2 at 220kV Lower Sileru PH of APGENCO, R-phase limb of the circuit breaker failed to open and this led to LBB operation. Immediately, BBP operated and all the elements connected to 220kV Bus-2 got tripped at 220kV/33kV Lower Sileru PH. | 1. Unit-2 at Lower Sileru<br>2. 220kV Asupaka LowerSileru-1<br>3. 220kV Lower Sileru BG_Kothur |
| 11 | GI-1 | Telangana | 14-Jul-22 12:47 | 14-Jul-22 13:55 | 1 hrs 8 mins | 0 | 0 | 0.00% | 0.00% | 43337 | 37154 | Tripping of 220kV Bus-2 at 220kV/132kV N'Sagar PH of TSGENCO: As per the reports submitted, the triggering incident was Unit-8 LBB maloperation at 220kV/132kV N'Sagar PH . Immediately, BBP operated and all the elements connected to 220kV Bus-2 got tripped at 220kV/132kV N'Sagar PH. | 1. 220kV Tallapally N'Sagar Line-2&3<br>2. 220kV N'Sagar Chalakurthy<br>3. 220kV/132kV PTR-2 at N'sagar PH |
| 12 | GI-1 | Tamil Nadu | 21-Jul-22 14:46 | 21-Jul-22 14:58 | 12mins | 0 | 0 | 0.00% | 0.00% | 41456 | 44744 | Tripping of 230kV Bus-1 at 400kV/230kV Arasur_PG SS of PGCIL SR-2: As per the reports submitted, the triggering incident was R-phase bus jumper failure in 230kV Bus coupler bay at 400kV/230kV Arasur_PG SS. Immediately, Bus-1 BBP operated and all the elements connected to Bus-1 got tripped at 400kV/230kV Arasur_PG SS. | 1. 400kV/230kV ICT-3 at Arasur_PG<br>2. 230kV Arasur_PG Arasur_TN Line-2<br>3. 230kV Arasur_PG Karuvallur |
| 13 | GI-2 | Karnataka | 24-Jul-22 11:10 | 24-Jul-22 11:58 | 48mins | 0 | 0 | 0.00% | 0.00% | 42644 | 40112 | Tripping of 400kV Bus-1 and Bus-2 of 400kV/220kV RTPS of KPCL: As per the reports submitted, the triggering incident was Unit-4 LBB maloperation at 400kV/220kV RTPS. Due to issue with LBB logic, both 400kV Bus-1 and Bus-2 BBP operated. 220kV side was intact during the event. | 1. 400kV RTPS Raichur_PG-1<br>2. 400kV RTPS BTPS<br>3. 400kV RTPS Mahaboobnagar<br>4. 400kV/220kV RTPS ICT-3 |
| 14 | GI-2 | Karnataka | 17-Jun-22 16:51 | 17-Jun-22 18:53 | 2 hrs 02 min | 0 | 0 | 0.00% | 0.00% | 39465 | 44264 | Tripping of 400kV Bus-2 at 400kV/220kV Guttur SS of KPTCL: As per the reports submitted, the triggering incident was the maloperation of Zone 2 Bus Bar protection operation in 400kV Bus-2 at 400kV/220kV Guttur SS. Immediately, all the elements connected to the Bus-2 tripped. | 1. 400kV Dhoni Guttur- 1<br>2. 400 kV Kaiga - Guttur-2<br>3. 400 kV Guttur - Narendra-2<br>4. 400kV/220kV Guttur ICT-2 |

# Details of Grid Events during the Month of July 2022 in Eastern Region

| Sl No. | Category of Grid Event | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ( GI 1 or 2/ GD-1 to GD-5) | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 1 | GD-1 | Chatra | 01-Jul-2022 13:50 | 01-Jul-2022 14:56 | 01:06 | 0 | 23 | 0.00% | 0.10% | 24374 | 22236 | At 13:48 Hrs, 220 kV Daltonganj-Chatra 1 tripped due to R_N fault. At 13:50 Hrs, 220 kV Daltonganj-Chatra-2 also tripped due to R_N fault leading to total power failure at 220/132 kV Chatra S/s. Load loss of 23 MW reported during the event by Jharkhand SLDC. | 220 kV Daltonganj-Chatra D/c |
| 2 | GI-1 | IB TPS | 03-Jul-2022 01:39 | 07-Mar-2022 03:37 | 01:58 | 323 | 0 | 1.08% | 0.00% | 30015 | 22514 | At 01:39 Hrs, 220 kV IBTPS-Budhipadar-2,3,4 tripped successively due to multiple faults along with both station transformer. IBTPS U#2 tripped due to loss of all fuel. At 01:45 Hrs, IBTPS U#1 also tripped due to loss of auxilliary supply. Total 323 MW generation loss occurred at IBTPS. | 220 kV Budhipadar-IBTPS-2,3,4<br>U#1, U#2 (210 MW each) |
| 3 | GD-1 | Barauni | 06-Jul-2022 15:34 | 06-Jul-2022 16:10 | 00:36 | 460 | 223 | 1.70% | 1.01% | 27137 | 22002 | At 15:34 hrs on 06/07/2022, 220kV Begusarai S/S became dead and all emanating lines tripped from Begusarai due to blast of Y phase CT of 220kV bus coupler bay at Begusarai. At the same time 220 kV Barauni- Hajipur -I, single remaining circuit from Barauni for power evacuation tripped from Barauni end on overcurrent (overload) resulting in tripping of Barauni unit 8 & 9 due to overspeed. | 220 kV Barauni TPS-Begusarai D/c<br>220 kV Barauni TPS-Hajipur-2<br>220 kV Barauni TPS- Mokama D/c<br>220 kV Begusarai-Khagaria (New) D/c<br>220 kV Begusarai-Samastipur (New) D/c<br>U#8, U#9 (250 MW each) at Barauni |
