Major Grid Events for July, 2017_Northern Region

S. No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration	Event *(As reported)*	Generation Loss (MW)	Load Loss (MW)	Category as per CEA Grid Standards	Energy Unserved (in MU)
				Date	Time	Date	Time	Time					
1	**NR**	1.220 kV Cbganj Bareilly 2.220 kV Cbganj Badayu 3.220 kV Cbganj Dohna 4.220 kV Cbganj Moradabad 5.220 kV Cbganj Tanakpur 6.Unit #1,# 2, & #3 of Tanakpur 7.132 kV Tanakpur Nepal	Uttar Pradesh/ POWERGRID/ NHPC	**1-Jul-17**	**12:50**	**01-Jul-17**	**14:10**	**01:20**	220kV CB Ganj and 220/132kV Tanakpur station went black out and all units of Tanakpur (Unt 1,2& 3) tripped on under voltage protection. From PMU, sudden Voltage dip observed in all three phases.	90	60	GD-1	0.08
2	**NR**	1.220kV Noida sec 20 (UP)-Badarpur 2. 220kV Noida sec 20 (UP)-Gazipur(DTL)	Uttar Pradesh/ Delhi/ NTPC	**1-Jul-17**	**13:09**	**01-Jul-17**	**16:32**	**03:23**	Red phase to Earth fault occurred leads to tripping of 220kV Noida sec 20 (UP)-Badarpur and 220kV 220kV Noida sec 20 (UP)-Gazipur(DTL). From PMU, MaxVoltage dip observed in Red-phase.	0	0	GI-1	
3	NR	1.765kVBalia-Sasaram 2.765kVBalia-Varansi 3.765kVBalia–Lucknow 4.HVDCBalia–Bhiwadi Pole1 & 2 5.400kVBalia-Sohawal ckt 1& 2 6.400kVBalia-Patna 1,2,3& 4 7.400kVBalia-Mau ckt 1& 2 8.400kVBalia-Biharsharif ckt 1& 2 9.400kVMau-Anpara 10.400kVMau-Azamgarh	POWERGRID/ Uttar Pradesh	**9-Jul-17**	**08:41**	**09-Jul-17**	**09:49**	**01:08**	Complete 765/400kV Balia & 400/132kV Mau stations went blackout , while opening 400kV Patna-Balia 4 line for availing planned shutdown. From PMU, max Voltage dip observed in Blue-phase and staged fault clearnace.	0	500	GD1	0.566666667

S. No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration	Event *(As reported)*	Generation Loss (MW)	Load Loss (MW)	Category as per CEA Grid Standards	Energy Unserved (in MU)
				Date	Time	Date	Time	Time					
4	NR	1.400kV Uri2-Uri1 2.120MW Unit #3 of URI1 3.400kV Wagoora-Uri2 4.60MW Units 1,2,3 & 4 of URI 2	POWERGRID/ NHPC	**9-Jul-17**	**17:16**	**09-Jul-17**	**18:50**	**01:34**	A severe earth fault occured on 400kV Uri2-Uri1 line, along with line resulted into tripping of unit#3 of Uri1,.Further ,400kV Wagoora-Uri2 sensed the same earth fault on 400kV Uri2-Uri1 line and tripped on Over current protection. On loss of evacuation path ,all running units of URi2 tripped on Over frequency protection. From PMU, Red and Yellow phase Voltage dips observed at different timings.	360	0	GD-1	
5	**NR**	1.400/220kV G.Noida ICT- 1 2. 400kV G.Noida -Nawada 3.400kV G.Noida- G.Noida(765kV) ckt 2 4. 400kV G.Noida(765kV)-Sikandrabad ckt 1	Uttar Pradesh/Haryana	**11-Jul-17**	**12:22**	**11-Jul-17**	**13:30**	**01:08**	Y phase CT of 400kV G.Noida-400kVG.Noida(765kV)-2 damaged. Bus bar protection operated at 400kV G.Noida station.	0	0	GI-2	
6	**NR**	1.500kV Mundra-Mahendergarh Pole 1 2.500kV Mundra-Mahendergarh Pole 2	ADANI	**24-Jul-17**	**12:26**	-	-	**Still out**	DC earth fault occurred at tower no. 936,which is 340.64 km from Mundra HVDC terminal , further resulted into SPS operation. From PMU, Multiple transients observed.	0	0	GI-2	
7	**NR**	1.400kV Rihand(NTPC)-Singrauli(NTPC) ckt 1 2.500kV Rihand-Dadri pole 2	POWERGRID/ NTPC	**26-Jul-17**	**21:23**	**26-Jul-17**	**22:57**	**01:34**	400kV Rihand(NTPC)-Singrauli(NTPC) ckt 1 tripped on R-N fault, dist. 2.5km(from Rihand end) along with that, 500kV Rihand-Dadri pole 2 tripped on Short circuit protection. From PMU, Max Voltage dip observed in R-Phase.	0	0	GI-2	

