

### Major Grid Events for Sept, 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
				Date	Time	Date	Time	Time				
1	NR	1.400kV Ballabgarh-Maharanibagh 2.400/220kV Maharaniabagh 500 MVA ICT 2 3.400/220kV Maharaniabagh 500 MVA ICT 3 4.400kV Maharaniabagh 400 kV Bus 1	POWERGRID	01-09-2017	16:19	01-09-2017	18:55	02:36	Bus bar protection operated on 400kV Bus-1 leads to tripping of 400kV Ballabgarh-Maharanibagh, 315MVA ICT 2 and 500MVA ICT 3.From PMU, Max dip observed in R phase, fault clearing time 80msec.	0	0	GI-2
2	NR	1.400/220kV Gurgaon 315 MVA ICT 2 2.400/220kV Gurgaon 500 MVA ICT 3 3.400/220kV Gurgaon 315 MVA ICT 1 4.400kV Gurgaon 400 kV Bus 2	POWERGRID	01-09-2017	17:13	01-09-2017	17:56	00:43	Busbar protection operated on 400kV Bus 2 due to mal-operation of Earth Switch 89AE of 220kV side bay of ICT-3. leads to tripping of 315MVA ICT1,2,& 500MVA ICT3. From PMU, Max dip observed in B followed by Y phase, fault clearing time 80msec.	0	300	GD-1
3	NR	1.400kV Anpara-Obra 2.400kV Obra-Sultanpur 3.400/220kV Obra 240 MVA ICT 1 4.200MW OBRA Unit 11 & 9 5.400kV Obra 400 kV Bus 1	UPPTCL	02-09-2017	18:50	02-09-2017	20:18	01:28	Local Breaker Backup (LBB) protection operated on 400kV Bus-1 due to non operation of 200MW Unit #11 Sf6 breaker at 18:49hrs leads to tripping of 400kV Obra-Sultanpur, 400kV Obra-Rewa Road, 400/220kV 240MVA ICT 1, 200MW Unit 9&11 OBRA TPS.  From PMU, No fault observed. Disturbance clearing time observed as 720msec	290	0	GD-1
4	NR	1.400kV Muzaffarnagar-Vishnuprayag 1 2.400kV Alaknanda HEP(UP)-Srinagar(UTT) 2 3.400kV Alaknanda HEP - Vishnuprayag - 2 4.400kV Alaknanda HEP(UP)-Srinagar(UTT) 1 5.400kV Alaknanda HEP - Muzaffarnagar - 2	UPPTCL/ AHEP/ Jaypee VPHEP	06-09-2017	12:50	06-09-2017	14:01	01:11	B Phase to earth fault occurred on 400kV Alakananda-Mujaffarnagar line.Available evacuation path for Vishunupriyag complex was 400kV Alakananda-Vishnuprayag-Mujaffarnagar.Sustained for few sec and finally all lines tripped on Over voltage.  From PMU, Max dip observed in B phase, oscillations continued for 4 sec. Fault cleared after 16sec approx	770	0	GD-1
5	NR	1.400/220kV Bamnauli 500 MVA ICT 2 2.220 kV Badarpur(NTPC)-Mahrauli(DTL) 2 3.220 kV Badarpur(NTPC)-Mahrauli(DTL) 1	DTL	10-09-2017	12:45	10-09-2017	14:20	01:35	Bottom phase conductor snapped at tower loc 19 of 220kV Mehrauli-Badarpur lines leads to tripping of 220kV Badarpur(NTPC)-Mahrauli(DTL) ckt 1&2 along with 500MVA ICT-1 of Bamnauli  From PMU, two dips observed, at 12:45:16hrs seems ICT tripped. at 12:45:25hrs znothor fault observed in R phase .	0	650	GD-1

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				Date	Time	Date	Time	Time				
6	NR	1.400kV Bikaner-Didwana 1 2.400kV Bhadla(RVPNL)-Bikaner(RVPNL) 1 3.400kV Bikaner-Merta 4.400kV Bikaner-Suratgarh 5.400kV Bhadla(RVPNL)-Bikaner(RVPNL) 2	RRVPNL	12-09-2017	11:40	43078	13:07	01:27	Fault on IPS tube, in between CT and CB of 400kV Bikaner-Bhadla 1 leads to operation of Bus bar protection at Bikaner station  From PMU, Max dip observed in R phase, total fault clearing time approx 500msec.	300	0	GD-1
7	NR	1.400kV Chabra-Hindaun II 2.400kV Chabra-Kawai Adani 3.250MW Unit #4	RRVPNL	12-09-2017	18:22	43078	20:43	02:21	400kV CTPP- Kawai Adani Line tripped on Z-1 R phase to earth fault. During the tripping L3 pole of its main CB stuck and operated LBB.  400kV Chabra-Hindaun 2, 400kV Chabra- kawai lines along with Unit #4 tripped on LBB  From PMU, dip observed in R phase, total fault clearing time approx 350msec.	213	0	GD-1
8	NR	1.400/220kV Bareilly 315 MVA ICT 1 2.220 kV Bareilly(UP)-Cbganj(UP) 3.220 kV Bareilly(UP)-Pantnagar(UTT) 4.220 kV Bareilly(UP)-Pithoragarh(PG)	UPPTCL	16-09-2017	11:33	16-09-2017	12:28	00:55	Relay mal operated at 400/220kV Bareilly station. Along with 315MVA ICT-1, 220kV Bareilly-Pantnagar, 220kV Bareilly-CB Ganj, 220kV Bareilly-Pithoragarh lines tripped.  From PMU, No fault observed in any phase	0	0	GI-2
9	NR	1.500 kV HVDC Balia-Bhiwadi Pole 1 2.500 kV HVDC Balia-Bhiwadi Pole 2	POWERGRID	17-09-2017	05:12	17-09-2017	05:36	00:24	Transient earth fault occurred on HVDC Balia bhiwadi line at 443.25kms from Balia. Earth electrode station was out of service  From PMU, restart attempts not observed.	0	0	GI-2
10	NR	1.400kV Balia-Sohawal 1 2.400kV Balia-Sohawal 2 3.400kV Balia(PG)-Mau(UP) 2 4.400kV Balia(PG)-Mau(UP) 1 5.400kV Balia-Patna 1 6.400kV Balia-Patna 2 7.400kV Balia-Patna 4 8.400kV Balia-Patna 3 9.400kV Balia-Biharsharif 1 10.400kV Balia-Biharsharif 2	POWERGRID	17-09-2017	10:12	17-09-2017	18:01	07:49	at 10:12hrs DC source 1 & 2 of Balia station became dead due to fire , all 400kV Lines emanating from Balia opened manually.	0	0	GI-2

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				Date	Time	Date	Time	Time				
11	NR	1.220 kV Jammu(JK)-Samba(PG) 2.220 kV Salal(NHPC)-Jammu(JK) 2 3.220 kV Salal(NHPC)-Jammu(JK) 1	POWERGRID	17-09-2017	11:13	17-09-2017	11:32	00:19	220kV Jammu(JK)-Samba(PG),220kV Salal-Jammu ckt 1&2 lines tripped on Earth fault  From PMU,Max dip observed in R phase,A/R observed.	0	300	GD-1