| 4 | GD-1 | Ramchandrapur | 09-Jul-2022 14:27 | 09-Jul-2022 15:01 | 00:34 | 0 | 60 | 0.00% | 0.26% | 24436 | 23308 | At 14:27 Hrs on 14.07.2022, during testing of 220 kV bus bar differential panel at 220/132 kV Ramchandrapur S/S, spurious tripping command generated to the main Bus-1 ,which led to tripping of all connected feeders from main Bus -1 ,which are 400/220kV 315 MVA ICT 1&2 at Jamshedpur, 220kV-Ramchandrapur-Chandil-1, 220kV-Ramchandrapur-Joda-1, 220KV-Ramchandrapur-Chaibasa-1. This has resulted in total power failure at 220/132 kV Ramchandrapur S/S. Total load loss was around 60 MW. | 400KV/220KV 315 MVA ICT 1<br>400KV/220KV 315 MVA ICT 2<br>220KV-Joda-Ramchandrapur-1<br>220KV-Chandil-Ramchandrapur-1<br>220KV-Ramchandrapur-Chaibasa(JUSNL)-1 |
| 5 | GD-1 | Begusarai, Barauni | 11-Jul-2022 21:04 | 11-Jul-2022 21:37 | 00:33 | 460 | 300 | 1.52% | 1.21% | 30362 | 24779 | At 21:03 hrs R-phase High Level jumper of 132KV Main Bus at GSS Begusarai got snapped resulting in tripping of all feeders connected to Begusarai S/S. At the same time 220 kV Barauni- Hajipur single remaining circuit tripped from Barauni end on overcurrent resulting in tripping of Barauni unit 8 & 9 due to loss of evacuation path. | 220 kV Barauni TPS-Begusarai D/c<br>220 kV Barauni TPS-Hajipur-2<br>220 kV Barauni TPS- Mokama D/c<br>220 kV Begusarai-Khagaria (New) D/c<br>220 kV Begusarai-Samastipur (New) D/c<br>U#8, U#9 (250 MW each) at Barauni |
| 6 | GD-1 | Keonjhor | 12-Jul-2022 09:27 | 12-Jul-2022 10:30 | 01:03 | 0 | 8 | 0.00% | 0.04% | 25854 | 22517 | At 09:27 Hrs on 12th June 2022, 220 kV side of Keonjhor S/s became dead during isolator switching operation for shutdown of 400 kV Baripada-Keonjhor. As reported, due to opening of bus side isolator of dia element of Baripada line instead of its own bus side isolator at Keonjhor, bus fault occurred and 400 kV Bus-2 at Keonjhor tripped. Inter-trip command sent to LV CB of both 400/220 kV ICTs and 220 kV side became dead. As reported 8 MW load loss occurred in radially fed Keonjhor area. | 400 kV Bus-2 at Keonjhor<br>400/220 kV ICT-1 & 2 at Keonjhor<br>80 MVAr Bus Reactor 1 at Keonjhor |
| 7 | GD-1 | Chatra | 14-07-2022 16:17 | 14-07-2022 17:01 | 00:44 | 0 | 20 | 0.00% | 0.09% | 25705 | 21914 | At 16:17 Hrs, 220 kV Daltonganj-Chatra 1 & 2 tripped within an interval of 48 seconds. Consequently, 220/132 kV Chatra S/s became dead. Load loss of 20 MW reported during the event by Jharkhand SLDC. Inclement weather reported during the event at Chatra. | 220 kV Daltonganj-Chatra D/c |
| 8 | GD-1 | Alipurduar | 14-07-2022 17:43 | 14-07-2022 18:18 | 00:35 | 0 | 0 | 0.00% | 0.00% | 27239 | 21331 | At 17:43 Hrs on 14th July 2022, 220 kV Bus-1 Alipurduar (WBSETCL) tripped during restoration of 220 kV Alipurduar-Alipurduar (WBSETCL)-1. At the same time, 220 kV Alipurduar-Alipurduar(WBSETCL)-2 tripped from PG end only. Consequently, both 220 kV Bus at Alipurduar (WBSETCL) became dead. No load loss or generation loss occurred as supply at 132 kV was intact through other links. | 220 kV Bus-1 at Alipurduar (WBSETCL)<br>220 kV Alipurduar-Alipurduar (WBSETCL)-2 |
| 9 | GD-1 | Bantala (KLC) | 23-07-2022 08:46 | 23-07-2022 10:10 | 01:24 | 0 | 52 | 0.00% | 0.23% | 26676 | 22721 | At 08:46 Hrs on 23rd July 2022, total power failure occurred at 220/132 kV KLC Bantala S/s. As reported, LBB of 220 kV KLC Bantala-NewTown AA 3 operated at Bantala. As Bantala S/s has Single main and transfer scheme, power supply interrupted due to bus tripping. 52 MW load loss reported during the event by SLDC West Bengal. | 220 kV Subhashgram (PG)-Bantala-1<br>220 kV NewTown AA 3 – Bantala-1<br>220/132 kV ICT-1 & 2 at bantala |
| 10 | GD-1 | Joda, JSPL | 27-07-2022 11:30 | 27-07-2022 11:50 | 00:20 | 0 | 150 | 0.00% | 0.67% | 28589 | 22475 | 220KV-JODA-TTPS #1 Tripped at 10:25 Hrs on R_B, FD-1.71 KM from TTPS. Line was under patrolling. To reduce loading on ckt-2, 132 kV Joda-Kendposi(Jharkhand) line was opened. Joda was getting around 150 MW power from 220 kV TTPS only through 220 kV TTPS-Joda ckt-2. Further at 11:30 hrs 220 kV TTPS-Joda ckt-2 tripped on R-ph fault causing total power failure at 220 kV Joda S/S. | 220 kV Bus-1 & 2 at Joda<br>220kV Joda-TTPS-1<br>220kV Joda-TTPS-2<br>220kV Joda-TSIL<br>220kV Joda-JSPL |