S. No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration	Event *(As reported)*	Generation Loss (MW)	Load Loss (MW)	Category as per CEA Grid Standards	Energy Unserved (in MU)
				Date	Time	Date	Time	Time					
8	**NR**	1.220kV Moga(PG)-220kv Moga(PSTCL) ckt 1 2.220kV Moga(PG)-220kv Moga(PSTCL) ckt 2 3.220kV Moga(PG)-220kv Moga(PSTCL) ckt 3 4.220kV Moga(PG)-220kv Moga(PSTCL) ckt 4	POWERGRID/ Punjab	**27-Jul-17**	**14:33**	**27-Jul-17**	**15:37**	**01:04**	Y phase wave trap jumper burnt at 220kV Moga (PSTCL) leads to tripping of all four circuits to Moga(PG) viz. 220kV Moga(PG)-220kV Moga (PSTCL) ckt 1,2,3& 4. From PMU, Max Voltage dip observed in Y-phase.	0	450	GD-1	0.4575

Grid Events for Jul-2017 Western Region

S.No	Region	Name of Elements	Owner/ Agency	Outage		Revival		Outage Duration	Event	Generation Loss (MW)	Load Loss (MW)	Category as per CEA standards	Energy Unserved (MU)
				Date	Time	Date	Time	Time					
1	WR	Tripping of 1.220 kV Mahalakshmi - Amona 2.220 kV Tillari - Amona 3.220 kV Mapusa - Amona	oa/MSET(	01-07-2017	05:32	01-07-2017	06:40	01:08	Tripping of multiple lines from Amona Substation due to fault on 220 kV Tillari-Amona circuit.	Nil	Nil	GI-1	Nil
2	WR	Tripping of 1.220 kV Lonikand II - Bhosari 2.220 kV Lonikand I - II I/C	MSETCL	02-07-2017	09:19	02-07-2017	10:20	01:01	B Phase 220 kV PT got burst and led to Bus Bar Protection operation at 220 kV Bus 1 At 400/220 kV Lonikhand 2 Substation.	Nil	Nil	GI-1	Nil
3	WR	Tripping of 1.400/220 kV 500 MVA SGTPS Birsingpur ICT 2.210 MW SGTPS Unit No. 1 3.220 kV Birsingpur - Amarkantak II 4.220 kV Birsingpur - Rewa 5.220 kv Birsingpur - Birsingpur IV 6.220/33 kV 40 MVA Station Transformer 1 7.220/33 kV 40 MVA Station Transformer 2	PGCL/MPF	07-07-2017	18:40	07-07-2017	19:40	01:00	400/220 kV, 500 MVA Birsingpur ICT tripped while charging along multiple 220 kv elements from Birsinghpur S/s.	Nil	Nil	GI-1	NIl
4	WR	Tripping of 1.220 kV Magarwada(PG)-Magarwada(DD)-I 2.220 kV Magarwada(PG)-Magarwada(DD)-II	PGCIL	10-07-2017	09:20	10-07-2017	10:25	01:05	220kV Magarwada(PG) -Magarwada-1 & 2 tripped on B- ph fault causing partial blackout at 220/66 kV Magarwada Substation and lower level.	Nil	182	GI-1	0.197
5	WR	Tripping of 1.220 kV Lonikand - Theur 2 2.220 kV Lonikand - Lonikand 2 I/C 3.400/220 kV 315 MVA ICT 2 4.220/22 kV 50 MVA ICT 1 5.220/22 kV 50 MVA ICT 2 6.220 kV Bus coupler	MSETCL	15-07-2017	16:40	15-07-2017	17:16	00:36	Tripping of 220 kV Bus 2 and all associated connected elements at Lonikhand due to LBB operation for fault on 220 kV Lonikhand-Theur 2 circuit .	Nil	Nil	GI-1	Nil
7	WR	Tripping of 1.220 kV Mahalakshmi - Amona 2.220 kV Halkarni - Tillari 3.220 kV Tillari - Amona 4.220 kV Mapusa - Amona	oa/MSET(	20-07-2017	19:45	20-07-2017	19:57	00:12	Tripping of multiple lines from Amona Substation due to fault on 220 kV Tillari-Amona circuit.	Nil	80	GI-1	0.016
8	WR	Tripping of 1.400 kV Korba - Bhatapara S/C 2.400 kV Korba - Raipur 4 3.400 kV Korba - Sipat S/C 4.400 kV Korba - Vindhyachal 2 5.400 kV Korba - Birsingpur 1 6.400 kV Korba - Birsingpur 2 7.500 MW KSTPS Unit 5 8.500 MW KSTPS Unit 6	NTPC	21-07-2017	21:26	21-07-2017	01:06	03:40	Bus Bar Protection operation at 400 kV Bus 3 and 4 at korba NTPC due to problem in VAJ-C relay in Bus 3.	954	Nil	GI-2	Nil
9	WR	Tripping of 1.500 kV HVDC Chandrapur Padghe Pole 1 2.400 kV Padghe - Bableshwar 1 3.400 kV Padghe - Nagothane 1 4.400 kV Padghe - Tarapur 1 5.400 kV Padghe - Kalwa 2 6.400/220 kV 315 MVA ICT 1 7.400/220 kV 315 MVA ICT 2	MSETCL	22-07-2017	09:23	22-07-2017	09:56	00:33	LBB protection operation of 400 kV Padghe - Bableshwar 1 at Padghe S/s leading to the tripping of 400 kV Bus 1 and associated elements connected to it.	Nil	Nil	GI-2	Nil

