

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

There were 17 PCLLRWs and 7 High System Voltage events in October

There was DCS reportable event in October

CPS1: BAAL: ¹ CPS2:

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.

DCS (Unknown)

Spinning (0 Events)

High System Voltage Action (7 Events)

| | | |
|---------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.01.2017 01:30 | 10.01.2017 09:15 | <p>A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System:</p> <ol style="list-style-type: none">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. <p>Target: Distribution Companies/Transmission Owners/Generation</p> |
| 10.14.2017 00:33 | 10.14.2017 07:06 | <p>A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System:</p> <ol style="list-style-type: none">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 |

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

| | | |
|---------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | capability varies from the existing "D" curve. Target: Distribution Companies/Transmission Owners/Generation |
| 10.17.2017 00:10 | 10.17.2017 05:28 | A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: <ol style="list-style-type: none">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 |
| 10.18.2017 01:15 | 10.18.2017 05:20 | A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: <ol style="list-style-type: none">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 |
| 10/21/2017 02:00 | 10.21.2017 08:30 | A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System: <ol style="list-style-type: none">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. |

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

| | | |
|---------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <p>5. Generation Owners shall operate generators at the lower bandwidth of their voltage schedule when possible.</p> <p>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.</p> <p>Target: Distribution Companies/Transmission Owners/Generation</p> |
| 10.22.2017 00:20 | 10.22.2017 12:15 | <p>A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System:</p> <ol style="list-style-type: none">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. <p>Target: Distribution Companies/Transmission Owners/Generation</p> |
| 10.23.2017 00:15 | 10.23.2017 05:12 | <p>A High System Voltage has been issued; all companies shall take the following actions on the Bulk Electric System:</p> <ol style="list-style-type: none">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. <p>Target: Distribution Companies/Transmission Owners/Generation</p> |

Manual Load Dump Warning (0 Events)

HLV Schedule Warning (0 Events)

HLV Schedule Action (0 Events)

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

Hot/Cold Weather Alert (0 Events)

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)

Local Min Generation Event (0 Events)

Shared Reserve (2 Events)

| | | |
|---------------------|---------------------|--------------------------------------------------------------------------------|
| 10.03.2017 17:05 | 10.03.2017 17:16 | -88 MW with NYISO – Point Laprelle - Regulation |
| 10.08.2017 13:10 | 10.08.2017 13:40 | -92 MW with NYISO – 650Mw tie line trip between NYISO and Quesbec - Regulation |

Min Gen Alert (0 Events)

Emergency Procedure (1 Event)

| | | |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.20.2017 08:50 | 10.23.2017 05:00 | A Minimum Generation Advisory is being issued for the valley periods 10.21.2017 through 10.23.2017. This advisory is being issued to provide advanced warning that due to mild weather and light loads, PJM may be entering into Min Gen Alerts and possibly Min Gen Actions during these periods. No action is required from the members at this time. This is an informational notice only. As we approach these valley periods, PJM will implement Min Gen Alerts/Actions on an as needed basis. |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

PCLLRW (17 Events)

| | | |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.02.2017 10:20 | 10.02.2017 16:16 | A Post Contingency Local Load Relief Warning has been issued to maintain ALLDAM6-KITTANNI SP-KT at 170 MVA in the APS for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.02.2017 13:59 | 10.03.2017 05:28 | A Post Contingency Local Load Relief Warning has been issued to maintain ELIZABET-KARGLE TIE at 83 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

| | | |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.03.2017 06:22 | 10.03.2017 09:28 | A Post Contingency Local Load Relief Warning has been issued to maintain COREY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.03.2017 14:57 | 10.03.2017 16:47 | A Post Contingency Local Load Relief Warning has been issued to maintain FARLEY2 -LIB_CHUR TIE at 66 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.03.2017 11:36 | 10.03.2017 21:28 | A Post Contingency Local Load Relief Warning has been issued to maintain ELIZABET-KARGLE TIE at 80 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.04.2017 13:23 | 10.06.2017 11:29 | A Post Contingency Local Load Relief Warning has been issued to maintain ELIZABET-KARGLE TIE at 78 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.09.2017 15:01 | 10.12.2017 20:11 | A Post Contingency Local Load Relief Warning has been issued to maintain ELIZABET-KARGLE TIE at 80 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.09.2017 16:09 | 10.09.2017 20:16 | A Post Contingency Local Load Relief Warning has been issued to maintain BREMO4-CARTERSV 2027A3 at 869 MVA in the Dominion for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.09.2017 18:18 | 10.09.2017 21:15 | A Post Contingency Local Load Relief Warning has been issued to maintain MARDELA-VIENNA 6708-1 at 68 MVA in the DPL (Delmarva) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.10.2017 15:20 | 10.10.2017 20:54 | A Post Contingency Local Load Relief Warning has been issued to maintain LAYMAN-WOLFCREE 86 at 290 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.10.2017 15:23 | 10.10.2017 20:56 | A Post Contingency Local Load Relief Warning has been issued to maintain MUSKING2-SCALDWEL MUS-SCA2 at 220 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.10.2017 15:55 | 10.10.2017 20:57 | A Post Contingency Local Load Relief Warning has been issued to maintain NEWCOMER-SCOSHOC NEW-SCO at 193 MVA in the AEP for Transmission Contingency Control. Additional Comments: Generation - slow response |
| 10.10.2017 19:06 | 10.10.2017 19:28 | A Post Contingency Local Load Relief Warning has been issued to maintain TARRIVER 115 KV at 105 KV in the Dominion for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

| | | |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.10.2017 19:07 | 10.10.2017 19:28 | A Post Contingency Local Load Relief Warning has been issued to maintain FREEMNDP 115 KV at 105 KV in the Dominion for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.11.2017 10:27 | 10.11.2017 10:40 | A Post Contingency Local Load Relief Warning has been issued to maintain STURGIS 69 KV at 63.5 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.12.2017 14:59 | 10.12.2017 16:35 | A Post Contingency Local Load Relief Warning has been issued to maintain NBRISTOL 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Generation - slow response |
| 10.25.2017 06:56 | Not Closed | A Post Contingency Local Load Relief Warning has been issued to maintain STURGIS 69 KV at 63.5 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |

Non-PCLLRW (12 Events)

| | | |
|---------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.03.2017 12:29 | 10.10.2017 20:57 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain PENNVILL 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available |
| 10.03.2017 16:34 | 10.03.2017 20:14 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain KEAVYJT2 69 KV at 63.5 KV in the EKPC for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.05.2017 10:31 | 10.06.2017 11:29 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain ROGERSVJ 69 KV at 63.5 KV in the EKPC for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.09.2017 10:37 | 10.09.2017 14:05 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility |
| 10.11.2017 12:53 | 10.11.2017 21:01 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain JENNYWLJ 69 KV at 63.5 KV in the EKPC for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.11.2017 13:22 | 10.14.2017 05:20 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain WCAMBRI2 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: BES 2 Facility |
| 10.13.2017 02:36 | 10.13.2017 07:06 | Non-Market Post Contingency Local Load Relief Warn has been issued to maintain INDUSTRY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |

System Operations Subcommittee

PJM Operations Summary

October 2017 Operations – Final

| | | |
|---------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.13.2017 12:44 | 10.14.2017 05:21 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.14.2017 10:52 | 10.14.2017 16:32 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain WCAMBRI2 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.25.2017 07:39 | 10.25.2017 13:24 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain SHORTHIL 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.25.2017 22:24 | 10.26.2017 00:08 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |
| 10.26.2017 05:09 | 10.26.2017 12:05 | A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain JAY 138 KV at 127 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available |