## Details of Grid Events during the Month of July 2022 in Eastern Region

| Sl No. | Category of Grid Event | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the Regional Grid during the Grid Event | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ( GI 1 or 2/ GD-1 to GD-5) | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 11 | GD-1 | Hajipur, Amnour | 31-07-2022 00:28 | 31-07-2022 01:09 | 00:41 | 0 | 320 | 0.00% | 1.22% | 31882 | 26264 | At 00:28 hrs, Y_ph CT of 220 kV Barauni-Hajipur-1 burst at Hajipur end. Both buses at Hajipur tripped. Power supply to Hajipur and Amnour failed. Around 320 MW load loss in Hajipur and Amnour area reported by Bihar SLDC | 220 kV Main Bus-1 & 2 at Hajipur<br>220 kV Muzaffarpur(PG)-Hajipur D/c<br>220 kV Barauni TPS-Hajipur D/c<br>220 kV Hajipur-Amnour D/c |

# Details of Grid Events during the Month of July 2022 in North Eastern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM:SS) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 1 | GD-I | Pasighat, Roing, Tezu & Namsai Areas of Arunachal Power System | 01-Jul-22 10:45 | 01-07-2022 11:47:00 | 1:02:00 | 0 | 12 | 0.00% | 0.51% | 2666 | 2365 | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along - Pasighat line.<br><br>At 10:45 Hrs on 01.07.2022,132 kV Along - Pasighat line tripped. Due to tripping of this element, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas<br><br>Power supply was extended to Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Along - Pasighat line at 11:47 Hrs on 01.07.2022. | 132 kV Along - Pasighat line |
| 2 | GD-I | Dimapur area of Nagaland Power System | 01-07-2022 15:07:00 | 01-Jul-22 15:48 | 0:41:00 | 0 | 65 | 0.00% | 2.59% | 2693 | 2509 | Dimapur area of Nagaland Power System was connected with the rest of NER Grid through 132 kV Dimapur(PG) - Dimapur(Nagaland) D/C lines.<br><br>At 15:07 Hrs on 01.07.2022, 132 kV Dimapur(PG) -Dimapur(Nagaland) D/C lines tripped. Due to tripping of these elements, Dimapur area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.<br><br>Power supply was extended to Dimapur area of Nagaland Power System by charging 132 kV Dimapur(PG) -Dimapur(Nagaland) 2 line at 15:48 Hrs on 01.07.2022. | 132 kV Dimapur(PG) -Dimapur(Nagaland) D/C lines |
| 3 | GD-I | Kohima area of Nagaland Power System & Karong area of Manipur Power System | 02-Jul-22 14:21 | 02-Jul-22 14:39 | 0:18:00 | 0 | 33 | 0.00% | 1.27% | 2810 | 2608 | Kohima area of Nagaland Power System & Karong area of Manipur Power System were connected with the rest of NER Grid through 132 kV Dimapur-Kohima line and 132 kV Yurembam (Imphal)-Karong line. 132 kV Wokha-Kohima line & 132 kV Kohima-Meluri line were under outage.<br><br>At 14:21 Hrs on 02.07.2022, 132 kV Dimapur-Kohima line and 132 kV Yurembam (Imphal)-Karong line tripped. Due to tripping of these elements, Kohima area of Nagaland Power System & Karong area of Manipur power system were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Karong area of Manipur Power System by charging 132 kV Yurembam(Imphal) - Karong line at 14:39 Hrs on 02.07.22. Subsequently power was extended to Kohima area of Nagaland Power System by charging 132kV Karong-Kohima line at 14:59 Hrs on 02.07.22. | 132 kV Dimapur-Kohima & 132 kV Yurembam (Imphal)-Karong lines |
| 4 | GD-I | Dimapur area of Nagaland Power System | 02-07-2022 17:22:00 | 02-Jul-22 18:04 | 0:42:00 | 0 | 47 | 0.00% | 1.83% | 2882 | 2562 | Dimapur area of Nagaland Power System was connected with the rest of NER Grid through 132 kV Dimapur(PG) - Dimapur(Nagaland) D/C lines.<br><br>At 17:22 Hrs on 02.07.2022, 132 kV Dimapur(PG) -Dimapur(Nagaland) D/C lines tripped. Due to tripping of these elements, Dimapur area of Nagaland Power System was separated from the rest of NER Grid and subsequently collapsed due to no source available in this area.<br><br>Power supply was extended to Dimapur area of Nagaland Power System by charging 132 kV Dimapur(PG) -Dimapur(Nagaland) D/C lines at 18:04 Hrs on 02.07.2022. | 132 kV Dimapur(PG) -Dimapur(Nagaland) D/C lines |