S.No	Region	Name of Elements	Owner/ Agency	Outage		Revival		Outage Duration	Event	Generation Loss (MW)	Load Loss (MW)	Category as per CEA standards	Energy Unserved (MU)
				Date	Time	Date	Time	Time					
10	WR	Tripping of 1.500 KV HVDC Mundra - Mohindargarh Pole 1 2.500 KV HVDC Mundra - Mohindargarh Pole 2 3.660 MW APL Unit 9	APL/ATIL	24-07-2017	12:29	24-07-2017	16:29	04:00	Due to Tower Collapse of HVDC mundra Mohindergarh Bipole, DC line fault occurred and resulted in its tripping followed by associated SPS operation.	373	0	GI-2	Nil
11	WR	Tripping of 1.220 kV OSP-Nirmani 2. 220 kV OSP-Birwaha 3. 220 kV OSP-chhagoan 4. 220 kV OSP-Khandwa	NHDC	26-07-2017	05:45	26-07-2017	06:26	00:41	Due to over voltage and over current protection operation several 200 kV lines tripped from Omkareshwar Substation.	Nil	Nil	GI-1	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.

SR_GD_JULY_2017

S.No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration (Hrs)	Event *(As reported)*	Generation Loss (MW)	Load Loss (MW)	Category as per CEA Grid Standards	Energy Unserved (MU)
				Date	Time	Date	Time	Time					
1	SR	1) 220 kV Pothencode-Trivandrum line-1, 2, 3 & 4 2) 230 kV Pothencode-Edamon line-1&2 3) 230/110kV ICT-1,2&3	KSEB	11-Jul-17	09:40	11-Jul-17	10:03	23 min	Complete outage of 220kV Pothencode substation of KSEB. Triggering incident was flashover in Y-phase isolator during isolation of Bus-1 for planned maintenance of 220kV Trivandrum-Pothencode ckt-1. Busbar protection operated leading to tripping of all the elements connected to Bus-3 and Bus-2 causing complete blackout of Pothencode station.	0	281 MW	GD 1	0.0937
2	SR	1) Unit-1, 2 & 4 2) 230kV Mettur-Anthiyur 3) 230kV Mettur-Ingur 4) 230kV Mettur-Salem-1,2&3 5) 230kV Metur-Sigarapet 6) 230kV Mettur-MTPH 7) 230kV Mettur-MTPS -2	TANGEDCO	13-Jul-17	10:33	13-Jul-17	11:25	52 min	Complete outage of 230kV Mettur Thermal Power station-1. Shutdown of Bus "B" was being availed for maintenance. Unit-I (GT-I) load was being tranfered from main breaker to Transfer breaker (Substitute bus) due to problem in GT-I 'A' Isolator. During closing of Transfer Bus 'A' Isolator (A12) in parallel with 'B' Isolator (B12), the same didn't close properly and heavy arc formed in Isolator A12. 230KV Switchyard GT-I breaker (Transfer Breaker) was hand tripped. Subsequently flashover occurred resulting in tripping of all Units and feeders.	570	-----	GD 1	-------

