Northern Region-Event Report for December 2018

| | | | Name of Elements (Tripped/Manually opened) Affected Area Owner/ Agency Date Time Date | | | | | -1 | | 1 | | | | |
|------|-----------|---|--|------------------------|-----------|-------|---------------|-------|----------|---|------------------------|------------------|---------------------------------------|----------------------------|
| S.No | o. Region | | Affected Area | Owner/ Agency | | | Reviv Date | Time | Duration | Event (As reported) | Generation Loss(MW) | Load Loss(MW) | Category as per CEA Grid Standards | Energy Unserved (in MU) |
| 1 | NR | 1) 400kV Mainpuri 765(U)-Orai(UP) ckt-2 2) 400 kV Bus 1 at 400/220kV Orai(UP) | Uttar Pradesh | UP | 3-Dec-18 | 2:18 | 3-Dec-18 | 05:51 | 03:33 | 400kV Mainpuri 765(UP)-Orai(UP) ckt-2 & 400 kV Bus 1 at 400/220kV Orai(UP) tripped on R-N fault. As per PMU, R-N fault is observed with unsuccessful autoreclosing attempt. In antecedent condition, 400kV Mainpuri 765(U-)- | Nil | Nil | GI-2 | Nil |
| 2 | NR | 1) 400kV Dadri(NTPC)-Panipat(BBMB) ckt-1 2) 400kV Dadri(NTPC)-Panipat(BBMB) ckt-2 | Uttar Pradesh & Haryana | BBMB, NTPC & POWERGRID | 4-Dec-18 | 3:07 | 4-Dec-18 | 09:54 | 06:47 | 400kV Dadri(NTPC)-Panipat(BBMB) ckt-1 tripped on R-N fault. At the same time, 400kV Dadri(NTPC)- Panipat(BBMB) ckt-2 tripped on overvoltage at Dadri(NTPC) end. As per PMU, B-N fault is observed. In antecedent conditions, 400kV Dadri(NTPC)-Panipat(BBMB) ckt-1 & 2 carrying 243 MW & 233 MW respectively. | Nil | Nil | GI-2 | Nil |
| 3 | NR | 1) 220kV Tanakpur(NHPC)-Sitarganj(PG) 2) 220kV Cbganj(UP)-Sitarganj(PG) | Uttar Pradesh & Uttarakhand | POWERGRID, NHPC & UP | 4-Dec-18 | 15:28 | 4-Dec-18 | 15:58 | 00:30 | 220kV Tanakpur(NHPC)-Sitarganj(PG) & 220kV Cbganj(UP)-Sitarganj(PG) tripped due to internal temporary problem in RTU. As per PMU, no fault is observed in the system. In antecedent conditions, 220kV Tanakpur(NHPC)-Sitarganj(PG) & 220kV Cbganj(UP)-Sitarganj(PG) carrying 50 MW. | Nil | Nil | GI-2 | Nil |
| 4 | NR | 1) 800kV HVDC (Agra-8NC) Pole-1 at Agra HVDC 2) 800kV HVDC (Agra-8NC) Pole-2 at Agra HVDC 3) 800kV HVDC (Agra-Alipurdwar ER) Pole-3 at Agra HVDC | Uttar Pradesh | POWERGRID | 5-Dec-18 | 10:19 | 5-Dec-18 | 14:27 | 04:08 | 800kV HVDC (Agra-BNC) Pole-1, Pole-2 & 800kV HVDC (Agra-Alipurdwar ER) Pole-3 at Agra HVDC tripped due to Bus fault at BNC and Alipurdaur end, HVDC Pole-4[Agra-Alipurdwar ER] was already out for control the loading of 400 KV Purnia-Malloa. See PRMU, Variation observed in the phase voltages. In antecedent conditions, Pole-1, 2 & 3 carrying 245 MW, 340 MW & 245 MW respectively. | Nil | Nil | GI-2 | Nil |
| 5 | NR | 1). 400 kV Dadri-G. Nola(UP) ckt 2). 400 kV Dadri-Maharani Bah(PG) ckt 3). 400 kV Rihad-Dadri Pole-2 4). 400 kV Dari-Mandaula(PG) ckt-1 & 2 5) Feeddrs under C&D load group of Rihand-Dadri SPS | Delhi | POWERGRID | 8-Dec-18 | 17:41 | 8-Dec-18 | 18:16 | 00:35 | Snapping of OPGW wire created blue phase to earth fault in the system. It resulted into tripping of both 400 kV Dadri-C. Noida (IPI) and Dadri-Maharani Bagh (PG) cit (Is 4 00 kV Dadri-G. Noida and Dadri-Maharani Bagh cit was on same tower for some distance). As 400 kV Maharani Bagh-Ballagbarh was iterady under planned outage. Tripping of 400 kV Dadri-Maharani Bagh (PG) ckt resulted into complete outage of 400 kV Dadri-Maharani Bagh (PG) ckt resulted into complete outage of 400 kV Maharani Bagh (PG). Ribandi-Dadri of PG. Blandi-Dadri of PG. 28 bot tripped reportedly on commutation failure at Riband end. Case 2 of Riband-Dadri SPS also operated and it resulted into tripping of feeders in C&D load group (planned load shedding quantum: S20 MW). After 5 second of the incident 400 kV Dadri-Mandault ckt-1 & 2 also tripped. This time fault was in R & Y phase. | Nil | 960 | GD-1 | 0.56 |