12	NR	1.800 kV HVDC Champa(WR) - Kurukshetra(NR) line -1 2.800 kV HVDC Champa(WR) - Kurukshetra(NR) line -2	POWERGRID	17-09-2017	14:34	17-09-2017	15:12	00:38	Nuetral differential protection operated at Champa end. Leads to blocking of 800kV HVDC Chmap -Kurukshetra pole 1 & 2.  From PMU, a transient dip observed in all three phases , seems line tripped from other end(Champa).	0	0	GI-2
13	NR	1.765/220 kV Lalitpur TPS 315 MVA ICT 2 2.765/220 kV Lalitpur TPS 315 MVA ICT 1	LPGCL	17-09-2017	15:09	17-09-2017	15:53	00:44	LPGCL 220 kV Circuit 1 tripped on Zone 2 R ph fault, subsequently both ICTs(1&2) tripped on outzone earth fault.  From PMU, Max dip observed in R phase, and fault clearing time approx 200msec, pattern seems ICT also tripped.	0	0	GI-2
14	NR	1.500 kV HVDC Balia-Bhiwadi Pole 1 2.500 kV HVDC Balia-Bhiwadi Pole 2 3. 220kV Bhiwadi(PG)-Bhiwadi(RVPNL) 1 & 2	POWERGRID/ RRVPNL	18-09-2017	14:20	18-09-2017	18:41	04:21	Non operation of protection in 220kV Bhiwadi station (RVNL) of the lines 220kV Bhiwadi(PG)-Bhiwadi(RVPNL) 1 & 2 leads to dip in AC bus Voltage in Bhiwadi(PG) end and caused tripping of HVDC Balia-Bhiwadi Pole 1 & 2 on DC over Voltage.  From PMU, transient dip observed approx 360msec.	0	0	GI-2
16	NR	1.765 kV Anpara C-Unnao 2.765/400kV Unnao C 1000 MVA ICT 3	UPPTCL	22-09-2017	02:22	22-09-2017	04:13	01:51	B phase to earth fault occurred on 765kV Anpara C-Unnao line, simultaneously ICT III of Unnao triped on Over flux protection  From PMU, Max dip observed in B phase at 02:21:44.120hrs, complete fault cleared after 500msec(i.e tripping of ICT)	0	0	GI-2

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				Date	Time	Date	Time	Time				
17	NR	1.400kV Lucknow-Unnao 2.400kV Lucknow(PG)-Lucknow(UP) 3.400/220kV Lucknow Sarojininagar 315 MVA ICT 2 4.400kV Lucknow(UP)-Singrauli(NTPC) 5.400/220kV Lucknow Sarojininagar 315 MVA ICT 1	UPPTCL	22-09-2017	17:27	22-09-2017	18:41	01:14	At 17:27hrs fault occurred on 220kV side of Lucknow(UP), and the fault was not cleared by any breaker of 220kv side of Lucknow station. leads to operation of LBB and tripped Lucknow(UP)-Lucknow(PG), 400kV lucknow(UP)-Unnao, and ICT 2. At 17:45hrs ICT-1,400kV Lucknow(UP)-Singrauli and 400kV lucknow(UP)-Bareilly out leads to complete station blackout.From PMU, Max dip observed in B phase, complete fault clearing time approx 1720msec.	0	220	GD-1
18	NR	1.400kV Dhuri(400kv) -Talwandi Sabo 2 2.400/220kV Dhuri(400) 500 MVA ICT 3	PSEB	27-09-2017	11:29	27-09-2017	12:29	01:00	Dhuri(400kv) -Talwandi Sabo 2 and Dhuri 500MVA ICT 3 Tripped on earth fault( tree fall). ( Line charged at 18:24hrs)  From PMU, Two transients observed;Max dip in B phase	0	300	GD-1
19	NR	1.Banda 400(UP) 400 kV Bus 1&2 2. Banda(400) 315 MVA ICT 1 3.Allahabad Rewa Road(400kV) - Banda(400kV) 1&2	UPPTCL	27-09-2017	18:15	27-09-2017	22:00	03:45	Wrong Switching operation at 400kV Banda station leads to tripping of elements(400kV Banda-Rewa Raod D/C ;315MVA ICT 1)connected to both the 400kV Busses 1& 2	0	0	GI-2

**Major Grid Events for Sept, 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 1.765/400 kV, 1000 MVA Sasan ICT-1 2.765/400 kV, 1000 MVA Sasan ICT-2	SPL	02-09-2017	16:11	02-09-2017	18:37	02:26	Tripped on Backup Earth fault protection operation	Nil	Nil	GI-2	Nil
2	WR	Tripping of 1.400/220 kV, 315 MVA Raigarh ICT 1 2.400/220 kV, 315 MVA Raigarh ICT 2 3.220 kV Raigarh-Budhipadhar 4.220 kV Raigarh(PG)-Raigarh 1 5.220 kV Raigarh(PG)-Raigarh 2 6.220 kV Raigarh-JSPL D/C 7.220 kV Raigarh-JPL 2 8.220/132 kV Raigarh ICT 1 9.220/132 kV Raigarh ICT 2 10.220/132 kV Raigarh ICT 3 11.JSPL Unit 1&2	PGCIL/CSPTCL	03-09-2017	16:15	03-09-2017	17:13	00:58	Due to the tripping of 400/220 kV, 315 MVA ICT I&II at PGCIL S/S Raigarh at 16:15 Hrs, line loading of 220kV Raigarh – Budhipadar increased substantially which later tripped on overload at 16:45 hrs and after this, other mentioned lines, ICTs and Generators tripped on Over loading.	152	371	GI-1	0.375
3	WR	Tripping of 1.220 kV Omkareshwar-Juluwania 2.220 kV Omkareshwar- Nirmani 3.220 kV Omkareshwar- Barwaha 4.220 kV Omkareshwar-Chhegaon 5.220 kV Omkareshwar-Khandwa	MPGCL	07-09-2017	04:08	07-09-2017	05:15	01:07	220 kV Omkareshwar-Juluwania tripped on B phase to Earth fault and at the same time the other lines emanting from Omkareshwar tripped on Over Voltage	Nil	Nil	GI-1	Nil
4	WR	Tripping of 1.220KV K(W)-K(E) I/C 2 2.220KV K(W)-DSPM I/C 3.220KV Suhela-DSPM 4.220KV Suhela-Banari 5.400/220 kV, 315 MVA ICT at K(W) 6.250 MW DSPM Unit 1 7.250 MW DSPM Unit 2 8.210 MW K(W) Unit 3 9.120 MW K(E) Unit 5	CSPTCL	12-09-2017	23:55	13-09-2017	00:20	00:25	Three phase fault occurred at 220 kV K(W)-K(E) I/C 1 and resulted in tripping of the mentioned elements.	735	Nil	GI-1	Nil
5	WR	Tripping of 1. 400/220 kV 315 MVA Satna(PG) ICT 2 2. 400/220 kV 315 MVA Satna(PG) ICT 3 3. 220 kV Satna(PG)-Satna(MP) 1 4. 220 kV Satna(PG)-Maiher	PGCIL	14-09-2017	19:05	14-09-2017	19:19	00:14	400/220 kV 315 MVA Satna ICT 1 was under Outage to rectify broken B phase isolator jumper at 220 kV side since 18:48 Hrs on 14-09-2017. The mentioned elements tripped on B phase to Earth fault due to the temporary earthing arrangement at 220 kV of ICT 1 which fell over the B phase of 220 kV Bus 1.	Nil	427	GD-1	0.24