SR_GI_JULY_2017													
S.No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration	Event *(As reported)*	Generation Loss(MW)	Load Loss(MW)	Category as per CEA Grid Standards	Energy Unserved (MU)
				Date	Time	Date	Time	Time					
1	SR	HVDC Talcher Kolar Pole-1&2	POWERGRID	23-Jul-17	17:07	23-Jul-17	18:30	1 hr & 23 min	Tripping of 11kV auxilliary supply at Talcher end led to tripping of valve cooling pumps of HVDC which in-turn led to tripping of HVDC pole-1&2 at Talcher and emergency switch off signal (ESOF) was sent to Kolar end. Load relief in SR due to SPS operation was 564 MW.	NiL	Nil	GI-2	Nil
2	SR	1) 220kV Gooty-Shahpuram, 2) 220kV Gooty-Gooty RS 3) 220kV Gooty- Boyrelli 4) 400/220kV ICT-2	APTRANSCO/ ANDHRAPRADESH	28-Jul-17	12:59	28-Jul-17	13:11	12 min	220kV Bus-2 and connected elements at 220kV Gooty Station got de-energiged / tripped due to trip extention to trip bus of 220kv Bus-2 while carrying out LBB protection modifiacation in 220kV Gooty-Boyrelli feeder at Gooty end.	NiL	Nil	GI-1	Nil

Grid Events for Jul-2017 Eastern Region

Sl. No.	Region	Name of major elements	Owner / Agency	Outage		Revival		Outage Duration	Event	Generation Loss (MW)	Load Loss (MW)	Generation Loss in MU	Load Loss in MU	Category as per CEA Grid Standards
				Date	Time	Date	Time	Time						
1	ERLDC	132 kV KhSTPP-Lalmatia S/C 132 kV Kahalgaon (BSPTCL)- Lalmatia S/C 220 kV Farakka-Lalmatia S/C	JUSNL	3-Jul-17	18:32	3-Jul-17	19:10	00:38	Total loss of power supply occurred at Sahebgunj and Lalmatia after hand tripping of all 132 kV & 220 kV lines connected to Lalmatia S/S due to DC failure at Lalmatia.	0	76	0.000	0.048	GD-I
2	ERLDC	400/220 kV 500 MVA ICT - I at Patna 400/220 kV 315 MVA ICT - II at Patna	ISTS	3-Jul-17	18:53	3-Jul-17	19:48	00:55	On mal-operation of Bucholtz relay due to ingress of moisture through cables during rain, 400/220 kV 500 MVA ICT - I at Patna tripped at 18:53 hrs. Prior to the tripping, total loading of the ICTs was 571 MW. After tripping of ICT - I, loading at other 400/220 kV ICT (315 MVA) at Patna increased to 430 MW. At 19:14 hrs, 400/220 kV ICT - II tripped due to overload resulting load loss at surrounding area.	0	536	0.000	0.491	GD-I
3	ERLDC	220 kv Bokaro B - Jamshedpur D/C 220 kv Bokaro B - Ramgarh D/C 220 kv Bokaro B - CTPS D/C 150 MVA220/132 kv ATR I & II at Bokaro-B 315 MVA 400/220 KV ICT at Bokaro-A	DVC	13-Jul-17	20:18	13-Jul-17	21:42	01:24	At 20:18 hrs, all 220 kV feeders along with 400/220 kV ICTs (connected to 400 kV Bokaro A bus) and 220/132 kV ATRs at Bokaro B tripped due to bus bar protection operated for R phase PT failure at 220 kV Bokaro B main bus. Heavy thundering was reported at Bokaro end.	0	201	0.000	0.281	GD-I
4	ERLDC	132 kV Kahalgaon(BSPTCL) - Lalmatia S/C 132 kV Kahalgaon(NTPC) - Lalmatia S/C	JUSNL	15-Jul-17	09:40	15-Jul-17	10:14	00:34	132 kV Kahalgaon(BSPTCL) - Lalmatia S/C tripped at 09:50 hrs on E/F causing load loss of 22 MW at Sahebgunj. 132 kV Kahalgaon(NTPC) - Lalmatia S/C also tripped at the same time from Lalmatia on E/F. 132 kV Kahalgaon(BSPTCL) - Lalmatia S/C & 132 kV Kahalgaon(NTPC) - Lalmatia S/C tripped again at 13:54 hrs on E/F.	0	22	0.000	0.012	GD-I
5	ERLDC	400 kV Teesta III - Dikchu S/C	ISTS	16-Jul-17	00:30	16-Jul-17	02:33	02:03	400 kV Teesta III - Dikchu S/C (tripped only from Teesta III end) and Unit #I at Dikchu tripped due to operation of cable differential protection (B phase current 1.1 kA at Teesta III) resulting generation loss at Unit # II at Dikchu due to loss of evacuation path.	100	0	0.205	0.000	GD-I
7	ERLDC	--	ISTS	24-Jul-17	19:11	24-Jul-17	19:19	00:08	Due to Rotor Earth Fault in Unit #5, there was a dip in DC Voltage during Unit 5 Start-up (DC Field Flushing) leading other synchronized units to No Load Operation.	420	0	0.056	0.000	GD-I
8	ERLDC	400 kV Rangpo – Binaguri – II 400 kV Teesta III – Rangpo S/C	ISTS	27-Jul-17	10:08	27-Jul-17	10:30	00:22	At 10:08 hrs 400 kV Rangpo – Binaguri – II tripped due to B-N fault. (DEF, F/C at Rangpo and DT received at Binaguri). After tripping of circuit – II, power flow in 400 kV Rangpo – Binaguri – I became more than 850 MW (1700 MW approx.) and SPS – I (generation reduction at Teesta III, Dikchu, JLHEP and Chujachen.) got activated resulting tripping of one unit at each power plant at Chujachen, JLHEP and Dikchu. Due to non-tripping of any unit at Teesta III, power flow in 400 kV Rangpo – Binaguri – I remained more than 850 MW for more than 500 ms and SPS – II got activated resulting tripping of 400 kV Teesta III – Rangpo S/C followed by tripping of remaining units at Teesta III and Dikchu due to loss of evacuation path.	1070	0	0.392	0.000	GD-I
9	ERLDC	220 kv Tarkera - Budhipadar D/C 220 kv Tarkera - Rourkela D/C 220 kv Tarkera – Chandiposh- Rengali S/C 220 kv Tarkera – Barkote- Rengali S/C 4X100 MVA 220/132 kv ATR at Tarkera	OPTCL	31-Jul-17	11:24	31-Jul-17	12:59	01:35	B phase isolator drop jumper of 220 kV Tarkera - Chandiposh - Rengali snapped at Tarkera end at 11:24 hrs. But relay at Tarkera end failed to operate due to DC failure in relay panel of same line resulting tripping of all elements connected to 220 kV Bus at Tarkera due to LBB operation.	0	150	0.000	0.238	GD-I
10	ERLDC	220 kV Dalkhola - Kishangunj D/C 220 kV Dalkhola - Purnea D/C	ISTS	19-Jul-17	10:50	19-Jul-17	12:10	01:20	Due to operation of bus bar protection of bus - I, 220 kV Dalkhola - Kishangunj D/C and 220 kV Dalkhola - Purnea D/C tripped.	0	0	0.000	0.000	GI-I