| 5 | GD-I | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System | 03-Jul-22 10:49 | 03-Jul-22 11:50 | 1:01:00 | 0 | 12 | 0.00% | 0.53% | 2799 | 2257 | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along - Pasighat line.<br><br>At 10:49 Hrs on 03.07.2022, 132 kV Along - Pasighat line tripped. Due to tripping of this element, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Along -Pasighat line at 11:50 Hrs on 03.07.2022. | 132 kV Along - Pasighat line |
| 6 | GD-I | Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System | 03-Jul-22 18:37 | 03-Jul-22 20:10 | 1:33 | 0 | 106 | 0% | 4% | 3086 | 2915 | Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV BNC (Pavoi)-Gohpur D/C lines.132 kV Lekhi -Nirjuli line & 132 kV Pare-Lekhi line were out since 28.06.2022 due to tower collapsed in tower location Number 12.<br><br>At 18:37 Hrs on 03.07.2022, 132 kV Gohpur-BNC (Pavoi) D/C lines tripped. Due to tripping of these elements, Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System by charging 132 kV Gohpur-BNC (Pavoi) 2 line at 20:10 Hrs on 03.07.2022. | 132 kV Gohpur-BNC (Pavoi) D/C lines |
| 7 | GD-I | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System | 05-Jul-22 04:25 | 05-Jul-22 05:05 | 0:40 | 16 | 19 | 1% | 1% | 2861 | 2547 | Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line.<br><br>At 04:25 Hrs on 05.07.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.<br><br>Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 05:05 Hrs of 05.07.22 | 132 kV Balipara-Tenga line |

# Details of Grid Events during the Month of July 2022 in North Eastern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM:SS) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 8 | GD-I | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System | 05-Jul-22 10:11 | 05-Jul-22 10:50 | 0:39:00 | 16 | 20 | 0.54% | 0.75% | 2949 | 2655 | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara- Tenga line.<br><br>At 10:11 Hrs on 05.07.22, 132 kV Balipara- Tenga line tripped. Due to tripping of this element, Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.<br><br>Power supply was extended to Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 10:50 Hrs of 05.07.22 | 132 kV Balipara - Tenga line |
| 9 | GD-I | Roing, Tezu & Namsai areas of Arunachal Pradesh Power System | 08-Jul-22 01:22 | 08-Jul-22 01:50 | 0:28:00 | 0 | 12 | 0.00% | 0.44% | 2994 | 2756 | Roing, Tezu & Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Roing - Pasighat line.<br><br>At 01:22 Hrs on 08.07.22, 132 kV Roing - Pasighat line tripped. Due to tripping of this element, Roing, Tezu & Namsai areas of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to no source in these areas.<br><br>132 kV Roing - Pasighat line was declared faulty at 01:50 Hrs on 08.07.22. Power supply was extended to Roing, Tezu & Namsai areas of Arunachal Pradesh Power System by charging 132 kV Roing - Pasighat line at 18:10 Hrs of 08.07.22 | 132 kV Roing - Pasighat line |
| 10 | GD-I | Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System | 09-Jul-22 07:34 | 09-Jul-22 09:06 | 1:32:00 | 0 | 63 | 0.00% | 2.65% | 2911 | 2377 | Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System were connected with rest of NER Grid through 132 kV BNC (Pavoi)-Gohpur 2 line.132 kV Lekhi -Nirjuli & 132 kV Pare-Lekhi lines were out since 28.06.2022 due to tower collapsed in tower location Number 12 & 132 kV BNC (Pavoi)-Gohpur 1 line was out because of state approved shutdown.<br><br>At 07:34 Hrs on 09.07.22, 132 kV BNC(Pavoi)-Gohpur 2 line tripped. Due to tripping of this element, Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Gohpur, North Lakhimpur, Dhemaji and Majuli areas of Assam Power System and Nirjuli area of Arunachal Pradesh Power System by charging 132 kV Gohpur-BNC(Pavoi) 2 line at 09:06 Hrs on 09.07.2022. | 132 kV Gohpur-BNC(Pavoi) 2 line |
| 11 | GD-I | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System | 09-Jul-22 10:59 | 09-Jul-22 11:24 | 0:25:00 | 18 | 21 | 0.72% | 0.85% | 2513 | 2482 | Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line.<br><br>At 10:59 Hrs on 09.07.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.<br><br>Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 11:24 Hrs on 09.07.22 | 132 kV Balipara-Tenga line |