6	WR	Tripping of 1.800 kV HVDC Champa-Khurusetra Pole-1 2.800 kV HVDC Champa-Khurusetra Pole-2	PGCIL	17-09-2017	14:15	17-09-2017	15:12	00:57	Mettalic Return Line Differential (MRLD) protection operation led to the tripping of Bi-pole.	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					
7	WR	Tripping of 1.220 kV Haldarwa-Wagara 2.220 kV Haldarwa-IPCI 1 3.220 kV Haldarwa-Jhambuva 4.220 kV Haldarwa-Jhanor 2 5.220 kV Haldarwa-KAPP 1 6.220 kV Haldarwa-Kawas 1 7.220 kV Haldarwa-GPEC 1 8.220/66 kV, 100 MVA Haldarwa ICT 1 9.220/132 kV, 100 MVA Haldarwa ICT 2 10.220/132 kV, 50 MVA Haldarwa ICT 3	GETCO	23-09-2017	07:50	23-09-2017	09:04	01:14	All the elements connected to 220 kV Bus 2 tripped due to Bus Bar protection operation	Nil	Nil	GI-1	Nil
8	WR	Tripping of 1.220 kV Omkareshwar-Juluwania 2.220 kV Omkareshwar- Nirmani 3.220 kV Omkareshwar- Barwaha 4.220 kV Omkareshwar-Chhegaon 5.220 kV Omkareshwar-Khandwa	MPGCL	24-09-2017	05:42	24-09-2017	06:55	01:13	220 kV Omkareshwar-Khandwa tripped on Zone 1 Earth fault and at the same time the other lines emanating from Omkareshwar tripped on Over Voltage	Nil	Nil	GI-1	Nil
9	WR	Tripping of 1.220 kV Tillari-Amona 2.Mahalakshmi-Amona 3.Mapusa-Ponda	Goa	27-09-2017	15:21	27-09-2017	15:40	00:19	Due to delayed clearance of B phase to Earth fault at one of the lines, the other two lines were also tripped	Nil	173	GI-1	0.08

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

**Major Grid Events for Sept, 2017\_Southern Region**

S.No.	Region	Name of Elements (Tripped/Manually opened)	Owner / Agency	Outage		Revival		Outage Duration	Event (As reported)	Generatio n Loss (MW)	Load Loss (MW)	Category as per CEA Grid Standards	Energy Unservd (MU)
				Date	Time	Date	Time	Time					
1	SR	1) 230kV Alandur-Trichy line-1&2 2) 230kV Alandur-Tanjavur-1&2 3) 230kV Alandur-Pudukottai line 4) 230kV Alandur-Mondipatty line 5) 230kV Alandur- Paramathy PGCIL 6) 230/110kV ICT 1&2	TANTRANSCO	11-Sep-17	01:07	11-Sep-17	01:45	38 mins	Complete outage of 230kV Alandur substation of TANTRANSCO. Triggering incident was failure of 230/110kV, 100MVA, Auto transformer HV 2 'Y' phase CT. Both Buses got tripped on operation of busbar protection resulting in tripping of all connected 230kV elements	0	0	GD -I	----
2	SR	1) 220 Kadra-Kaiga 2) 230kV Kadra-Kodasalli	TANTRANSCO	25-Sep-17	11:41	25-Sep-17	12:03	22 mins	Complete Outage of 220 kV Kadra Power Station of KPCL due to tripping of 220kV Kadra-Kodasalli and 220kV Kadra-Kaiga line. There was no generation at Kadra in antecedent condition.	0	0	GD-I	----
3	SR	1. HVDC Gazuwaka pole-1&2 2. 400kV Jeypore-Gazuwaka line- 1&2	POWERGRID	28-Sep-17	17:30	28-Sep-17	20:35	3 hrs & 5 min	HVDC pole-1&2 got tripped due to Auxilliary supply failure	---	---	GI-2	----

Major Grid Events for Sept, 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	ER	220 kV Darbhanga (DMTCL) - Motipur D/C 220 kV MTPS - Motipur D/C	BSPTCL	5-Sep-17	10:17	5-Sep-17	10:45	00:28	At 10:17 hrs, 220 kV Darbhanga (DMTCL) - Motipur D/C and 220 kV MTPS - Motipur D/C tripped from DMTCL & MTPS end only in B-N, Z-III due to fault in 220 kV Motipur - Musari section. As Darbhanga (BSPTCL) was being supplied from Motipur, total power failure occurred at Darbhanga (BSPTCL) & Musari and their surrounding area. Gangwara load of Samastipur remained connected via transfer bus at Darbhanga (BSPTCL) with Samastipur's source.	0	130	0.0	0.1	GD-I	
2	ER	220 kV Purnea - Madhepura D/C	BSPTCL	6-Sep-17	09:52	6-Sep-17	10:52	01:00	Tripping of 220 kV Purnea - Madhepura D/C on Y-B-N fault at 09:52 hrs resulted power failure at Madhepura, Supaul, Saharsa and Lahan (Nepal load).	0	150	0.0	0.2	GD-I	
3	ER	220 kV Muzaffarpur - Hazipur D/C	BSPTCL	7-Sep-17	18:57	7-Sep-17	19:14	00:17	Tripping of 220 kV Muzaffarpur - Hazipur D/C from Hazipur on operation of Bus bar protection at Hazipur at 18:57 hrs resulted power failure at Hazipur which was radially fed from Muzaffarpur.	0	210	0.0	0.1	GD-I	
4	ER	132 kV Lakhisarai - Lakhisarai D/C	BSPTCL	9-Sep-17	10:42	9-Sep-17	11:26	00:44	Tripping of 132 kV Lakhisarai - Lakhisarai D/C at 10:42 hrs resulted total power failure at BSPTCL end which was radially fed from PG end.	0	80	0.0	0.1	GD-I	
5	ER	400 kV Arambag - New PPSP S/C 400 kV Bidhannagar - Arambag S/C 400 kV Arambag - KTPP S/C 400/220 kV ICT - II & IV at Arambag	WBSETCL	9-Sep-17	13:47	9-Sep-17	15:26	01:39	Delayed clearance of Y-N fault of 400 kV Arambag - Kolaghat S/C due to stuck breaker at Arambag end resulted operation bus differential protection at 400 kV bus - II followed by tripping of all feeders and 400/220 kV ICTs connected to bus - II.	0	70	0.0	0.1	GD-I	
6	ER	220KV Patna – Sipara D/C 220KV Patna –Khagul S/C 220KV Sipara –Khagul S/C 220KV Patna –Fatwa S/C 400/220 kV ICT #I & II at Patna.	BSPTCL	15-Sep-17	19:25	15-Sep-17	19:28	00:03	After tripping of ICT I (500 MVA) due to rebooting of differential relay other ICT at Patna (315 MVA) also tripped due to overloading resulting total power failure at Sipara and Khagul which was radially fed from Patna	0	530	0.0	0.0	GD-I	