Grid Events for July 2017 for NER Grid

Sl. No.	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	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	01-07-2017 17:12:00	01-07-2017 17:22:00	00:10:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG)-Kohima line (132 kV Kohima-Karong line, 132 kV Wokha-Kohima line & 66 kV Tuensang - Likimro line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping these lines in loop). At 17:12 Hrs on 01.07.2017, 132 kV Dimapur(PG)-Kohima 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	21	0.000	0.004	GD-I
2	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	02-07-2017 13:11:00	02-07-2017 13:24:00	00:13:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG)-Kohima line (132 kV Kohima-Karong line, 132 kV Wokha-Kohima line & 66 kV Tuensang-Likimro line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping these lines in loop). At 13:11 Hrs on 02.07.2017, 132 kV Dimapur(PG)-Kohima 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	15	0.000	0.005	GD-I
3	NER	132 kV Balipara- Khupi 1 Line	NEEPCO	02-07-2017 16:02:00	02-07-2017 18:54:00	02:52:00	Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara- Khupi line. At 16:02 Hrs on 02.07.2017, 132 kV Balipara-Khupi line tripped. Due to tripping of this element, Khupi area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	17	0.000	0.326	GD-I
4	NER	132 kV Dimapur (PG) - Kohima 1 Line	NEEPCO	04-07-2017 08:54:00	04-07-2017 09:06:00	00:12:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Kohima - Karong line, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likimro line kept open as 132 kV Dimapur(PG) - Kohima line get soverloaded in case of keeping these lines in loop). At 08:54 Hrs on 04.07.2017, 132 kV Dimapur(PG) - Kohima 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.	10	15	0.002	0.003	GD-I
5	NER	132 kV Dimapur (PG) - Kohima 1 Line	DoP, Nagaland	04-07-2017 21:15:00	04-07-2017 21:24:00	00:09:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG)-Kohima line (132 kV Kohima-Karong line, 132 kV Wokha-Kohima line & 66 kV Tuensang-Likimro line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping these lines in loop). At 21:15 Hrs on 04.07.17, 132 kV Dimapur(PG)-Kohima 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.	11	14	0.002	0.002	GD-I
7	NER	132 kV Imphal (MSPCL) - Imphal (PG) 1 & 2 Lines	POWERGRID & MSPCL	07-07-2017 11:56:00	07-07-2017 12:09:00	00:13:00	Capital area & Karong area of Manipur Power Systems were connected with rest of NER Grid through 132 kV Imphal-Imphal I & II lines (132 kV Kakching-Kongba line & 132 kV Karong-Kohima line was kept open as 132 kV Imphal-Imphal I & II lines get overloaded in case of keeping these lines in loop). At 11:56 Hrs on 07.07.17, 132 kV Imphal-Imphal I & II lines tripped. Due to tripping of these elements, Capital area & Karong area were separated from rest of NER Grid and subsequently collapsed due to no source in these areas.	0	40	0.000	0.015	GD-I