| 6 | NR | 1) 400kV Mainpuri 765(U)-Oral(UP) ckt-2 2) 400 kV Bus 1 at 400/220kV Oral(UP) | Uttar Pradesh | UP | 9-Dec-18 | 4:25 | 9-Dec-18 | 06:05 | 01:40 | 400kV Mainpurt 765(UP)-Orai(UP) ckt-2 & 400 kV Bus 1 at 400/220kV Orai(UP) tripped on R-N fault. As per PMU, R-N fault is observed. In antecedent condition, 400kV Mainpurt 765(U)-Orai(UP) ckt-2 carrying 96 MW. | Nil | Nil | GI-2 | Nil |
| 7 | NR | 1) 400kV Mainpuri 765(U)-Oral(UP) ckt-2 2) 400 kV Bus 1 at 400/220kV Oral(UP) | Uttar Pradesh | UP | 10-Dec-18 | 20:35 | 10-Dec-18 | 22:46 | 02:11 | As reported, 400kV Mainpuri 765(UP)-Orai(UP) ckt-2 & 400 kV Bus 1 at 400/220kV Orai(UP) tripped on R-N fault is observed. In antecedent condition, 400kV Mainpuri 765(U)-Orai(UP) ckt-2 carrying 135 MW. | Nil | Nil | GI-2 | Nil |
| 8 | NR | 1) 220kV Bus Coupler at 220kV Sarojini Nagar(UP) 2) 315MVA 400/220kV ICT II (220kV side) 3) 160kVA 220/132k ICT II 4) 100MVA 220/132k ICT II 5) 220k Sarojini Nagar(UP)-Hardoi Road line 6) 220k Sarojini Nagar(UP)-Bachhrawan line 61 220k Sarojini Nagar(UP)-Bachhrawan line 61 220k Sarojini Nagar(UP)-Bachhrawan line 61 Elements tripped due to operation of SPS (In order of priority): 1) 33 kV LSAK VIttratiya, 33 kV Gehru 3) 132 kV VIttratiya, 33 kV Gehru 3) 132 kV KV RT-I &II (Same priority) | Uttar Pradesh | UP | 10-Dec-18 | 18:57 | 10-Dec-18 | 19:07 | 00:10 | 220kV Bus Bar protection installed at 220 kV Substation Sarojini Nagar(UP) operated on LBB protection at the time of testing of newly commissioned CTs on 220kV Sarojini Nagar(UP). Unnao(UP) line. As a result of this, all 220kV elements running on B bus got tripped. Also, only one 160 MVA transformer survived in this case which resulted operation of 59% which further tripped 30 nos 123kV lines and 40 no 33kV lines. As per PMU, No fault is observed. In antecedent conditions, ICT 1 & 3 carrying 70 MW & 76 MW respectively. | Nii | 250 | GD-1 | 0.04 |
| 9 | NR | 1) 200 MVA ICT1 at 400/220kV Rosa(UP) 2) 200 MVA ICT2 at 400/220kV Rosa(UP) | Uttar Pradesh | UP | 18-Dec-18 | 8:42 | 18-Dec-18 | 10:04 | 01:22 | 200 MVA ICT1 & ICT2 at 400/220kV Rosa(UP) tripped on phase to earth fault. As per PMU, B-N fault with delayed clearance is observed. In antecedent condition, 200 MVA ICT 1 & ICT 2 carrying 91 MW & 93 MW respectively. | Nil | 85 | GD-1 | 0.12 |
| 10 | NR | 1) 200 MVA ICT1 at 400/220kV Rosa(UP) 2) 200 MVA ICT2 at 400/220kV Rosa(UP) | Uttar Pradesh | UP | 19-Dec-18 | 2:10 | 19-Dec-18 | 03:01 | 00:51 | 200 MVA ICT1 & ICT2 at 400/220kV Rosa(UP) tripped due to operation of differential protection on HV side and overcurrent relay operation on LV side. As per PMU, 8-N fault is observed. In antecedent condition, 200 MVA ICT1 & ICT2 carrying 76 MW & 75 MW respectively. | Nil | 290 | GD-1 | 0.25 |
| 11 | NR | 1) 400kV Dhanonda(HVPNL)-Mohindergarh(Adani) ckt-1 2) 400kV Dhanonda(HVPNL)-Mohindergarh(Adani) ckt-2 3) 315MVA ICT 2 at 400/220kV Dhanonda(HVPNL) 4) 315MVA ICT 3 at 400/220kV Dhanonda(HVPNL) | Haryana | Haryana & ADANI | 20-Dec-18 | 6:37 | 20-Dec-18 | 09:35 | 02:58 | 400kV Dhanonda(HVPNL)-Mohindergarh(Adani) ckt-1 & 2 tripped due to DT received at Mohindergarh(Adani) end. At the same time, 315MVA ICT 2 & ICT 3 at 400/220kV Dhanonda(HVPNL) also tripped. As per PMU, No fault observed in the system. In antecedent conditions, 006kV Dhanonda(HVPNL)-Mohindergarh(Adani) ckt-2 carrying 255 MW each \$5 135MVA ICT 2 & ICT 3 carrying 153 MW & 152 MW respectively. At 0743 Hrs, 315MVA ICT 1 also tripped on LV instantaneous O/C due to overloading. | Nil | Nil | GI-2 | Nii |
| 12 | NR | 1,720x Washooliyes; wazaratasu(JULI; tkt. 1 2) 220kW Mandola[PG]-Wazirabad([DT], ckt. 2 3) 220kW Mandola[PG]-Wazirabad([DT], ckt. 3 4) 220kV Mandola[PG]-Wazirabad([DT], ckt. 4 5) 220kV Wazirabad([DT], Kashmere Gate([DT], ckt. 1 & ckt. 2 6) 220kV Wazirabad([DT], Seeta Colony[DT], ckt. 1 & ckt. 2 7) 220kV Geat Colony([DT], Patigranj([DTI], ckt. 1 & ckt. 2 8) 100 MVA (CT 3 at 220kV Wazirabad([DT], ckt. 1 & ckt. 2 | Delhi | Delhi & POWERGRID | 20-Dec-18 | 9:16 | 20-Dec-18 | 10:42 | 01:26 | Multiple element tripping at 220kV Wazirabad(DTL) occurred due to R.Y fault. Later, Birdage/wire found near Y phase 220kV Bus-II and dropper jumper of 100 MVA ICT 3 at 220kV Wazirabad(DTL). As per PMU, Y. N fault followed by three phase fault is observed. In antecedent conditions, 220kV Mandoia(PG)-Wazirabad(DTL) ckt-1,2,3 & 4 carrying 68 MW each. At Wazirabad(DTL) bus bar protection was out of service. | Nil | 300 | GD-1 | 0.43 |