7	ER	220 kV Purnea - Madhepura D/C	BSPTCL	17-Sep-17	18:13	17-Sep-17	18:18	00:05	At 18:00 Hrs, 220 kv Purnea-Madhepura # I tripped from Madhepura end on B-N fault. At 18:13 Hrs, 220 kv Purnea-Madhepura # II tripped on Y-B-N fault causing power failure at Madhepura,Supaul,Kataiya, Sonbarsa and Udakishanganj ( Total 140 MW).	0	140	0.0	0.0	GD-I	
8	ER	220 kV Chukha Birpara D/C 220 kV Chukha - Malbase S/C 220 kV Birpara - Malbase S/C	ISTS	24-Sep-17	00:33	24-Sep-17	01:16	00:43	Due to three phase fault in 220 kV Chukha - Birpara D/C (during inclement weather condition) at Birpara S/S, 220 kV Chukha Birpara D/C and 220 kV Chukha - Malbase S/C tripped from Birpara end and 220 kV Birpara - Malbase S/C tripped from Malbase end.	290	0	0.2	0.0	GD-I	
9	ER	--	DVC	26-Sep-17	13:25	26-Sep-17	18:50	05:25	Both the running units at CTPS B tripped due to tripping of bus II at CTPS B.	360	0	0.0	2.0	GD-I	
10	ER	220 KV Siliguri-Binaguri D/C 220 KV. Siliguri-Kishanganj D/C 220/132 kV,160 MVA X 2 ATR at 220 KV Siliguri S/S	WBSETCL	16-Sep-17	01:27	16-Sep-17	02:45	01:18	At 01:27 horsey ph conductor snapped of 220 KV Binaguri-Siliguri-II at location no. 6, 3 km from Siliguri-II. At same time, LBB operated at 220 KV main Bus of Siliguri resulted in tripping all outgoing elements. In PMU data, two more voltage dip observed in R phase.	0	0	0.0	0.0	GI-I	



**Major Grid Events for September 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 Monarchak - Rokhia Line	TSECL	03-Sep-17 11:02:00	03-Sep-17 11:14:00	00:12:00	Monarchak Power Station, Rabindranagar and Udaipur area of Tripura Power System were connected with rest of NER Grid through 132 kV Monarchak - Rokhia line. 132 kV Palatana - Udaipur line was under shutdown since 06:29 Hrs on 03.09.17, 66 kV Udaipur Gokulnagar line, 66 kV Amarpur - Gumti line and 66 kV Bagafa - Belonia line were kept open (Cause: phase sequence issue). At 11:02 Hrs on 03.09.2017, 132 kV Monarchak - Rokhia line tripped. Due to tripping of this element, Monarchak Power Station, Rabindranagar and Udaipur area of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	112	41	0.022	0.008	GD-I
2	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	03-Sep-17 16:38:00	03-Sep-17 16:49:00	00:11:00	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 kept open (Cause: Overloading of 132 kV Dimapur(PG) - Kohima line), 132 kV Wokha - Kohima line kept open (Cause of opening the line: improper relay coordination of Dimapur - Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open(Cause of opening the line: construction activities)). At 16:38 Hrs on 03.09.2017, 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.	22	20	0.004	0.004	GD-I
3	NER	132 kV Lekhi - Nirjuli Line	POWERGRID & DoP, Arunachal Pradesh	04-Sep-17 14:35:00	04-Sep-17 14:52:00	00:17:00	Nirjuli area of Arunachal Pradesh Power System & Gohpur area of Assam Power System were connected with rest of NER Grid through 132 kV Lekhi-Nirjuli line. 132 kV Pavoi - Gohpur line & Bus Coupler CB of Gohpur kept open (Cause : overloading of 132 kV Ranganadi - Lekhi line ). At 14:35 Hrs on 04.09.2017, 132 kV Lekhi-Nirjuli line tripped. Due to tripping of these elements, Nirjuli area & Gohpur area were separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	27	0.000	0.008	GD-I
4	NER	132 kV Lekhi - Nirjuli Line	POWERGRID & DoP, Arunachal Pradesh	04-Sep-17 15:01:00	04-Sep-17 15:25:00	00:24:00	Nirjuli area of Arunachal Pradesh Power System & Gohpur area of Assam Power System were connected with rest of NER Grid through 132 kV Lekhi-Nirjuli line. 132 kV Pavoi - Gohpur line & Bus Coupler CB of Gohpur kept open (Cause: overloading of 132 kV Ranganadi - Lekhi line ). At 15:01 Hrs on 04.09.2017, 132 kV Lekhi-Nirjuli line tripped. Due to tripping of these elements, Nirjuli area & Gohpur area were separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	25	0.000	0.010	GD-I
5	NER	132 kV Lekhi - Nirjuli Line	POWERGRID & DoP, Arunachal Pradesh	04-Sep-17 15:40:00	04-Sep-17 16:25:00	00:45:00	Nirjuli area of Arunachal Pradesh Power System & Gohpur area of Assam Power System were connected with rest of NER Grid through 132 kV Lekhi-Nirjuli line. 132 kV Pavoi - Gohpur line & Bus Coupler CB of Gohpur kept open (Cause : overloading of 132 kV Ranganadi - Lekhi line ). At 15:40 Hrs on 04.09.2017, 132 kV Lekhi-Nirjuli line tripped. Due to tripping of these elements, Nirjuli area & Gohpur area were separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	25	0.000	0.019	GD-I
6	NER	132 kV Palatana - Udaipur Line, 132 kV Rokhia - Monarchak Line	TSECL	05-Sep-17 08:16:00	05-Sep-17 08:40:00	00:24:00	Monarchak Power Station, Rabindranagar and Udaipur areas of Tripura Power System were connected with rest of NER Grid through 132 kV Palatana - Udaipur line and 132 kV Monarchak - Rokhia Line. 66 kV Gokulnagar - Udaipur line kept open (Cause : phase sequence issue), 66 kV Amarpur - Gumti line kept open (Cause : phase sequence issue) and 66 kV Bagafa - Belonia line kept open (Cause : phase sequence issue). At 08:16 Hrs on 05.09.2017, 132 kV Monarchak - Rokhia line and 132 kV Palatana - Udaipur lines tripped. Due to tripping of these elements, Monarchak Power Station, Rabindranagar and Udaipur areas of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	119	45	0.174	0.018	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