Sl. No.	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
8	NER	132 kV Imphal (MSPCL) - Imphal (PG) 1 & 2 Lines	POWERGRID & MSPCL	08-07-2017 10:44:00	08-07-2017 10:53:00	00:09:00	Capital area & Karong area of Manipur Power Systems were connected with rest of NER Grid through 132 kV Imphal-Imphal I & II lines (132 kV Kakching-Kongba line & 132 kV Karong-Kohima line kept open as 132 kV Imphal-Imphal I & II lines get overloaded in case of keeping these lines in loop). At 10:44 Hrs on 08.07.17, 132 kV Imphal-Imphal I & II lines tripped. Due to tripping of these elements, Capital area & Karong area were separated from rest of NER Grid and subsequently collapsed due to no source in these areas.	0	36	0.000	0.011	GD-I
9	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	10-07-2017 10:44:00	10-07-2017 14:18:00	03:34:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG)-Kohima line (132 kV Kohima-Karong line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping this line in loop, 132 kV Wokha-Kohima line & 66 kV Tuensang-Likimro were kept open). At 14:10 Hrs on 10.07.17, 132 kV Dimapur(PG)-Kohima 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	13	0.000	0.002	GD-I
10	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	15-07-2017 11:30:00	15-07-2017 11:37:00	00:07:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Kohima - Karong line was under outage since 09:05 Hrs on 13.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likimro line were kept open). At 11:30 Hrs on 15.07.2017, 132 kV Dimapur(PG) - Kohima 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	14	0.000	0.002	GD-I
11	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	16-07-2017 02:02:00	16-07-2017 12:30:00	10:28:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Kohima - Karong line was under outage since 17:48 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likimro line were kept open). At 02:02 Hrs on 16.07.2017, 132 kV Dimapur(PG) - Kohima 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.	16	10	0.167	0.095	GD-I
12	NER	132 kV Dimapur - Doyang 1 Line, 132 kV Dimapur - Doyang 2 Line and 132 kV Doyang - Mokokchung Line	POWERGRID & DoP, Nagaland	16-07-2017 04:30:00	16-07-2017 05:31:00	01:01:00	Doyang Power Station and Wokha area of Nagaland Power System were connected with rest of NER Grid through 132 kV Doyang- Dimapur I & II lines, 132 kV Doyang-Mokokchung(NA) line (132 kV Kohima-Wokha 1 line is kept open at Wokha end). At 04:29 Hrs on 16.07.2017, 132 kV Doyang- Dimapur I & II line, 132 kV Doyang-Mokokchung line tripped. Due to tripping of these elements Wokha area was separated from rest of NER Grid and subsequently collapsed due to no source in this area and also due to evacuation problem, Doyang Power Station was blacked out.	69.8	3	0.071	0.003	GD-I
13	NER	132 kV Balipara - Khupi 1 Line	NEEPCO & DoP, AP	17-07-2017 14:23:00	17-07-2017 14:41:00	00:18:00	Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara- Khupi line. At 14:23 Hrs on 17.07.2017, 132 kV Balipara-Khupi line tripped. Due to tripping of this element, Khupi area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	20	0.000	0.006	GD-I

