

System Operations Subcommittee
PJM Operations Summary
September 2016 Operations – Final

There were 13 PCLLRWs and 3 High System Voltage events in September
CPS1: 127.9%, BAAL: 99.76% PJM (NERC: 100%)¹, CPS2: (81.4%)², DCS: 100%

¹PJM directly measures the total number of BAAL excursions in minutes compared to the total number of minutes within a month with a target value for this performance goal at 99% on a daily and monthly basis. NERC rules limit the recovery period to no more than 30 minutes for a single event.

²PJM is participating in the BAAL field trial which substitutes for CPS2 compliance.

Spinning (2 Events)

09/11/16 19:29	09/11/16 19:39	Spinning in PJM for Unit Trip Loss of Martins Creeks 3 (600 MWs) & 4 (426 MWs) and Lower Mt. Bethel CC (246 MWs)
09/09/16 17:19	09/09/16 17:25	Spinning in RTO for Unit Trip DOM Brunswick CC tripped at 1360 MW due to fuel issue

High System Voltage Action (3 Events)

09/05/16 01:19	09/05/16 09:43	- Issued High System Voltage for PJM-RTO-RTO A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: 1. All switchable capacitors are out of service. 2. All reactors are in service. 3. TOs are requested to review and adjust LTC settings as appropriate. All LTC (230 kV and above) and voltage schedule adjustments shall be coordinated with PJM Dispatch. 4. All SVCs are absorbing reactive power. 5. Generation Owners shall operate generators at the lower bandwidth of their voltage schedule when possible. 6. Generation Owners shall communicate with PJM and the TO restrictions to their generator's ability to absorb MVARs if that capability varies from the existing "D" curve. Target: Distribution Companies/Transmission Owners/Generation
09/04/16 01:08	09/04/16 10:32	- Issued High System Voltage for PJM-RTO-RTO A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: 1. All switchable capacitors are out of service. 2. All reactors are in service. 3. TOs are requested to review and adjust LTC settings as appropriate. All LTC (230 kV and above) and voltage schedule adjustments shall be coordinated with PJM

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09/02/16 22:23	09/03/16 09:55	- Issued High System Voltage for MIDATL-Region A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: 1. All switchable capacitors are out of service. 2. All reactors are in service. 3. TOs are requested to review and adjust LTC settings as appropriate. All LTC (230 kV and above) and voltage schedule adjustments shall be coordinated with PJM Dispatch. 4. All SVCs are absorbing reactive power. 5. Generation Owners shall operate generators at the lower bandwidth of their voltage schedule when possible. 6. Generation Owners shall communicate with PJM and the TO restrictions to their generator's ability to absorb MVARs if that capability varies from the existing "D" curve. Target: Distribution Companies/Transmission Owners/Generation

Manual Load Dump Warning (0 Events)

HLV Schedule Warning (0 Events)

HLV Schedule Action (0 Events)

Hot/Cold Weather Alert (3 Events)

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<p>09/07/16 09:00</p>	<p>09/11/16 03:19</p>	<p>- MIDATL- DOM-Control Area A Hot Weather Alert has been issued from 06:00 on 09.10.2016 through 23:59 on 09.10.2016 Per M-13, members are expected to perform the following actions: TRANSMISSION/GEN DISPATCHERS review plans to determine if any maintenance/testing, scheduled/being performed, on any monitoring, control, transmission/generating equipment can be deferred/canceled. GENERATION DISPATCHERS: -- Review & update unit parameters in Markets Gateway through the Hot Weather Alert period paying particular attention to accurate Start-up & Notification, Min/Max Run Time, Eco Min/Max and Emergency Min/Max information. -- Submit alternate fuel capability & alternate fuel restrictions via Markets Gateway. -- Review fuel supply/delivery schedules in anticipation of greater than normal operation of units. -- Provide PJM with estimate of time needed to return any unit on a Planned Outage. This 'Early Return Time' should be updated via eDART & will not affect the Planned Outage est. end date. -- For dual fuel units, confirm the equipment is functional & amount of alternate fuel available.</p>
<p>09/06/16 09:00</p>	<p>09/09/16 21:04</p>	<p>- MIDATL-Region, DOM A Hot Weather Alert has been issued from 06:00 on 09.09.2016 through 23:59 on 09.09.2016 Per M-13, members are expected to perform the following actions: TRANSMISSION/GEN DISPATCHERS review plans to determine if any maintenance/testing, scheduled/being performed, on any monitoring, control, transmission/generating equipment can be deferred/canceled. GENERATION DISPATCHERS: -- Review & update unit parameters in Markets Gateway through the Hot Weather Alert period paying particular attention to accurate Start-up & Notification, Min/Max Run Time, Eco Min/Max and Emergency Min/Max information. -- Submit alternate fuel capability & alternate fuel restrictions via Markets Gateway. -- Review fuel supply/delivery schedules in anticipation of greater than normal operation of units. -- Provide PJM with estimate of time needed to return any unit on a Planned Outage. This 'Early Return Time' should be updated via eDART & will not affect the Planned Outage est. end date. -- For dual fuel units, confirm the equipment is functional & amount of alternate fuel available.</p>