7	NER	132 kV Aizawl - Kolasib Line, 132 kV Badarpur - Kolasib Line	POWERGRID	06-Sep-17 10:46:00	06-Sep-17 11:35:00	00:49:00	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 10:46 Hrs on 06.09.2017, 132 kV Kolasib-Badarpur line & 132 kV Kolasib-Aizwal lines tripped. Due to tripping of these elements, Kolasib area was separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	4	45	0.003	0.037	GD-I
8	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	07-Sep-17 10:35:00	07-Sep-17 10:46:00	00:11:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 kV Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 10:35 Hrs on 07.09.2017, 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.	24	15	0.004	0.003	GD-I
9	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	07-Sep-17 10:54:00	07-Sep-17 11:17:00	00:23:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 10:54 Hrs on 07.09.2017, 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	0.005	GD-I
10	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	07-Sep-17 12:12:00	07-Sep-17 12:20:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 12:12 Hrs on 07.09.2017, 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	0.002	GD-I
11	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	08-Sep-17 07:36:00	08-Sep-17 07:47:00	00:11:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 07:36 Hrs on 08.09.2017, 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.	23	19	0.004	0.003	GD-I
12	NER	132 kV Dimapur (PG) - Dimapur (DoP, Nagaland) 2 Line	DoP, Nagaland	08-Sep-17 11:40:00	08-Sep-17 11:52:00	00:12:00	Dimapur area of Nagaland was connected with rest of NER Grid through 132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) II line (132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) I line is under long outage since 08.06.2016). At 11:40 Hrs on 08.09.2017, 132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) II line tripped. Due to tripping of this element, Dimapur area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	53	0.000	0.019	GD-I
13	NER	132 kV Agartala - Rokhia 1 Line, 132 kV Monarchak - Rokhia Line	TSECL	08-Sep-17 11:22:00	08-Sep-17 11:49:00	00:27:00	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 was under shutdown since 09:51 Hrs on 08.09.2017). At 11:22 Hrs on 08.09.2017, 132 kV Monarchak - Rokhia line tripped. Due to tripping of this element, 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.	106	6	0.048	0.003	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 (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	09-Sep-17 04:48:00	09-Sep-17 05:00:00	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 Karong - Kohima line kept open (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 kV Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 04:48 Hrs on 09.09.2017, 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.	21	12	0.004	0.003	GD-I
15	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	09-Sep-17 16:27:00	09-Sep-17 16:35:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 kV Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 16:27 Hrs on 09.09.2017, 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.	24	25	0.003	0.004	GD-I
16	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) 1 Line	POWERGRID & DoP, Nagaland	11-Sep-17 09:56:00	11-Sep-17 10:10:00	00:14:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 09:56 Hrs on 11.09.2017, 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.	23	14	0.005	0.007	GD-I
17	NER	132 kV Balipara - Khupi Line	NEEPCO & DoP, Arunachal Pradesh	12-Sep-17 12:43:00	12-Sep-17 13:09:00	00:26:00	Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara- Khupi line. At 12:43 Hrs on 12.09.2017, 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	11	0.000	0.006	GD-I
18	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) 1 Line	POWERGRID & DoP, Nagaland	13-Sep-17 12:48:00	13-Sep-17 13:06:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 kV Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 12:48 Hrs on 13.09.2017, 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.	21	14	0.014	0.005	GD-I
19	NER	132 kV Monarchak - Rokhia Line, 66 kV Amarpur - Gumti Line	TSECL	13-Sep-17 15:20:00	13-Sep-17 15:51:00	00:31:00	Monarchak Power Station, Rabindranagar and Udaipur areas of Tripura Power System were connected with rest of NER Grid through 132 kV Monarchak - Rokhia Line and 66 kV Amarpur - Gumti 1 Line. 132 kV Palatana - Udaipur 1 Line was under shutdown since 09:50 Hrs on 13.09.2017, 66 kV Rokhia - Badarghat line, 66 kV Agartala - Badarghat line, 66 kV Bagafa - Belonia line were kept open (Cause: phase sequence issue). At 15:20 Hrs on 13.09.2017, 132 kV Monarchak - Rokhia Line and 66 kV Amarpur - Gumti line tripped. Due to tripping of these elements, Monarchak Power Station, Rabindranagar and Udaipur areas of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to load generation mismatch.	116	151	0.201	0.078	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