| 13 | NR | 1) 400kV Ballabgarft(PG)-Nawada(HVPNL) | Haryana | Haryana | 20-Dec-18 | 19:14 | 20-Dec-18 | 19:56 | 00:42 | 400kV Ballabgarh(PG)-Nawada(HVPNL) tripped due to DT received at Nawada(HVPNL) end. 400kV Nawada(HVPNL)-Greater Noidq(UP) line was under shutdown for diversion work of line due to DFCC, DFCCLI work by DVMERGRID. As per PMU, slight voltage rise is observed. Load loss as Nwada load was radially fed from from Ballabhgarh (PG). | Nil | 250 | GD-1 | 0.16 |

| | | | | | Out | tage | Revi | val | | | | | | |
|-------|--------|--|---------------|--------------------|-----------|-------|-----------|-------|----------|--|------------------------|------------------|---------------------------------------|----------------------------|
| S.No. | Region | Name of Elements (Tripped/Manually opened) | Affected Area | Owner/ Agency | Date | Time | Date | Time | Duration | Event (As reported) | Generation Loss(MW) | Load Loss(MW) | Category as per CEA Grid Standards | Energy Unserved (in MU) |
| 14 | NR | 1) 400kV Khedar(HVPNL)-Kirori(HVPNL) ckt. 1 2) 400kV Khedar(HVPNL)-Kirori(HVPNL) ckt. 2 3) 220 kV Kirori(HVPNL)-Smain ckt. 1 4) 220 kV Kirori(HVPNL)-Smain ckt. 2 5) 220 kV Kirori(HVPNL)-Masudpur ckt | Haryana | Haryana | 20-Dec-18 | 1:22 | 20-Dec-18 | 02:28 | 01:06 | 400kV Khedar(HVPNL)-Kirori(HVPNL) ckt-1 & 2 tripped during R-N fault in 220 kV Kirori-Smain ckts. As per PMU, R-N fault followed by Y-N fault is observed. In antecedent conditions, 400kV Khedar(HVPNL)-Kirori(HVPNL) ckt-1 & 2 carrying 54 MW & 56 MW respectively. | Nil | | GI-2 | Nil |
| 15 | NR | 1) 400 kV Bus 2 at 400/220kV Panipat(BBMB) 2) 450 MVA ICT 1 at 400/220kV Panipat(BBMB) 3) 400 kV Main BAY/CB (4-352) of Panipat ckt-2 at Dadri TH | Haryana | ввмв & птрс | 22-Dec-18 | 10:46 | 22-Dec-18 | 11:37 | 00:51 | During hot water washing a flash occurred on ICT Blue phase CT of X-5 Circuit breaker resulting in tripping of ICT-1 along with operation of Bus bar of 400xV Bus. II at 400/220kV Panipat(BBMB). At the same time, 400 kV Main BAV(E4.43-52) of Panipat(BAVE) and be to pole discrepancy at Dadri end. As per PMU, B-N fault is observed. In antecedent conditions, 450 MVA ICT 1 carrying 207 MW. | Nil | | GI-2 | Nil |
| 16 | NR | 1) 220kV Ganguwai(B8MB)-Jamaipur(B8MB) ckt-1 2) 220kV Ganguwai(B8MB)-Jamaipur(B8MB) ckt-2 3) 220kV Jamaipur(B8MB)-Jamaipur(B8MB) ckt-1 4) 220kV bhakra-R HPS(B8MB)-Jamaipur (B8MB) ckt-2 5) 220kV Jahardra/B8MB)-Jamaipur(B8MB) ckt-1 6) 220kV Jandhari Kalian (IPSEB)-Jamaipur(B8MB) ckt-1 | Punjab & HP | BBMB & Punjab | 22-Dec-18 | 23:50 | 23-Dec-18 | 02:22 | 02:32 | 220 kV Bus bar 1 protection operated caused tripping of multiple feeder of 220 kV at BBMB Jamajpur. As per PMU, R-N fault is observed. In antecedent conditions, 220kV Ganguwai(BBMB)-Jamajpur(BBMB) ckt-1 & 2, 220kV Jamajpur(BBMB)-Sangur(BBMB) ckt-1 & 20kV Bahafra-R HPS(BBMB)-Jamajpur (BBMB) ckt-2, 220kV Jahandra (BBMB)-Jamajpur(BBMB) ckt-1 & 220kV Jahandra (BBMB)-Jamajpur(BBMB) ckt-1 carrying 46MW, 45MW, 21MW, 42 MW, 14MW & 51 MW respectively. | Nil | 60 | GD-1 | 0.15 |
| 17 | NR | 1) 400kV Amritsar(PG)-Makhu(PSTCL) ckt-2 2) 400kV Makhu(PSTCL) -Mukatsar(PSTCL) ckt-1 | Punjab | Punjab & POWERGRID | 23-Dec-18 | 4:29 | 23-Dec-18 | 17:56 | 13:27 | 400kV Amritsar(PG)-Makhu(PSTCL) ckt-2 tripped on Y-N fault. At the same time, 400kV Makhu(PSTCL) - Mukatsar(PSTCL) ckt-1 tripped on B-N fault. As per PNU, B-M fault is observed with unsuccessful autoreclosing in antecedent conditions, 400kV Amritar(PG)-Makhu(PSTCL) ckt-2 & 400kV Makhu(PSTCL) - Mukatsar(PSTCL) ckt-1 carrying 87 MW & 96 MW respectively. | Nil | Nil | GI-2 | Nil |