| 12 | GD-I | Leshka Generating Station of Meghalaya Power System | 11-Jul-22 00:04 | 11-Jul-22 00:36 | 0:32:00 | 84 | 0 | 2.64% | 0.00% | 3180 | 2776 | Leshka Generating station of Meghalaya Power System was connected with rest of NER grid through 132 kV Myntdu Leshka - Khleihriat D/C lines<br><br>At 00:04 Hrs on 11.07.22, 132 kV Myntdu Leshka - Khleihriat D/C lines tripped. Due to tripping of these elements, Leshka Generating station of Meghalaya Power System was separated from the rest of NER Grid and subsequently collapsed due to loss of evacuation path.<br><br>Power supply was extended to Leshka Generating station of Meghalaya Power System by charging 132 kV Leshka-Khleihriat(ME) 2 line at 00:36 Hrs on 11.07.22. | 132 kV Myntdu Leshka - Khleihriat D/C lines |
| 13 | GD-I | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System | 14-Jul-22 12:49 | 14-Jul-22 12:52 | 0:03 | 0 | 11 | 0% | 0% | 2806 | 2732 | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER grid through 132 kV Along - Pasighat line.<br><br>At 12:49 Hrs on 14.07.2022, 132 kV Along - Pasighat line tripped. Due to tripping of this element, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Along - Pasighat line at 12:52 Hrs on 14.07.2022. | 132 kV Along - Pasighat line |
| 14 | GD-I | Rokhia area of of Tripura Power System | 14-Jul-22 16:20 | 14-Jul-22 17:56 | 1:36 | 18 | 17 | 1% | 1% | 2848 | 2572 | Rokhia area of of Tripura Power System was connected with rest of NER grid through 132 kV Agartala - Rokhia 2 line. 132kV Monarchak - Rokhia line was under Shutdown. 132 kV Agartala - Rokhia 1 line was hand tripped at 16:20 Hrs on 14.07.2022<br><br>At 16:20 Hrs on 14.07.2022, 132 kV Agartala - Rokhia 2 line and Rokhia Unit 7 tripped. Due to tripping of these elements, Rokhia area of of Tripura Power System was separated from the rest of NER Grid and subsequently collapsed due to load generation mismatch in this area.<br><br>Power supply was extended to Rokhia area of of Tripura Power System by charging 132 kV Agartala - Rokhia 1 line at 17:56 hrs on 14.07.22. | 132 kV Agartala - Rokhia 2 line and Rokhia Unit 7 |
| 15 | GD-I | Leshka Generating Station of Meghalaya Power System | 15-Jul-22 11:13 | 15-Jul-22 11:22 | 0:09 | 70 | 0 | 2% | 0% | 2809 | 2672 | Leshka Generating station of Meghalaya Power System was connected with rest of NER grid through 132 kV Myntdu Leshka - Khleihriat D/C lines<br><br>At 11:13 hrs on 15.07.22, 132 kV Myntdu Leshka - Khleihriat D/C lines tripped. Due to tripping of these elements, Leshka Generating station of Meghalaya Power System was separated from the rest of NER Grid and subsequently collapsed due to loss of evacuation path.<br><br>Power supply was extended to Leshka Generating station of Meghalaya Power System by charging 132 kV Leshka-Khleihriat(ME) 2 line at 11:22 Hrs on 15.07.22. | 132 kV Myntdu Leshka - Khleihriat D/C lines |

# Details of Grid Events during the Month of July 2022 in North Eastern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM:SS) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 16 | GD-I | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System | 15-Jul-22 11:46 | 15-Jul-22 11:46 | 0:18 | 0 | 16 | 0% | 1% | 2818 | 2723 | Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Along - Pasighat line.<br><br>At 11:46 Hrs on 15.07.2022, 132 kV Along - Pasighat line tripped. Due to tripping of this element, Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Pasighat, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Along - Pasighat line at 12:04 Hrs on 15.07.2022. | 132 kV Along - Pasighat line |
| 17 | GD-I | Serchip, Saitul, Zuantui, Lunglei, Sihhmui, Melriat(P&ED Mizoram), Lungmual, Melriat(PG) and Aizawl(PG) areas of Mizoram Power System and Tipaimukh area of Manipur Power System | 16-Jul-22 13:25 | 16-Jul-22 14:12 | 0:47 | 0 | 65 | 0% | 2% | 2639 | 2693 | Serchip, Saitul, Zuantui, Lunglei, Sihhmui, Melriat(P&ED Mizoram), Lungmual, Melriat(PG) and Aizawl(PG) areas of Mizoram Power System and Tipaimukh area of Manipur Power System were connected with the rest of NER Grid through 132 kV Melriat(PG) - Zuangtui line, 132 kV Aizawl - Melriat(PG) line, 132 kV Aizawl - Luangmual line, 132 kV Aizawl - Kumarghat line, 132 kV Aizawl - Tipaimukh line, 132 kV Jiribam - Tipaimukh line and 132 kV Silchar - Melriat(PG) 2 line.