Sl. No.	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
14	NER	132 kV Dimapur (PG) - Kohima 1 Line	Powergrid & DoP, Nagaland	17-07-2017 14:52:00	17-07-2017 15:06:00	00:14:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 14:52 Hrs on 17.07.2017, 132 kV Dimapur(PG) - Kohima line tripped. Due to tripping of this element, Capital area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area.	6	28	0.008	0.005	GD-I
15	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	17-07-2017 15:27:00	17-07-2017 15:37:00	00:10:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 15:27 Hrs on 17.07.2017, 132 kV Dimapur(PG) - Kohima 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	22	0.000	0.004	GD-I
16	NER	132 kV Dimapur (PG) - Dimapur (DoP, Nagaland) 2 Line	POWERGRID & DoP, Nagaland	18-07-2017 14:30:00	18-07-2017 14:43:00	00:13:00	Dimapur area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur (PG)-Dimapur (NA) II line (132 kV Dimapur (PG)-Dimapur (NA) I line is under shutdown since 08.06.2016). At 14:30 Hrs on 18.07.2017, 132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) II line tripped. Due to tripping of these elements, Dimapur area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	36	0.000	0.013	GD-I
17	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	19-07-2017 05:03:00	19-07-2017 05:15:00	00:12:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 05:03 Hrs on 19.07.2017, 132 kV Dimapur(PG) - Kohima 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.	18	14	0.004	0.003	GD-I
18	NER	132 kV Agartala - AGTCCPP 1 Line, 132 kV AGTCCPP - Kumarghat 1 Line , 132 kV Dhalabil - Kamalpur 1 Line & 132 kV Palatana - Udaipur 1 Line	POWERGRID and TSECL	19-07-2017 13:37:00	19-07-2017 14:03:00	00:28:00	AGTCCPP Power Station, Monarchak Power Station, Rokhia Power Station, Agartala, Rabindranagar, Udaipur and Dhalabil areas of Tripura Power System were connected with rest of NER Grid through 132 kV AGTCCPP-Kumarghat line, 132 kV AGTCCPP-Agartala I line & 132 kV Dhalabil-Kamalpur line (132 kV Palatana-Udaipur line was under outage since 13:31 Hrs, 132 kV AGTCCPP-Agartala II line, 132 kV Agartala-Surajmaninagar I & II lines, 132 kV Agartala-Budhjungnagar I line was under shutdown from 13:05 Hrs of 19.07.17, 66 kV Amarpur-Gumti line and 66 kV Agartala-Baramura ine kept open). While charging 132 kV Palatana - Udaipur 1 Line at 13:37 Hrs on 19.07.2017, 132 kV AGTCCPP-Kumarghat line, 132 kV AGTCCPP-Agartal I line & 132 kV Dhalabil-Kamalpur line tripped. Due to tripping of these elements, AGTCCPP Power Station, Monarchak Power Station, Rokhia Power Station, Agartala, Rabindranagar, Udaipur and Dhalabil areas of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	122	50	0.057	0.023	GD-I

Sl. No.	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
19	NER	132 kV Monarchak - Rokhia 1 Line & 132 kV Monarchak - Udaipur 1 Line	TSECL	21-07-2017 11:08:00	21-07-2017 11:13:00	00:05:00	Monarchak Power Station and Rabindranagar area of Tripura Power System were connected with rest of NER Grid through 132 kV Monarchak-Rokhia line & 132 kV Monarchak-Udaipur line. At 11:08 Hrs on 21.07.17, 132 kV Monarchak-Rokhia line & 132 kV Monarchak-Udaipur line tripped. Due to tripping of these elements,Monarchak Power Station and Rabindranagar area of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	113	5	0.009	0.001	GD-I
20	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	22-07-2017 11:23:00	22-07-2017 11:35:00	00:12:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 11:23 Hrs on 22.07.2017, 132 kV Dimapur(PG) - Kohima 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	18	0.000	0.004	GD-I
21	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	22-07-2017 13:05:00	22-07-2017 13:13:00	00:08:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 13:05 Hrs on 22.07.2017, 132 kV Dimapur(PG) - Kohima 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	18	0.000	0.005	GD-I
22	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	23-07-2017 13:28:00	23-07-2017 13:35:00	00:07:00	Capital area of Nagaland Power System and Karong area of Manipur Power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Yurembam - Karong line was under outage since 14:40 Hrs on 15.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 13:28 Hrs on 23.07.2017, 132 kV Dimapur(PG) - Kohima 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.	12	24	0.001	0.005	GD-I
23	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	24-07-2017 09:13:00	24-07-2017 09:22:00	00:09:00	Capital area of Nagaland Power System & Karong area of Manipur power System were connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Wokha - Kohima line, 132 kV Karong - Yurembam line & 66 kV Tuensang - Likhimro line were kept open). At 09:13 Hrs on 24.07.2017, 132 kV Dimapur(PG) - Kohima line tripped. Due to tripping of this element, Capital area and Karong area were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area.	16	30	0.003	0.006	GD-I
24	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	24-07-2017 09:35:00	24-07-2017 09:42:00	00:07:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Karong- Kohima line was under outage since 09:15 Hrs on 24.07.2017, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 09:35 Hrs on 24.07.2017, 132 kV Dimapur(PG) - Kohima line tripped. Due to tripping of this element, Capital area was separated from rest of NER Grid and subsequently collapsed due to to no source in this area.	0	12	0.000	0.002	GD-I