| 18 | NR | 1) 400kV Makhu[PSTCL]-Mukhtsar[PSTCL]-1 2) 400kV Makhu[PSTCL]-Makodar[PSTCL]-1 3) 400kV Makhu[PSTCL]-Makodar[PSTCL]-2 4) 400/220kV [CT #1 at Makhu[PSTCL] 5) 400/220kV [CT #2 at Makhu[PSTCL] 6) 400kV Nakodar[PSTCL]-Jalandhar[PG] | Punjab | Punjab & POWERGRID | 24-Dec-18 | 17:58 | 24-Dec-18 | 19:31 | 01:33 | During charging of 400kV Makhu-Mukhtsar ckt-2, R-8 fault occurred. All elements at Makhu tripped/manually opened. 400kV Nakodar(PSTCL)-slalandhar(PG) ckt also tripped simultaneously. 400kV Amritsar D/C and Mukhtsar-1 already out on fault since 23-Dec-18. As per PMU data, R-8 fault occurred. | Nil | Nil | GI-2 | Nil |
| 19 | NR | 1) 400kV Orai(UP)-Paricha(UP)-2 2) 400kV Bus-1 at Orai(UP) | Uttar Pradesh | UP | 25-Dec-18 | 2:34 | 25-Dec-18 | 04:30 | 01:56 | R-N fault occurred in 400kV Oral(UP)-Paricha(UP)-2, 69km from Oral(UP). At Oral(UP), due to bus bar protection operation bus1 tripped. As per PMU data, R-N fault observed with unsuccessful auto-reclosing. | Nil | Nil | GI-2 | Nil |
| 20 | NR | 1) 400kV Dhuri-Rajpura ckt-1 2) 400kV Dhuri-Talwandi Sabo ckt-1 | Punjab | Punjab | 25-Dec-18 | 7:10 | 25-Dec-18 | 08:54 | 01:44 | 400kV Dhuri-Rajpura ckt-1 and 400kV Dhuri-Talwandi Sabo ckt-1 tripped. Two successive B-N faults observed. As per PMU, two B-N fault observed. | Nil | Nil | GI-2 | Nil |
| 21 | NR | 1) 220kV Debari(RVPNL)-RAPS A(NPC) 2) 220kV RAPS A(NPC)-Sakatpura(RVPNL) ckt-1 | Rajasthan | NPC & Rajasthan | 28-Dec-18 | 6:15 | 28-Dec-18 | 06:34 | 00:19 | 220kV Debari(RVPNL)-RAPS A(NPC) tripped on R-N fault. At the same time, 220kV RAPS A(NPC)- Sakatpura[RVPNL) ckt-1 also tripped on R-N fault. As per PMU, R-N fault with no autoreclosing is observed. In antecedent conditions, 220kV Bebari(RVPNL)-RAPS A(NPC) & 220kV RAPS A(NPC)-Sakatpura[RVPNL) ckt- 1 carrying 55 MW & 26 MW respectively. | Nil | Nil | GI-2 | Nil |

Western Region-Event Report for December 2018

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|------|--------|--|--------------|------------|-------|------------|---------------|----------------------|---|----------------------|----------------|-------------------------------|-------------------------|
| S.No | Region | Name of Elements | Owner/Agency | Out | Time | Date | rival Time | Outage Duration Time | Event | Generation Loss (MW) | Load Loss (MW) | Category as per CEA standards | Energy Unserved (MU) |
| 1 | WR | Tripping of 1.220 kV Sukha-Narsingpur-ckt 2 2.220 kV Sukha-Jabalpur(PG) 2 3.220 kV Sukha-Panagar 1 | MPPTCL | 03-12-2018 | 08:05 | 03-12-2018 | 08:36 | 00:31 | At 220 kV Sukha s/s, B phase jumper of ICT-1 snapped and resulted in tripping of all the elements connected to 220 kV bus 2 on bus bar protection operation. | Nil | Nil | GI-1 | Nil |
| 2 | WR | Tripping of 1.400 kV Solapur Bus 1 2.765 kV/400kV Solapur ICT-II 3. 2X 150 MVAR Solapur STATCOM 4.400 kV/38 S.kV Solapur STATCOM Coupling Transformer | PGCIL | 03-12-2018 | 10:26 | 03-12-2018 | 12:52 | 02:26 | At 765/400 kV Solapur s/s, B-Phase Inductive Voltage Transformer(IVT) of 400KV/38.5KV Coupling transformer failed (got burnt) and due to the fumes from blasting of IVT, 400KV BUS 1 and 765KV/400 kV ICT2 tripped. | Nil | Nil | GI-2 | Nil |
| 3 | WR | Tripping of 1.765/400 kV 1500 MVA Dharamjaigarh ICTs 1&2 2.400 kV Dharamjaigarh Balco D/C 3.400/220 kV 315 MVA Balco ICTs 1&3 | PGCIL | 07-12-2018 | 11:31 | 07-12-2018 | 11:46 | 00:15 | At 765/400 kV Dharamjaigarh s/s, Bus bar protection of 400kV Bus 2 operated while conducting protection testing of 400 kV Bus 1 and resulted in tripping of 756/400 kV 1500 MV AD haramjaigarh 16T 1.82. Due to the tripping, power flow in 400 kV Dharamjaigarh Balco I/C became zero and Balco system got islanded. At 11.46hrs. after charging one of the 765kV/400kV ICTs at Dharamjaigarh, 400kV Bus 2 at BALCO tripped on bus bar protection on R phase fault resulting in tripping of 400kV Bus Coupler, ICT 1 & ICT 3 at BALCO. | 343 | NII | GI-2 | Nil |