<br><br>At 13:25 Hrs, 132 kV Melriat(PG) - Zuangtui line, 132 kV Aizawl - Melriat(PG) line, 132 kV Aizawl - Luangmual line, 132 kV Aizawl - Kumarghat line, 132 kV Aizawl - Tipaimukh line, 132 kV Jiribam - Tipaimukh line and 132 kV Silchar - Melriat(PG) 2 line tripped. Due to tripping of these elements, Serchip, Saitul, Zuantui, Lunglei, Sihhmui, Melriat(P&ED Mizoram), Lungmual, Melriat(PG) and Aizawl(PG) areas of Mizoram Power System and Tipaimukh area of Manipur Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas<br><br>Power supply was extended to Serchip, Saitul, Zuantui, Lunglei, Sihhmui, Melriat(P&ED Mizoram), Lungmual, Melriat(PG) and Aizawl(PG) areas of Mizoram Power System by charging 132 kV Aizawl(PG)-Lungmual line at 14:12 Hrs and by charging 132 kV Melriat(PG)-Zuangtui line at 14:16 Hrs on 16.07.2022. Subsequently, power supply was extended toTipaimukh area of Manipur Power System by charging 132 kV Aizawl - Tipaimukh line at 14:12 Hrs and 132 kV Jiribam - Tipaimukh line at 14:18 Hrs on 16.07.2022. | 132 kV Melriat(PG) - Zuangtui line, 132 kV Aizawl - Melriat(PG) line, 132 kV Aizawl - Luangmual line, 132 kV Aizawl - Kumarghat line, 132 kV Aizawl - Tipaimukh line, 132 kV Jiribam - Tipaimukh line and 132 kV Silchar - Melriat(PG) 2 line |
| 18 | GD-I | Serchip, Saitul and Zuangtui areas of Mizoram Power System | 21-Jul-22 17:19 | 21-Jul-22 18:26 | 1:07 | 0 | 60 | 0% | 2% | 3214 | 2604 | Serchip, Saitul and Zuangtui areas of Mizoram Power System were connected with rest of NER grid through 132 kV Melriat(PG) - Zuangtui line.<br><br>At 17:19 Hrs on 21.07.2022, 132 kV Melriat(PG) -Zuangtui line tripped. Due to tripping of this element, Serchip, Saitul and Zuangtui areas of Mizoram Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Serchip, Saitul and Zuangtui areas of Mizoram Power System by charging 132 kV Melriat-Zuangtui line at 18:26 Hrs on 21.07.2022. | 132 kV Melriat(PG) -Zuangtui line |
| 19 | GD-I | Serchip, Saitul and Zuangtui areas of Mizoram Power System | 21-Jul-22 19:21 | 21-Jul-22 19:49 | 0:28 | 0 | 20 | 0% | 1% | 3439 | 3287 | Serchip, Saitul and Zuangtui areas of Mizoram Power System were connected with rest of NER grid through 132 kV Melriat(PG) - Zuangtui line.<br><br>At 19:21 Hrs on 21.07.2022, 132 kV Melriat(PG) -Zuangtui line tripped. Due to tripping of this element, Serchip, Saitul and Zuangtui areas of Mizoram Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Serchip, Saitul and Zuangtui areas of Mizoram Power System by charging 132 kV Melriat-Zuangtui line at 19:49 Hrs on 21.07.2022. | 132 kV Melriat(PG) -Zuangtui line |
| 20 | GD-I | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System | 23-Jul-22 09:35 | 23-Jul-22 10:01 | 0:26 | 16 | 15 | 0% | 1% | 3283 | 2501 | Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line.<br><br>At 09:35 Hrs on 23.07.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.<br><br>Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 10:01 Hrs on 23.07.22. | 132 kV Balipara-Tenga line |
| 21 | GD-I | Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System | 23-Jul-22 11:39 | 23-Jul-22 12:14 | 0:35 | 17 | 15 | 1% | 1% | 2848 | 2685 | Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Balipara-Tenga line<br><br>At 11:39 Hrs on 23.07.22, 132 kV Balipara-Tenga line tripped. Due to tripping of this element, Tenga and Khupi areas & Dikshi HEP of Arunachal Pradesh Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.<br><br>Power supply was extended to Tenga, Khupi areas & Dikshi HEP of Arunachal Pradesh Power System by charging 132 kV Balipara - Tenga line at 12:14 Hrs on 23.07.22. | 132 kV Balipara-Tenga line |