20	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) 1 Line	POWERGRID & DoP, Nagaland	15-Sep-17 06:06:00	15-Sep-17 06:21:00	00:15:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 06:06 Hrs on 15.09.2017, 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.	23	21	0.006	0.005	GD-I
21	NER	132 kV Doyang - Mokokchung (DoP, Nagaland) Line, 132 kV Mokokchung (PG) - Mokokchung (DoP, Nagaland) 1 & 2 Lines	POWERGRID & DoP, Nagaland	15-Sep-17 11:57:00	15-Sep-17 12:10:00	00:13:00	Mokokchung area of Nagaland Power System was connected with rest of NER Grid through 132 kV Mokokchung (DoP, Nagaland)-Mokokchung (PG) I & II lines and 132 kV Doyang-Mokokchung (DoP, Nagaland) line . 132 kV Mokokchung(DoP, Nagaland)-Marianai(AEGCL)line is under long outage & 66 kV Tuensang-Likhimro line kept open (Cause: Construction activities). At 11:57 Hrs on 15.09.2017, 132 kV Doyang-Mokokchung (DoP, Nagaland) I line, 132 kV Mokokchung (DoP, Nagaland)-Mokokchung (PG) I & II lines tripped. Due to tripping of these elements, Mokokchung area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	18	0.000	0.023	GD-I
22	NER	132 kV Balipara - Khupi Line	NEEPCO & DoP, Arunachal Pradesh	15-Sep-17 12:11:00	15-Sep-17 12:25:00	00:14:00	Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara- Khupi line. At 12:11 Hrs on 15.09.2017, 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	15	0.000	0.005	GD-I
23	NER	132 kV Badarpur - Panchgram Line, 132 kV Panchgram - Silchar Line, 132 kV Panchgram - Srikona Line and 132 kV Lumshnong - Panchgram Line	POWERGRID, AEGCL & MePTCL	16-Sep-17 08:51:00	16-Sep-17 09:10:00	00:19:00	Panchgram area of Assam Power System was connected with rest of NER Grid through 132 kV Panchgram-Badarpur line, 132 kV Panchgram - Silchar line, 132 kV Panchgram - Srikona line and 132 kV Lumshnong - Panchgram line. At 08:51 Hrs on 16.09.2017,132 kV Panchgram-Badarpur line, 132 kV Panchgram - Silchar line, 132 kV Panchgram - Srikona line and 132 kV Lumshnong - Panchgram lines tripped. Due to tripping of these elements, Panchgram area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	18	0.000	0.014	GD-I
24	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) 1 Line	POWERGRID & DoP, Nagaland	17-Sep-17 08:50:00	17-Sep-17 08:56:00	00:06:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 08:50 Hrs on 17.09.2017, 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.	19	17	0.002	0.002	GD-I
25	NER	132 kV Loktak - Ningthoukhong Line	MSPCL	20-Sep-17 14:25:00	20-Sep-17 14:52:00	00:27:00	Ningthoukhong area of Manipur Power System was connected with rest of NER Grid through 132 kV Loktak-Ningthoukhong line. 132 kV Imphal(PG)-Ningthoukhong line & 132 kV Kakching-Kongba line kept open (Cause: Overloading of 132 kV Loktak-Ningthoukhong line). At 14:25 Hrs on 20.09.2017, 132 kV Loktak-Ningthoukhong line tripped. Due to tripping of this element, Ningthoukhong area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	13	0.000	0.006	GD-I
26	NER	132 kV Dimapur (PG) - Dimapur (DoP, Nagaland) 2 Line	DoP, Nagaland & POWERGRID	22-Sep-17 15:33:00	22-Sep-17 15:48:00	00:15:00	Dimapur area of Nagaland Power System was connected with rest of NER Grid through 132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) II line (132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) I line is under long outage since 08.06.2016). At 15:33 Hrs on 22.09.2017, 132 kV Dimapur (PG)-Dimapur (DoP, Nagaland) II line tripped. Due to tripping of this element, Dimapur area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	63	0.000	0.034	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
27	NER	132 kV Balipara - Khupi Line	NEEPCO & DoP, Arunachal Pradesh	23-Sep-17 10:29:00	23-Sep-17 10:51:00	00:22:00	Khupi area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Balipara- Khupi line. At 10:29 Hrs on 23.09.2017, 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	21	0.000	0.013	GD-I
28	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	23-Sep-17 16:43:00	23-Sep-17 16:52:00	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 Karong - Kohima line kept open (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 16:43 Hrs on 23.09.2017, 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.	18	25	0.003	0.004	GD-I
29	NER	1) 400/132 kV, 125 MVA ICT 2 at Palatana, 2)132 kV AGTCCPP - Kumarghat (PG) Line3) PalatanaSTG-1, Monarchak GTG - 1, Monarchak STG - 1, AGTCCPP Unit I, II & III, AGTCCPP Extn STG-I & II	OTPC, POWERGRID, NEEPCO	23-Sep-17 16:11:00	23-Sep-17 16:24:00	00:13:00	System were connected with rest of NER Grid through 400/132 kV, 125 MVA ICT- 2 at Palatana, 132 kV AGTCCPP - Kumarghat I line and 132 kV P K Bari - Kumarghat I line (125 MVA ICT-1 was under planned shutdown since 07:20 Hrs on 23.09.17 for Lightning Arrester replacement). At 16:10:42.270 Hrs, LV side CB of ICT-1 was closed as seen from voltage plots of Agartala PMU. At 16:10:46.000 Hrs, OTPC closed HV side breakers of ICT-1 as observed from PMU plots and DR Output. B-phase CB of ICT-1 failed to close due to unhealthy operating mechanism resulted in unbalanced neutral current (53-55 A) in ICT-II at Palatana (From DR output). Before operation of Pole Discrepancy of ICT-I HVCB, ICT-II tripped on