| 4 | WR | Tripping of 1.220 kV Jabalpur- Amarkantak D/C 2.220 kV Jabalpur-Birsingpur D/C 3.220 kV Jabalpur-Sukha 4.220 kV Jabalpur-Sukha 5.220/132 kV 105 MVA Jabalpur ICTs 1&2 6.220/132 kV 120 MVA Jabalpur ICTs 1&2 | MPPTCL | 09-12-2018 | 11:17 | 09-12-2018 | 11:45 | 00:28 | At 220 kV Jabalpur s/s, 220 kV Bus 18.2 tripped along with all the connected elements due to B phase fault on Bus 1 caused by monkey. | Nil | 337 | GD-1 | 0.1573 |
| 5 | WR | Tripping of 1.220 kV Ujjain-Indore (PG) 2 2.220 kV Ujjain-Badod D/C 3.220 kV Ujjain-Nagda 2 4.220/132 kV 160 MVA Ujjain Ict 2 | MPPTCL | 10-12-2018 | 23:39 | 11-12-2018 | 00:00 | 00:21 | At 220 kV Ujjain s/s, while synchronising 220 kV Ujjain- Indore (PG) 2, LBB of the line maloperated and all the elements connected to 220 kV Bus 2 tripped. | NII | Nil | GI-1 | Nil |
| 6 | WR | Tripping of 1.400 kV Padghe HVDC 1 2.400 kV Padghe-Kalwa D/C 3.400 kV Padghe-Tarapur 2 | MSETCL | 11-12-2018 | 02:45 | 11-12-2018 | 07:15 | 04:30 | At 400/220 kV Padghe s/s, B phase CT of 400 kV Padghe HVDC 1 blasted and resulted in tripping of 400 kV Padghe-Padghe HVDC 1, 400 kV Padghe-Kahwa D/C and 400 kV Padghe-Tarapur 2 due to the fire and smoke. | Nil | Nil | GI-2 | Nil |
| 7 | WR | Tripping of 1.400 kV Bhatapara Bus 1 2.400 kV Bhatapara-Bhilai | PGCIL | 11-12-2018 | 04:03 | 11-12-2018 | 06:06 | 02:03 | At 400/220 kV Bhattapara s/s, Y phase CT of 400 kV Bhilai feeder failed and resulted in tripping of all Main bays connected to 400 kV Bus 1. Since the fault was fed from the other side of the line, LBB of tie bay operated and DT was sent to other end resulting in tripping of 400 kV Bhattapara-Bhilai. | Nil | Nil | GI-2 | Nil |
| 8 | WR | Tripping of 1.220 kV Khargar- Uran D/C 2.220 kV Khargar- Borivalli D/C 3.220 kV Khargar- Barwel 4.220 kV Khargar- Parwel 4.220 kV Khargar- Nerul 5.220 kV Khargar- Topwarth 6.220 kV Khargar- Topwarth 6.220 kV Khargar- Sonkhar 7.400/220 kV 3.5 MVA ICT 1,2&3 8.220/33 kV 50 MVA ICT 1,2&3 | MSETCL | 11-12-2018 | 13:45 | 11-12-2018 | 14:14 | 00:29 | At 400/220 kV Khargar s/s, 220 kV Bus 1& 2 along with bus coupler tripped on LBB operation of 220 kV Bus coupler. | Nil | 47 | GI-1 | 0.0345 |
| 9 | WR | Tripping of 1.400/220 kV, 315 MVA Mansar ICT 1 2.400 kV Mansar-Bhachau (PGCIL) 3.400 kV Mansar bus Coupler | GETCO | 12-12-2018 | 11:54 | 12-12-2018 | 12:49 | 00:55 | At 400/220 kV Mansar s/s, flashover on Y phase pentograph isolator of 400 kV, 63 MVAr bus reactor led to the tripping of 400kV Bus 1 and all elements connected on BB protection operation. | Nil | Nil | GI-2 | Nil |

| | | | | Out | age | Rev | rival | Outage Duration | | | | Category as per CEA | Energy Unserved |
|------|--------|---|--------------|-------------|-------|------------|-------|-----------------|--|----------------------|----------------|---------------------|-----------------|
| S.No | Region | Name of Elements | Owner/Agency | Date | Time | Date | Time | Time | Event | Generation Loss (MW) | Load Loss (MW) | standards | (MU) |
| 10 | WR | Tripping of 1.220 kV Godhra-Kadana 2.220 kV Godhra-Wanakbori 3.220 kV Godhra-Chandrapura D/C 4.220 kV Godhra-Savdas Na Muvada 5.220/132 kV Godhra ICTs 1,284 6.220/66 kV Godhra ICTs 1,283 | GETCO | 13-12-2018 | 19:02 | 13-12-2018 | 19:30 | 00:28 | At 220/132 kV Godhra s/s, 220 kV side Y-Phase CT of 220/132kV 50MVA ICT 3 failed due to flashover. Heavy flames due to flash over resulted in 220 kV Bus 1& 2 tripping. | NII | 163.9 | GD-1 | 0.0765 |
| 11 | WR | Tripping of 1.7655 kV Bilaspur Bus 2 2.765 kV Sipat-Bilaspur 2 | PGCIL | 21-12-2018 | 10:52 | 21-12-2018 | 11:11 | | At Bilaspur s/s, tie bay of 765 kV Sipat-Bilaspur 3 went to SF6 lockout condition due to SF6 leakage. While opening the 89 B isolator, sparking was observed in Y phase and 765 kV Bus 2 and all the main bays tripped on Bus bar protection operation. Since the Sipat 2 circuit was connected only to Bus 2 through main bay, it also tripped. | Nil | Nil | GI-2 | Nil |