Sl. No.	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
25	NER	132 kV Monarchak - Udaipur 1 Line & 132 kV Monarchak - Rokhia 1 Line	TSECL	25-07-2017 10:49:00	25-07-2017 11:03:00	00:14:00	Monarchak Power Station and Rabindranagar area of Tripura Power System were connected with rest of NER Grid through 132 kV Monarchak-Rokhia line and 132 kV Monarchak-Udaipur line. At 10:49 Hrs on 25.07.2017, 132 kV Monarchak-Rokhia line and 132 kV Monarchak-Udaipur line tripped. Due to tripping of these elements, Monarchak Power Station and Rabindranagar area of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	45	8	0.011	0.002	GD-I
26	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	26-07-2017 15:08:00	26-07-2017 15:16:00	00:08:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Karong - Kohima line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping this line in loop, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 15:08 Hrs on 26.07.2017, 132 kV Dimapur(PG) - Kohima 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	18	0.000	0.004	GD-I
27	NER	132 kV Agartala - Rokhia I & II Lines	TSECL	26-07-2017 19:04:00	26-07-2017 19:55:00	00:51:00	Monarchak Power Station, Rokhia Power Station, Gumti Power Station, Rabindranagar, Udaipur, and Boxanagar areas of Tripura Power System were connected with rest of NER Grid through 132 kV Agartala-Rokhia I & II lines (132 kV Palatana-Udaipur line was manually opened since 18:53 Hrs on 26.07.2017 as 132 kV Monarchak - Rokhia 1 Line gets overloaded in case of keeping this line in loop, 66 kV Gumti-Amarpur line, 66 kV Rokhia-Badarghat line and 66 kV Udaipur-Gokulnagar line kept open). At 19:04 Hrs on 26.07.2017, 132 kV Agartala-Rokhia I & II lines tripped. Due to tripping of these elements, Monarchak Power Station, Rokhia Power Station, Gumti Power Station, Rabindranagar, Udaipur, and Boxanagar areas of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	158	82	0.129	0.067	GD-I
28	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	27-07-2017 09:25:00	27-07-2017 09:35:00	00:10:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Karong - Kohima line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping this line in loop, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 09:25 Hrs on 27.07.2017, 132 kV Dimapur(PG) - Kohima line tripped. Due to tripping of this element, Capital area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch in this area.	12	14	0.002	0.002	GD-I
29	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	27-07-2017 10:17:00	27-07-2017 10:35:00	00:18:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Karong - Kohima line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping this line in loop, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 10:17 Hrs on 27.07.2017, 132 kV Dimapur(PG) - Kohima 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	12	0.000	0.004	GD-I

Sl. No.	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
30	NER	132 kV Dimapur (PG) - Kohima 1 Line	POWERGRID & DoP, Nagaland	30-07-2017 15:50:00	30-07-2017 16:53:00	01:03:00	Capital area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur(PG) - Kohima line (132 kV Karong - Kohima line kept open as 132 kV Dimapur(PG)-Kohima line gets overloaded in case of keeping this line in loop, 132 kV Wokha - Kohima line & 66 kV Tuensang - Likhimro line were kept open). At 15:50 Hrs on 30.07.2017, 132 kV Dimapur(PG) - Kohima line tripped. Due to tripping of these elements, Capital area was separated from rest of NER Grid and subsequently collapsed due to to no source in this area.	0	13	0.000	0.002	GD-I