Back up Earth fault Protection at HV side at 16:11:47.523 Hrs. ICT-I tripped at 16:11:47.706 Hrs (from Event Logger) after 200 milliseconds delayed operation from PD setting of 1.5 seconds. After tripping of both ICTs at Palatana , Voltage Collapse was observed in Tripura Power System. At 16:11:53.000 Hrs, sharp decline in voltage observed at Agartala PMU (92 kV to 5 kV). At 16:11:58 Hrs 132 kV AGTCCPP - Kumarghat (PG) 1 Line tripped on DPR, Z-I, R-Y-B due to low system voltage. At 16:13 Hrs, Monarchak (61 MW), Rokhia(36 MW), Baramura(21 MW) and Gumti(6 MW) Units were de-synchronized due to low voltage from the Grid as informed by TSECL. Tripura Power System was connected to the Grid through 132 kV Agartala- Budhjangnagar- Jirania- Baramura-Gamatilla- Ambassa-Kamalpur- P.K Bari-Kumarghat(PG) link. Due to Voltage instability problem, load was crashed in Tripura Power System and Bangladesh Power System. 132 kV SurajmaniNagar-South Comilla(Bangladesh) D/C hand tripped from SM Nagar at 16:46 Hrs for Voltage Control in Tripura System.	569	163	-	-	-
30	NER	132 kV Dimapur (PG) - Kohima (DoP, Nagaland) Line	POWERGRID & DoP, Nagaland	27-Sep-17 13:26:00	27-Sep-17 13:55:00	00:29:00	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 (Cause : Overloading of 132 kV Dimapur - Kohima line), 132 kV Wokha - Kohima line was kept open (Cause : improper relay co-ordination of 132 kV Dimapur-Kohima-Wokha link) & 66 kV Tuensang - Likhimro line kept open ( Cause : construction activities). At 13:26 Hrs on 27.09.2017, 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.	22	14	0.011	0.008	GD-I
31	NER	132 kV Ranganadi - Ziro line	POWERGRID	28-Sep-17 11:42:00	28-Sep-17 12:02:00	00:20:00	Ziro area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Ranganadi-Ziro line. At 11:42 Hrs on 28.09.2017, 132 kV Ranganadi-Ziro line tripped. Due to tripping of this element, Ziro area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	11	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
32	NER	132 kV Palatana - Surajmaninagar line, 132 kV Palatana - Udaipur line and 132 kV Monarchak - Udaipur line	POWERGRID & TSECL	28-Sep-17 13:15:00	28-Sep-17 13:31:00	00:16:00	Udaipur area of Tripura Power System were connected with rest of NER Grid through 132 kV Palatana - Udaipur line and 132 kV Monarchak - Udaipur Line. 66 kV Gokulnagar - Udaipur line kept open (Cause : phase sequence issue), 66 kV Amarpur - Gumti line kept open (Cause : phase sequence issue) and 66 kV Bagafa - Belonia line kept open (Cause : phase sequence issue). At 13:15 Hrs on 28.09.2017, 132 kV Monarchak - Udaipur line and 132 kV Palatana - Udaipur line tripped. Due to tripping of these elements, Udaipur area of Tripura Power System were separated from rest of NER Grid and subsequently collapsed due to no source in this area.	18	15	0.005	0.004	GD-I
33	NER	132 kV AGTPP - Kumarghat, 132 kV Kumarghat - P K Bari, 132 kV Badarpur - Kumarghat, 132 kV Aizawl - Kumarghat, 132 kV P K Bari - Ambassa, 132 kV Dhalabil - Kamalpur	POWERGRID & TSECL	28-Sep-17 17:22:00	28-Sep-17 17:26:00	00:04:00	P K Bari area of Tripura Power System consisting load of P K Bari, Kamalpur, Dharmanagar, Kailashshahar & Dullavcherra area of Assam Power System were connected with rest of NER Grid through 132 kV P K Bari - Kumarghat Line, 132 kV P K Bari - Ambassa Line and 132 kV Dhalabil - Kamalpur Line. 132 kV Ambassa - Kamalpur Line kept open at Ambassa end, 132 kV Dullavcherra - Hailakandi was under continuous shutdown from Apr, 2016 (Cause: Tower collapsed), 132 kV P K Bari - Silchar I line was under outage since 13:40 Hrs on 10.07.2017 to avoid electrocution from falling of ERS system as entire area is flooded and 132 kV P K Bari - Silchar II line was under outage since 06:07 Hrs on 02.04.2017 due to tower collapsed at Loc No. 124, 125, 126, 137, 138 and 139 . At 17:22 Hrs on 28.09.2017, 132 kV P K Bari - Kumarghat Line, 132 kV P K Bari - Ambassa Line and 132 kV Dhalabil - Kamalpur Line tripped. Due to tripping of these elements, P K Bari, Kamalpur, Dharmanagar, Kailashshahar area of Tripura Power System and Dullavcherra area of Assam Power System were separated from rest of NER Grid and subsequently collapsed due to no source in these areas. Also, at 17:22 Hrs 132 kV AGTCCPP-Kumarghat , 132 kV Kumarghat - Aizawl and 132 kV Kumarghat - Badarpur lines tripped resulting in bus dead at Kumarghat Substation.	0	53	0.000	0.007	GD-I
34	NER	132 kV P K Bari - Ambassa, 132 kV Dhalabil - Kamalpur	TSECL	28-Sep-17 17:32:00	28-Sep-17 17:36:00	00:04:00	P K Bari area of Tripura Power System consisting load of P K Bari, Kamalpur, Dharmanagar, Kailashshahar & Dullavcherra area of Assam Power System were connected with rest of NER Grid through 132 kV P K Bari - Ambassa Line and 132 kV Dhalabil - Kamalpur Line. 132 kV Ambassa - Kamalpur Line kept open at Ambassa end, 132 kV Dullavcherra - Hailakandi was under continuous shutdown from Apr, 2016 (Cause: Tower collapsed), 132 kV P K Bari - Silchar I line was under outage since 13:40 Hrs on 10.07.2017 to avoid electrocution from falling of ERS system as entire area is flooded and 132 kV P K Bari - Silchar II line was under outage since 06:07 Hrs on 02.04.2017 due to tower collapsed at Loc N. 124, 125, 126, 137, 138 and 139 . 132 kV P K Bari - Kumarghat Line tripped at 17:22 Hrs on 28.09.17.  While charging 132 kV PK Bari - Kumarghat line at 17:32 Hrs on 28.09.17, 132 kV P K Bari - Ambassa Line and 132 kV Dhalabil - Kamalpur Line lines tripped. Due to tripping of these elements, PK Bari was separated from rest of NER Grid and subsequently collapsed due to no source in these areas.	0	41	0.000	0.004	GD-I