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09/06/16 09:00	09/08/16 23:25	<p>- DOM-Control Area, MIDATL-Region A Hot Weather Alert has been issued from 06:00 on 09.08.2016 through 23:25 on 09.08.2016 Per M-13, members are expected to perform the following actions: TRANSMISSION/GEN DISPATCHERS review plans to determine if any maintenance/testing, scheduled/being performed, on any monitoring, control, transmission/generating equipment can be deferred/canceled. GENERATION DISPATCHERS: -- Review & update unit parameters in Markets Gateway through the Hot Weather Alert period paying particular attention to accurate Start-up & Notification, Min/Max Run Time, Eco Min/Max and Emergency Min/Max information. -- Submit alternate fuel capability & alternate fuel restrictions via Markets Gateway. -- Review fuel supply/delivery schedules in anticipation of greater than normal operation of units. -- Provide PJM with estimate of time needed to return any unit on a Planned Outage. This 'Early Return Time' should be updated via eDART & will not affect the Planned Outage est. end date. -- For dual fuel units, confirm the equipment is functional & amount of alternate fuel available.</p>
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Primary Reserve Warning (0 Events)

Voltage Reduction Warning (0 Events)

Voltage Reduction (0 Events)

Emergency Energy Request (0 Events)

Max Emergency Gen Alert (0 Events)

Max Emergency Generation (0 Events)

Shared Reserve (6 Events)

09/26/16 16:31	09/26/16 16:55	-150 MW with NYISO - Outaouais DC Tie - Regulation
09/18/16 12:03	09/18/16 12:20	-84 MW with NYISO - Bowline Unit 1 - Regulation
09/11/16 19:34	09/11/16 19:46	-650 MW with NYISO - Loss of Martins Creek3&4 and

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		LMB
09/10/16 18:00	09/10/16 18:20	-68 MW with NYISO - Bowline #1 (510 MWs) - Regulation
09/09/16 17:22	09/09/16 17:32	-700 MW with NYISO - Loss of Brunswick CC in Dominion (1360 MW)
09/06/16 08:31	09/06/16 08:45	-83 MW with NYISO - IESO Pilgram - Regulation

Min Gen Alert (3 events)

09/12/16 20:49	09/13/16 05:00	- A Minimum Generation Alert has been issued for the Midnight of 09.13.2016 Expected generation level is within -1796 MW of normal minimum energy limits.
09/05/16 20:39	09/06/16 06:20	- A Minimum Generation Alert has been issued for the Midnight of 09.06.2016 Expected generation level is within -1521 MW of normal minimum energy limits.
09/04/16 22:00	09/05/16 06:46	- A Minimum Generation Alert has been issued for the midnight period of 09.05.2016 Expected generation level is within -1941 MW of normal minimum energy limits.

Emergency Procedure (0 Events)

PCLLRW (13 Events)

09/28/16 10:56	09/28/16 12:48	- A PCLLRW has been issued to maintain ENEWCONC 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available - Place in service S Cumberland 69 kV Cap Post Contingency and shed load as necessary
09/28/16 09:54	09/28/16 23:42	- A PCLLRW has been issued to maintain ENEWCONC 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available - Place in service S Cumberland 69 kV Cap Post Contingency and shed load as necessary

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09/27/16 11:58	09/27/16 21:41	- A PCLLRW has been issued to maintain ENEWCONC 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available - Place in service S Cumberland 69 kV Cap Post Contingency and shed load as necessary
09/25/16 17:21	09/25/16 21:41	- A PCLLRW has been issued to maintain LAKEVIE4-CLBHOUSE 254A at 452 MVA in the Dominion for Transmission Contingency Control. Additional Comments: Post Contingency Switching available
09/22/16 16:41	09/22/16 17:24	- A PCLLRW has been issued to maintain CRES DUQ-SEWICKLY CRE-SEW at 260 MVA in the DLCO (Duquesne) for Transmission Contingency Control. Additional Comments: Generation - slow response
09/22/16 15:00	09/22/16 18:04	- A PCLLRW has been issued to maintain TODDHUNT 17 XFORMER at 431 MVA in the DEOK for Transmission Contingency Control. Additional Comments: Generation - slow response
09/19/16 14:51	09/19/16 19:41	- A PCLLRW has been issued to maintain MILLWOO2-WTRINWAY MIL-WTR1 at 213 MVA in the AEP for Transmission Contingency Control. Additional Comments: Generation - slow response
09/19/16 13:45	09/19/16 19:24	- A PCLLRW has been issued to maintain BUTL APS-SHANORMA KND-BT at 356 MVA in the APS for Transmission Contingency Control. Additional Comments: Post Contingency Switching available
09/18/16 11:29	09/18/16 21:02	- A PCLLRW has been issued to maintain DELA DPL 69 KV at 65 KV in the DPL (Delmarva) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available