| 12 | WR | Tripping of 1.400 kV 315 MVA Padghe ICT 2 2.400 kV Padghe-Babhaleshwar 2 3.400 kV Padghe-Kalwa 2 4.400 kV Padghe HVDC 1 5.400 kV Padghe-Magothane 1 6.400 kV Padghe-Tarapur 2 | MSETCL | 28-12-20018 | 04:48 | 28-12-2018 | 05:15 | 00:27 | At 400/220 kV Padghe s/s,Y phase CT of 400kV Tarapur 2 blasted, resulting into tripping of all 400 kV Lines / ICTs on 400 kV Bus 1 along with Bus coupler. | Nil | Nil | GI-2 | Nil |

Disclaimer: The Above details are based on the preliminary/flash report of the event and may change after finalisation of the detailed report. The qunatum of load/generation loss is based on details given by SLDC and utility and may vary later with updated details.

| Fastern | Region-Event | Report for | December 2018 |
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| SI. | Region | Name of major elements | Owner / Agency | Outag | e | Re | vival | Outage Duration | Event | Generation Loss | | Category as per CEA Grid | |
| No. | | | | Date | Time | Date | Time | Time | | (MW) | (MW) | Standards | MU) |
| 1 | ERLDC | Pole III and HVDC Alipurduar 400 kV Alipurduar Bongaigaon D/C 220 kV Alipurduar - Salakati D/C | ISTS (ER part) | 5-Dec-18 | 10:19 | 5-Dec-18 | 10:37 | 00:18 | All three poles of Reactor isolator of the 420 kV, 50 MVAR Bus Reactor 2 at Bongaigaon opened on load condition. Arc in R-ph due to this isolator operation struck the nearby structure (>nominal distance of 3.5 meter) which resulted in R-N fault. HVDC Alipurduar pole IV was under shutdown. Pole III and HVDC Alipurduar, 400 kV Alipurduar Bongaigaon D/C and 220 kV Alipurduar - Salakati D/C tripped during this event. | 0 | 0 (in ER) | GI-II | 0.0000 |
| 2 | ERLDC | 400 KV Bus I, 315 MVA ICT II and 125 MVAr B/r I at Jeypore | ISTS | 6-Dec-18 | 13:27 | 6-Dec-18 | 13:50 | | At 13:27 hrs Bus I at Jeypore tripped due to operation of LBB of main bay of 125 MVAr B/r (409 Bay). At the same time ICT II also tripped due to nonavailability of its tie bay as 63 MVAr B/r was out of service. | 0 | 0 | GI-II | 0.0000 |
| 3 | | 220 kV Maithon Kalyaneswari D/C 220 /132 kV ATR I, II & III at Kalyaneswari 132 kV Kalyaneswari - Kalipahari D/C 132 kV Kalyaneswari - Maithon D/C | DVC | 18-Dec-18 | 02:57 | 18-Dec-18 | 04:05 | 01:08 | Due to burst of Y phase LA of 132 kV Kalyaneswari - Maithon - II at Kalyaneswari end, 220 kV bus tie at Kalyaneswari, 220/132 kV ATR I, II & III at Kalyaneswari, 132 kV Kalyaneswari - Kalipahari D/C, 132 kV Kalyaneswari - Maithon D/C tripped resulting total power failure at Kalyaneswari S/S. | 0 | 250 | GD-I | 0.2833 |
| 4 | ERLDC | 220 kV Gaya Sonenagar D/C | BSPTCL | 24-Dec-18 | 23:28 | 24-Dec-18 | 23:48 | 00:20 | 220 kV Gaya Sonenagar D/C tripped on R-N fault leading to a load loss at Sonenagar and its nearby area. | 0 | 115 | GD-I | 0.0383 |
| 5 | ERLDC | 220 kV Budhipadhar - Raigarh S/C 220 kV Budhipadhar - Korba D/C 220 kV Budhipadhar - IBTPS C/C 220 kV Budhipadhar - Tarkera - I 220 kV Budhipadhar - Lapanga - D/C 220 kV Budhipadhar - Bhusan D/C 220 kV Budhipadhar - Bhusan D/C 220 kV Budhipadhar - Bhusan D/C 220 kV Budhipadhar - Aditya Aluminum D/C 220 kV Budhipadhar - Aditya Aluminum D/C 220 kV Budhipadhar - VAL D/C | OPTCL | 25-Dec-18 | 12:47 | 25-Dec-18 | 14:15 | | At 12:47 hrs disk insulator of y phase transfer bus snapped and fell on 220 kV Budhipadhar - Lapanga - II resulting tripping of all lines emanating from Budhipadhar. | 370 | 30 | GD-I | 0.1500 |

SR_Grid Events_December_2018

| SI. | Region | Name of Elements (Tripped/Manually opened) | Owner / | Outa | ge | Revival | | Outage Duration | Event | Generation Loss (MW) | Load Loss (MW) | Category as per CEA Grid | Energy Unserved |
|-----|--------|---|---------|------|----------|---------|----------|--------------------|---------------|-------------------------|-------------------|--------------------------|--------------------|
| No. | | (тпрреф/мапиану орепеф) | Agency | Date | Time | Date | Time | Time | (As reported) | LOSS (IVIVV) | (IVIVV) | Standards | (MU) |
| | • | | | • | <u> </u> | | <u> </u> | Nil | | • | • | | _ |

NER Grid Disturbances for December 2018