| 22 | GD-I | Leshka Generating station of Meghalaya Power System | 23-Jul-22 11:52 | 23-Jul-22 12:02 | 0:10 | 84 | 0 | 3% | 0% | 2845 | 2665 | Leshka Generating station of Meghalaya Power System was connected with rest of NER grid through 132 kV Khleiriat(ME) - Leshka D/C lines .<br><br>At 11:52 Hrs on 23.07.22, 132 kV Khleiriat(ME) - Leshka D/C lines tripped. Due to tripping of these elements, Leshka Generating station of Meghalaya Power System was separated from rest of NER Grid and subsequently collapsed due to loss of evacuation path.<br><br>Power supply was extended to Leshka Generating station of Meghalaya Power System by charging 132 kV Khleiriat(ME) - Leshka 1 line at 12:02 Hrs on 23.07.2022 | 132 kV Khleiriat(ME) - Leshka D/C lines |

# Details of Grid Events during the Month of July 2022 in North Eastern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM:SS) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 23 | GD-I | Ningthoukhong, Churachandrapur and Thanlon areas of Manipur Power System | 26-Jul-22 11:09 | 26-Jul-22 11:38 | 0:29 | 0 | 22 | 0% | 1% | 3350 | 2373 | Ningthoukhong, Churachandrapur and Thanlon areas of Manipur Power System were connected with the rest of NER Grid through 132 kV Loktak - Ningthoukhong line, 132kV Imphal(PG) - Ningthoukhong line, 132kV Ningthoukhong - Churachandpur D/C lines & 132kV Kakching - Churachandpur line & 132kV Elangkangpokpi - Churachandpur line.<br><br>At 11:09 hrs on 26.07.22, 132 kV Loktak - Ningthoukhong line, 132kV Imphal(PG) - Ningthoukhong line, 132kV Ningthoukhong - Churachandpur D/C lines & 132kV Kakching - Churachandpur line & 132kV Elangkangpokpi - Churachandpur line tripped. Due to tripping of these elements, Ningthoukhong, Churachandrapur and Thanlon areas of Manipur Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power supply was extended to Ningthoukhong by charging 132 kV Imphal - Ningthoukhong at 11:38 Hrs of 26.07.2022. Subsequentally, power was extended to Churachandpur and Thanlon Bus. | 132 kV Loktak - Ningthoukhong line, 132kV Imphal(PG) - Ningthoukhong line, 132kV Ningthoukhong - Churachandpur D/C lines & 132kV Kakching - Churachandpur line & 132kV Elangkangpokpi - Churachandpur line |
| 24 | GD-I | Tuirial area of Mizoram Power System | 27-07-2022 09:29 | 27-07-2022 09:46 | 0:17 | 55 | 0 | 2% | 0% | 3579 | 2243 | Tuirial area of Mizoram Power System was connected with the rest of the NER Grid through 132 kV Tuirial-Kolasib line.<br><br>At 14:48 Hrs on 27.07.2022, 132 kV Tuirial-Kolasib line tripped. Due to tripping of this element, Turial area of Mizoram Power System were separated from the rest of NER Grid and subsequently collapsed due to loss of evacution path.<br><br>Power was extended to Turial area of Mizoram Power System by charging 132 kV Tuirial-Kolasib line at 09:46 Hrs on 27.07.2022. | 132 kV Tuirial-Kolasib line |
| 25 | GD-I | Ningthoukhong, Churachandrapur and Kakching areas of Manipur Power System | 27-Jul-22 10:35 | 27-Jul-22 10:58 | 0:23 | 0 | 30 | 0% | 1% | 3270 | 2485 | Ningthoukhong, Churachandrapur and Kakching areas of Manipur Power System were connected with the rest of NER Grid through 132kV Imphal(PG) - Ningthoukhong, 132kV Thoubal - Kakching & 132kV New Thoubal - Kakching lines. 132 kV Loktak - Ningthoukhong line was under outage condition.<br><br>At 10:35 Hrs on 27.07.22, 132kV Imphal(PG) - Ningthoukhong, 132kV Thoubal - Kakching & 132kV New Thoubal - Kakching lines tripped. Due to tripping of these elements, Ningthoukhong, Churachandrapur and Kakching areas of Manipur Power System were separated from rest of NER Grid and subsequently collapsed due to no source available in these areas.<br>Due to these trippings Myanmar power supply also got interruped.<br><br>Power supply was extended to Ningthoukhong, Churachandrapur and Kakching areas of Manipur Power System by charging 132 kV Imphal - Ningthoukhong at 10:58 Hrs of 27.07.2022. | 132kV Imphal(PG) - Ningthoukhong, 132kV Thoubal - Kakching & 132kV New Thoubal - Kakching lines |
| 26 | GD-I | Roing, Tezu and Namsai areas of Arunachal Pradesh Power System | 27-07-2022 15:58 | 27-07-2022 16:51 | 0:53 | 0 | 14 | 0% | 1% | 3376 | 2637 | Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were connected with the rest of NER Grid through 132 kV Pasighat - Roing line.<br><br>At 15:58 Hrs on 27.07.2022,132 kV Pasighat - Roing line tripped. Due to tripping of this element, Roing, Tezu and Namsai areas of Arunachal Pradesh Power System were separated from the rest of NER Grid and subsequently collapsed due to no source available in these areas.<br><br>Power was extended to Roing, Tezu and Namsai areas of Arunachal Pradesh Power System by charging 132 kV Pasighat - Roing line at 16:51 Hrs on 27.07.2022. | 132 kV Pasighat - Roing line |