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09/14/16 14:52	09/14/16 20:08	- A PCLLRW has been issued to maintain DARRAH-TRISTATE at 237 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/13/16 14:22	09/13/16 18:17	- A PCLLRW has been issued to maintain DARRAH-TRISTATE at 237 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/11/16 13:00	09/11/16 15:45	- A PCLLRW has been issued to maintain NEWHOPE-WALSTON 6741-2 at 74 MVA in the DPL (Delmarva) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/06/16 16:00	09/06/16 21:03	- A PCLLRW has been issued to maintain CLOVEROE-BARBERTO at 203 MVA in the ATSI for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/06/16 14:36	09/06/16 20:50	- A PCLLRW has been issued to maintain MILLWOO2-WTRINWAY MIL-WTR1 at 205 MVA in the AEP for Transmission Contingency Control. Additional Comments: Generation - slow response
09/06/16 13:22	09/07/16 00:06	- A PCLLRW has been issued to maintain LAKIN-SPORNAEP at 192 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available

Non-PCLLRW (37 events)

09/30/16 09:21	09/30/16 12:57	- A PCLLRW has been issued to maintain MUNFVLEK 69 KV at 61.5 KV in the EKPC for Transmission Contingency Control. Additional Comments: Post
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		Contingency Switching available
09/30/16 06:05	09/30/16 23:14	A PCLLRW has been issued to maintain HILLCRES 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/29/16 10:29	09/29/16 21:03	- A PCLLRW has been issued to maintain WCAMBRI2 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/29/16 06:54	09/29/16 21:03	- A PCLLRW has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility

09/28/16 18:28	09/28/16 19:03	- A PCLLRW has been issued to maintain SKIMMER 115 KV at 105.8 KV in the Dominion for Transmission Contingency Control. Additional Comments: Post Contingency Switching available
09/28/16 10:01	09/28/16 23:42	- A PCLLRW has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available

09/22/16 17:02	09/22/16 18:34	- A PCLLRW has been issued to maintain ELIMA-NWOODCOC at 249 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/22/16 15:57	09/22/16 18:35	- A PCLLRW has been issued to maintain SWLIMA-WLIMA at 412 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/22/16 10:31	09/22/16 16:55	- A PCLLRW has been issued to maintain WAVERLY2 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available

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09/19/16 15:54	09/19/16 18:13	- A PCLLRW has been issued to maintain GODDARD - HILDA GOD-HILD at 48 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
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09/19/16 15:17	09/19/16 18:13	- A PCLLRW has been issued to maintain ROWAN_CO 69 KV at 61.5 KV in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/19/16 13:02	09/19/16 19:50	- A PCLLRW has been issued to maintain CONCORD - COUNTRYS CON-COU at 173 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/16/16 12:41	09/16/16 21:30	- A PCLLRW has been issued to maintain CURRY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available
09/14/16 14:55	09/14/16 20:09	- A PCLLRW has been issued to maintain GUARDIAN-TWINBRAN at 173 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/14/16 14:52	09/14/16 20:08	- A PCLLRW has been issued to maintain CURRY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available
09/14/16 13:37	09/14/16 20:04	- A PCLLRW has been issued to maintain BAKER1 138 KV at 127 KV in the APS for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available

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09/14/16 12:50	09/14/16 20:59	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/13/16 13:37	09/13/16 18:18	- A PCLLRW has been issued to maintain EHUNTING 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/13/16 13:15	09/13/16 13:29	- A PCLLRW has been issued to maintain EHUNTING 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/13/16 13:10	09/13/16 21:39	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 276 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/12/16 15:19	09/12/16 20:38	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/10/16 14:31	09/11/16 06:41	- A PCLLRW has been issued to maintain BUCKHRN-WCOSHOC at 185 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/09/16 10:52	09/11/16 12:39	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility

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09/09/16 09:16	09/09/16 20:59	- A PCLLRW has been issued to maintain MARTINSV-STOCKTO2 at 219 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/08/16 14:09	09/08/16 14:47	- A PCLLRW has been issued to maintain KANAWHAR-RENSFORD at 205 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/08/16 13:37	09/08/16 14:07	- A PCLLRW has been issued to maintain WESTGLOW-WURNNO WES-WUR at 255 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/08/16 13:36	09/08/16 23:09	- A PCLLRW has been issued to maintain MARTINSV-STOCKTO2 at 202 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/08/16 13:31	09/08/16 20:46	- A PCLLRW has been issued to maintain BUCKHRN-WCOSHOC at 192 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/08/16 10:34	09/08/16 23:09	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 276 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/07/16 17:35	09/07/16 18:39	- A PCLLRW has been issued to maintain BUCKHRN-WCOSHOC at 185 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility

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09/07/16 16:12	09/07/16 18:39	- A PCLLRW has been issued to maintain KANAWHAR-RENSFORD at 205 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available
09/07/16 13:17	09/07/16 20:50	- A PCLLRW has been issued to maintain MOTTVTAP 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/07/16 10:19	09/08/16 03:51	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
09/06/16 13:24	09/07/16 00:06	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available
09/06/16 13:21	09/06/16 20:50	- A PCLLRW has been issued to maintain MOTTVTAP 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load - No Generation or Switching available
09/01/16 13:35	09/01/16 21:23	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 269 MVA in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available

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08/31/16 11:39	09/01/16 00:13	- A PCLLRW has been issued to maintain TURNER-UNIONTAP at 262 MVA in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility
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