| SI. | Region | Name of Element | Owner / Agency | Date and Time of Tripping | Date and Time of Restoration | Outage Duration | Event | Generation Loss (MW) | Load Loss (MW) | Generation Loss in MU | Load Loss in MU | Category as per CEA Grid Standards |
|-----|--------|---|----------------------------|------------------------------|---------------------------------|--------------------|--|-------------------------|-------------------|--------------------------|--------------------|--|
| 1 | NER | 400 kV Bongaigaon - Alipurduar I, II; 400 kV Bongaigaon - New Siliguri I, II; 400 kV Bongaigaon - Balipara I, II, III; 400/220 kV 315 MVA ICT-1 & 2 at Misa S/s; 400/220 kV 315 MVA ICT-1 & 2 at Azara S/s, 400 kV Bongaigaon - Bgtpp I & II | POWERGRID | 05-12-2018 10:19:00 | 05-12-2018 11:28:00 | 01:09 | At 10:19 Hrs, isolator of 400kV, 50MVAR Bus Reactor # 2 at Bongaigaon Substation opened on load condition. During opening, the arc between the R-Pole of the isolator and nearby structure created R-E fault, resulting in bus dead of 400 kV Bongaigaon Bus due to tripping of lines eminating from 400 kV Bongaigaon on distance protection Z-4 at Bongaigaon/Z-2 at remote end. (315 MVA, 400/220/33 kV ICT at Bongaigaon was under planned shutdown for Conversion of ICT extension bay to Line bay at Salakati Substation, since 16/11/18 and 400 kV Balipara - Bongaigaon IV was hand tripped to reduce voltage since 21:19 Hrs of 04/12/18). Balipara Substation, BNC Sub-Station, Ranganadi Power Station, Pare Power Station, Sonabil area of Assam and Khupi & Capital area of Arunachal Pradesh were connected with rest of NER Grid through 400 kV Bongiagaon — Balipara I, II & III lines, 400/220 kV 315 MVA ICT-1&2 at Misa & +/- 800 kV BNC — Agra Pole I & II as 220 kV Sonabil — Samaguri 1 & 2 lines were out of service during the incident as informed by AEGCL. Immediately after tripping of 400 kV Bongiagaon — Balipara I, II & III lines, load of these areas were shifted to 400/220 kV 315 MVA ICT-1 & 2, which subsequently tripped on Over Current protection. This resulted in blackout of these areas. ICTs at Azara tripped on SPS due to reverse power flow | 0 | 140 | 0.000 | 0.177 | GD-I |
| 2 | NER | 132 kV Dimapur (PG) - Dimapur (DOP, Nagaland) I and II, 132 kV Dimapur - Doyang I and II, 132 kV Dimapur (PG) - Kohima I, 132 kV Doyang - Mokokchung (DOP, Nagaland) I Lines | POWERGRID & DoP, Nagaland | 05-12-2018 12:01:00 | 05-12-2018 12:24:00 | 00:23 | Dimapur area of Nagaland Power System was connected to the rest of NER Grid through 132 kV Dimapur(PG) - Dimapur(DOP, Nagaland) I and II lines. At 12:01 Hrs on 05.12.2018, 132 kV Dimapur(PG) - Dimapur (DoP, Nagaland) I and II lines tripped. Due to tripping of these elements, Dimapur area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area. Mokokchung (PG) Substation and Mokokchung area of Nagaland Power System were connected with rest of NER Grid through 132 kV Doyang- Mokokchung line. 132 kV Mariani (AS) - Mokokchung (DoP, Nagaland) line is under long outage. (220 kV Mariani – Mokokchung I,&II lines tripped during Grid Disturbance occurred at 10:19 dtd 05-12-2018). At 12:01 Hrs on 05.12.2018, 132 kV Doyang- Mokokchung line tripped. Due to tripping of this element, Mokokchung area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area. | 0 | 40 | 0.000 | 0.023 | GD-I |
| 3 | NER | 132 kV Doyang - Sanis Line | DoP, Nagaland | 20-12-2018 17:35:00 | 20-12-2018 17:45:00 | 00:10 | Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Doyang - Sanis line. 132 kV Karong - Kohima line kept idle charged from Kohima, 132 kV Dimapur (PG) - Kohima (DoP, Nagaland) line was under shutdown since 14:27 Hrs on 20.12.2018 and 66 kV Tuensang - Likhimro line kept open (Cause: construction activities). At 17:35 Hrs on 20.12.2018, 132 kV Doyang - Sanis line tripped. Due to tripping of this element, Capital area was separated from rest of NER Grid and subsequently collapsed due to no source in this area. | 0 | 40 | 0.000 | 0.007 | GD-I |