35	NER	132 kV Ranganadi - Ziro line	POWERGRID	28-Sep-17 18:04:00	28-Sep-17 18:28:00	00:24:00	Ziro area of Arunachal Pradesh Power System was connected with rest of NER Grid through 132 kV Ranganadi-Ziro line. At 18:04 Hrs on 28.09.2017, 132 kV Ranganadi-Ziro line tripped. Due to tripping of this element, Ziro area was separated from rest of NER Grid and subsequently collapsed due to no source in this area.	0	21	0.000	0.008	GD-I

### Grid Incidents for September 2017 for NER Grid

S.No	Region	State(s) Involved	Name of Elements	Owner / Agency	Date & Time	Date & Time	Outage Duration	Event (Brief Details)	Generation Loss (MW)	Load Loss MW	Energy Unreserved (MWh)	Category as per CEA Grid Standards
1	NER	Doyang	Doyang Unit II & III	NEEPCO	05-Sep-17 17:23:00	05-Sep-17 19:15:00	01:52:00	Doyang Unit II & III tripped at 17:23 Hrs on 05.09.2017 due to 86A, 86B and 86I. (Revision of schedule from Block No.78 on 05.09.17)	46	0	0.086	GI-I
2	NER	Doyang	Doyang Unit II & III	NEEPCO	06-Sep-17 00:09:00	06-Sep-17 02:00:00	01:51:00	Doyang Unit II & III tripped at 00:09 Hrs on 06.09.2017 due to Governor problem. (Revision of schedule from Block No.9 on 06.09.17)	46	0	0.085	GI-I
3	NER	AGBPP	AGBPP Unit VI	NEEPCO	07-Sep-17 18:04:00	07-Sep-17 18:45:00	00:41:00	AGBPP Unit VI tripped at 18:04 Hrs on 07.09.2017 due to Low Gas Supply. (Revision of schedule from Block No.76 on 07.09.17)	30	0	0.021	GI-II
4	NER	Palatana	Palatana GTG-II	OTPCl	08-Sep-17 04:13:00	08-Sep-17 05:00:00	00:47:00	Palatana GTG II tripped at 04:13 Hrs on 08.09.2017 due to high vacuum pressure. (Revision of schedule from Block No.21 on 08.09.17)	13	0	0.01	GI-II
5	NER	Doyang	Doyang Unit I, II & III	NEEPCO	12-Sep-17 17:53:00	12-Sep-17 18:45:00	00:52:00	Doyang Unit I, II & III tripped at 17:53 Hrs on 12.09.2017 due to Governor problem. (Revision of schedule from Block No.76 on 12.09.17)	71	0	0.062	GI-I
6	NER	Doyang	Doyang Unit I & II	NEEPCO	12-Sep-17 19:10:00	12-Sep-17 21:15:00	02:05:00	Doyang Unit I & II tripped at 19:10 Hrs on 12.09.2017 due to Rotor Earth fault. (Revision of schedule from Block No.86 on 12.09.17)	49	0	0.102	GI-I
7	NER	AGTCCPP	AGTCCPP Unit I, II & III, AGTCCPP Extn STG-I & II	NEEPCO	13-Sep-17 15:20:00	13-Sep-17 16:15:00	00:55:00	AGTCCPP Unit I, II & III and AGTCCPP Extn STG - I & II tripped at 15:20 Hrs on 13.09.2017 due to Over Current. (Revision of schedule from Block No.66 on 13.09.17)	70	0	0.064	GI-I
8	NER	Kopili	Kopili Unit IV	NEEPCO	15-Sep-17 19:43:00	15-Sep-17 21:15:00	01:32:00	Kopili Unit IV tripped at 19:43 Hrs on 15.09.2017 due to Upper Guide Bearing (UGB) cooler problem. (Revision of schedule from Block No.86 on 15.09.17)	48	0	0.074	GI-II
9	NER	Khandong	Khandong Unit II	NEEPCO	17-Sep-17 07:10:00	17-Sep-17 08:30:00	01:20:00	Khandong Unit II tripped at 07:10 Hrs on 17.09.2017 due to Rotor Earth fault. (Revision of schedule from Block No.35 on 17.09.17)	24	0	0.032	GI-I
10	NER	Doyang	Doyang Unit I, II & III	NEEPCO	19-Sep-17 01:24:00	19-Sep-17 04:00:00	02:36:00	Doyang Unit I, II & III tripped at 01:24 Hrs on 19.09.2017 due to Electro Hydraulic System of Governor (EHG) problem. (Revision of schedule from Block No.17 on 19.09.17)	73	0	0.044	GI-I

S.No.	Region	State(s) Involved	Name of Elements	Owner / Agency	Date & Time	Date & Time	Outage Duration	Event (Brief Details)	Generation Loss (MW)	Load Loss MW	Energy Unreserved (MWh)	Category as per CEA Grid Standards
11	NER	AGBPP	AGBPP Unit IX	NEEPCO	19-Sep-17 15:09:00	19-Sep-17 16:00:00	00:51:00	AGBPP Unit IX tripped at 15:09 Hrs on 19.09.2017 due to differential protection. (Revision of schedule from Block No.65 on 19.09.17)	11	0	0.009	GI-II
12	NER	Palatana	Palatana STG-II	OTPCL	21-Sep-17 18:20:00	21-Sep-17 18:30:00	00:10:00	Palatana STG II tripped at 18:20 Hrs on 21.09.2017 due to low steam pressure. (Revision of Schedule from Block No. 75 on 21.09.2017)	56	0	0.009	GI-II
13	NER	Palatana	Palatana STG-I	OTPCL	23-Sep-17 16:36:00	23-Sep-17 17:15:00	00:39:00	Palatana STG-I tripped at 16:36 Hrs on 23.09.2017 due to High condenser Pressure. (Revision of schedule from Block No.70 on 23.09.17)	99	0	0.064	GI-II
14	NER	AGTCCPP	AGTCCPP Unit I, II & III, AGTCCPP Extn STG-I & II	NEEPCO	23-Sep-17 16:10:00	23-Sep-17 16:15:00	00:05:00	AGTCCPP GTG I, II & III and STG - I & II tripped at 16:10 Hrs on 23.09.2017 due to under voltage. (Revision of schedule from Block No.66 on 23.09.17)	71	0	0.006	GI-I
15	NER	Doyang	Doyang Unit I, II & III	NEEPCO	28-Sep-17 15:35:00	28-Sep-17 17:00:00	01:55:00	Doyang Unit I, II & III tripped at 15:35 Hrs on 28.09.2017 due to Elect/ Non Electrical Inter phase relay 86 I optd. (Revision of schedule from Block No.71 on 28.09.17)	72	0	0.138	GI-I