| 27 | GD-I | Tuirial area of Mizoram Power System | 27-07-2022 14:48 | 27-07-2022 15:00 | 0:12 | 55 | 0 | 2% | 0% | 3293 | 2685 | Tuirial area of Mizoram Power System was connected with the rest of the NER Grid through 132 kV Tuirial-Kolasib line.<br><br>At 14:48 hrs on 27.07.2022,132 kV Tuirial-Kolasib line tripped. Due to tripping of this element, Turial area of Mizoram Power System were separated from the rest of NER Grid and subsequently collapsed due to loss of evacution path.<br><br>Power was extended to Turial area of Mizoram Power System by charging 132 kV Tuirial-Kolasib line at 15:00 Hrs on 27.07.2022. | 132 kV Tuirial-Kolasib line |
| 28 | GD-I | Mokokchung area of Nagaland Power System | 30-Jul-22 16:26 | 30-Jul-22 17:59 | 1:33 | 0 | 12 | 0% | 0% | 2985 | 2581 | Mokokchung area of Nagaland Power System was connected with the rest of NER Grid through 132 kV Doyang- Mokokchung line and 132 kV Mokokchung - Mokochung (DoP, Nagaland) D/C lines.<br><br>At 16:26 Hrs, on 30.07.22, 1132 kV Doyang- Mokokchung line and 132 kV Mokokchung - Mokochung (DoP, Nagaland) D/C lines tripped. Due to tripping of these elements, Mokokchung area of Nagaland Power System was separated from rest of NER Grid and subsequently collapsed due to no source available in this area.<br><br>Power supply was extended to Mokokchung area of Nagaland Power System by charging 132 kV Mokokchung - Mokochung (DoP, Nagaland) 2 line at 17:59 hrs on 30.07.2022. | 132 kV Doyang- Mokokchung line<br>132 kV Mokokchung - Mokochung (DoP, Nagaland) D/C lines |
| 29 | GI-2 | Assam | 06-Jul-22 11:30 | 06-Jul-22 13:00 | 1:30 | 227.5 | 0 | 8% | 0% | 2865 | 2475 | BgTPP Unit 3 tripped at 11:30 Hrs on 06.07.22 due to tripping of unit auxiliary bus. Revision done from Block no. 53 on 06.07.22 | BgTPP Unit 3 |
| 30 | GI-2 | Arunachal Pradesh | 10-Jul-22 01:46 | 10-Jul-22 05:00 | 3:14 | 150 | 0 | 5% | 0% | 3040 | 2747 | Kameng Unit 4 tripped at 01:46 Hrs on 10.07.22 due to thrust bearing Oil temparature high. Revision done from Block no. 21 on 10.07.22 | Kameng Unit 4 |
| 31 | GI-2 | Assam | 14-Jul-22 05:06 | 14-Jul-22 06:30 | 1:24 | 5 | 0 | 0% | 0% | 3068 | 2296 | AGBPP Unit 5 tripped at 05:06 Hrs on 14.07.22 due to stator earth fault. Revision done from Block No. 27 on 14.07.22. | AGBPP Unit 5 |
| 32 | GI-2 | Assam | 15-Jul-22 13:06 | 15-Jul-22 14:30 | 1:24 | 55 | 0 | 2% | 0% | 2679 | 2859 | AGBPP Unit 6 tripped at 13:06 Hrs on 15.07.22 due to high stator winding temparature and AGBPP Unit 9 tripped due to non-availability of GTG-1 and 2. Revision done from Block No. 59 on 15.07.22. | AGBPP Unit 6 & AGBPP Unit 9 |

## Details of Grid Events during the Month of July 2022 in North Eastern Region

| Sl No. | Category of Grid Event ( GI 1or 2/ GD-1 to GD-5) | Affected Area | Time and Date of occurrence of Grid Event | Time and Date of Restoration | Duration (HH:MM:SS) | Loss of generation / loss of load during the Grid Event | | % Loss of generation / loss of load w.r.t Antecedent Generation/Load in the | | Antecedent Generation/Load in the Regional Grid | | Brief details of the event ( pre fault and post fault system conditions) | Elements Tripped |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Generation Loss(MW) | Load Loss (MW) | % Generation Loss(MW) | % Load Loss (MW) | Antecedent Generation (MW) | Antecedent Load (MW) | | |
| 33 | GI-2 | Assam | 30-Jul-22 11:02 | 30-Jul-22 12:30 | 1:28 | 143 | 0 | 5% | 0% | 2903 | 2456 | BgTPP Unit 1 tripped at 11:02 Hrs on 30.07.22 due to Flame Failure. Revision done from Block no. 51 on 30.07.22 | BgTPP Unit 1 |
| 34 | GI-2 | Assam | 31-Jul-22 16:55 | 31-Jul-22 18:30 | 1:35 | 228 | 0 | 7% | 0% | 3254 | 2293 | BgTPP Unit 2 tripped at 16:55 Hrs on 31.07.22 due to loss of fuel. Revision done from Block no. 75 on 31.07.22 | BgTPP Unit 2 |