| 4 | NER | 132 kV Imphal (PG) - Loktak, 132 kV Loktak - Ningthoukhong, 132 kV Silchar - Imphal 1 & 400 kV Silchar - Imphal 2 | POWERGRID, MSPCL & NHPC | 26-12-2018 07:13:00 | 26-Dec-18 08:35:00 | 01:22 | Imphal (PG) and Manipur Power System except Jiribam & Rengpang load were connected with rest of NER Grid through 400 kV Silchar – Imphal (PG) II Line, 132 kV Silchar – Imphal (PG) I Line, 132 kV Loktak – Imphal (PG) Line. 132 kV Kakching - Kongba line and 132 kV Karong – Kohima line kept open for system requirement. At 07:13 Hrs on 26.12.2018, 400 kV Silchar – Imphal (PG) II Line, 132 kV Silchar – Imphal (PG) I Line, 132 kV Loktak – Ningthoukhong Line & 132 kV Loktak – Imphal (PG) line tripped. Due to tripping of these lines, Imphal (PG) and Manipur Power System except Jiribam & Rengpang load were isolated from rest of NER grid and collapsed due to no source in this area. | 0 | 168 | 0.000 | 0.187 | GD-I |

| SI | l. o. | Region | Name of Element | Owner / Agency | Date and Time of Tripping | Date and Time of Restoration | Outage Duration | Event | Generation Loss (MW) | Load Loss (MW) | Generation Loss in MU | Load Loss in MU | Category as per CEA Grid Standards |
|----|----------|--------|---|---------------------------------------|------------------------------|---------------------------------|--------------------|---|-------------------------|-------------------|--------------------------|--------------------|--|
| 5 | 5 | NER | 132 kV Balipara - Khupi | NEEPCO & DoP, Arunachal Pradesh | 28-12-2018 19:51:00 | 28-Dec-18 20:12:00 | 00:21 | Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara - Khupi line. At 19:51 Hrs on 28-12-18, 132 kV Balipara-Khupi line tripped.Due to tripping of this line, Khupi area was isolated from rest of NER grid and collapse due to no source in this area. | 0 | 27 | 0.000 | 0.015 | GD-I |
| 6 | 5 | NER | 132 kV Aizawl - Kolasib and 132 kV Badarpur - Kolasib | POWERGRID | 30-12-2018 13:35:00 | 30-Dec-18 14:01:00 | 00:26 | Kolasib area of Mizoram Power System was connected with rest of NER Grid through 132 kV Kolasib-Badarpur line & 132 kV Kolasib-Aizwal line. At 13:35 Hrs on 30.12.2018, 132 kV Kolasib-Badarpur line & 132 kV Kolasib-Aizwal line tripped. Due to tripping of these elements, Kolasib area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area. | 8 | 21 | 0.019 | 0.010 | GD-I |

| | | | | | NER | Grid Inc | idences | for Dec | ember 2 | 2018 | | | | |
|-------|--------|-------------------|---|-------------------|-------------|----------|-------------|----------|--------------------|--|--------------|-----------------|----------------------|------------------------------|
| | | | | _ , | Outag | ge | Revi | ival | | | Generation | | ٠, | Category as |
| S.No. | Region | Plant Involved | Name of Elements | Owner / Agency | Date | Time | Date | Time | Outage Duration | Event (Brief Details) | Loss (MW) | Load Loss MW | Unserve d (MU) | per CEA Grid Standards |
| 1 | NER | BgTPP | BgTPP Unit 2 | NTPC | 09-Dec-2018 | 06:01:00 | 09-Dec-2018 | 06:45:00 | 00:44:00 | BgTPP Unit 2 tripped at 06:01 Hrs on 09.12.18 due to Condenser Vacuum Pressure low. (Revision of schedule from Block No. 28 on 09.12.18). | 65 | 0 | 0.048 | GI-II |
| 2 | NER | AGBPP | AGBPP Unit 1, 2, 4, 5, 6, 7, 8 & 9 | NEEPCO | 09-Dec-2018 | 09:40:00 | 09-Dec-18 | 10:15:00 | 00:35:00 | AGBPP Unit 1, 2, 4, 5, 6, 7, 8 & 9 tripped at 09:40 Hrs on 09.12.2018 due to tripping of PCV malfunctioning. (Revision of schedule from Block No.42 on 09.12.2018). | 203 | 0 | 0.0019 | GI-II |
| 3 | NER | Palatana | 400/132/33 kV 315 MVA ICT 3 at Silchar; 400 kV Silchar - Palatana I & II Main Bay, 400 kV Silchar- Azara Main Bay and 400 kV Silchar- Byrnihat Main Bay | ОТРС | 15-Dec-2018 | 10:29:00 | 15-Dec-2018 | 10:45:00 | 00:16:00 | 400/132/33 kV, 315 MVA ICT 3 at Silchar and 400 kV Silchar Bus I tripped at 10:29 Hrs on 15.12.18 due to operation of Bus Bar Protection. As a result backing down of Palatana and Monarchak was done. (Revision of schedule from Block No. 44 on 15.12.18). | 90 | 0 | 0.024 | GI-II |