

## System Operations Subcommittee

### PJM Operations Summary

#### December 2024 Operations

##### December Events:

##### **4 Shared Reserve Events**

##### **1 Synchronized Reserve Event**

##### **1 Cold Weather Advisory Event**

##### **2 Cold Weather Alert Events**

##### **1 High System Voltage Event**

##### **15 PCLLRW Events**

##### **2 Non-Market PCLLRW Event**

**CPS1: 141.50% CPS2: 85.66% BAAL: 99.92%**

<sup>1</sup>PJM 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.

##### Shared Reserve (4 Events)

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.26.2024 09:30	12.26.2024 09:49	PJM provided 158 MW of NPCC Shared Reserves	NPCC
12.13.2024 06:21	12.13.2024 06:50	PJM provided 100 MW of NPCC Shared Reserves	NPCC
12.03.2024 00:13	12.03.2024 00:28	PJM provided 75 MW of NPCC Shared Reserves	NPCC
12.02.2024 18:47	12.03.2024 00:13	PJM provided 158 MW of NPCC Shared Reserves	NPCC

##### Synchronized Reserve (1 Event)

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.11.2024 08:21	12.11.2024 08:27	100% Synchronized Reserve Event has been initiated for the PJM_RTO region.	RTO

##### Cold Weather Advisory (1 Event)

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.12.2024 00:01	12.13.2024 12:00	A Cold Weather Advisory has been issued from 00:01 on 12.12.2024 through 12:00 on 12.13.2024 . <p> Per M-13, members are expected to perform the following: - Prepare to take freeze protection actions such as erecting temporary windbreaks or shelters, positioning heaters, verifying heat trace systems, or draining equipment prone to freezing - Review weather forecasts determine any forecasted operational changes, and notify PJM of any changes - Members are to update Markets Gateway by entering unit	WESTERN

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		specific operation limitations associated with cold weather preparedness. <p> Operating limitations include: <ul style="list-style-type: none"><li>- Generator capability and availability</li><li>- Fuel supply and inventory concerns</li><li>- Fuel switching capabilities</li><li>- Environmental constraints</li><li>- Generating unit minimums (design temperature, historical operating temperature or current cold weather performance temperature as determined by an engineering analysis)</li></ul>	
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#### Cold Weather Alert (2 Events)

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.13.2024 00:01	12.13.2024 12:00	A Cold Weather Alert has been issued from 00:01 on 12.13.2024 through 12:00 on 12.13.2024 Per M-13, members are expected to perform the following: 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. GEN DISPATCHERS: <ul style="list-style-type: none"><li>-Review &amp; update unit parameters in Markets Gateway (MG) through the Cold Weather Alert period paying particular attention to accurate Start-up &amp; Notification, Min/Max Run Time, Eco Min/Max and Emergency Min/Max.</li><li>-Submit alternate fuel capability &amp; resource limitations via MG.</li><li>-Review fuel supply/delivery schedules for greater than normal operation of units.</li><li>-Provide PJM with estimate of time needed to return any unit on a Planned Outage. This 'Early Return Time' should be updated in eDART &amp; will not affect the Planned Outage est. end date.</li><li>-Dual fuel units, confirm equipment is functional &amp; amount of alternate fuel available.</li><li>-Update PLS schedule parameters as indicated in Manual 11 Section 2.3.4.</li></ul>	COMED
12.12.2024 00:01	12.12.2024 23:59	A Cold Weather Alert has been issued from 00:01 on 12.12.2024 through 23:59 on 12.12.2024 Per M-13, members are expected to perform the following: 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. GEN DISPATCHERS: <ul style="list-style-type: none"><li>-Review &amp; update unit parameters in Markets Gateway (MG)</li></ul>	COMED

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		<p>through the Cold Weather Alert period paying particular attention to accurate Start-up &amp; Notification, Min/Max Run Time, Eco Min/Max and Emergency Min/Max.</p> <ul style="list-style-type: none"><li>-Submit alternate fuel capability &amp; resource limitations via MG.</li><li>-Review fuel supply/delivery schedules for greater than normal operation of units.</li><li>-Provide PJM with estimate of time needed to return any unit on a Planned Outage. This 'Early Return Time' should be updated in eDART &amp; will not affect the Planned Outage est. end date.</li><li>-Dual fuel units, confirm equipment is functional &amp; amount of alternate fuel available.</li><li>-Update PLS schedule parameters as indicated in Manual 11 Section 2.3.4.</li></ul>	
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#### **High System Voltage (1 Event)**

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.29.2024 00:41	12.29.2024 08:00	<p>A High System Voltage Action has been issued; all companies shall take the following actions on the Bulk Electric System:</p> <ol style="list-style-type: none"><li>1. All switchable capacitors are out of service.</li><li>2. All reactors are in service.</li><li>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.</li><li>4. All SVCs are absorbing reactive power.</li><li>5. Generation Owners shall operate generators at the lower bandwidth of their voltage schedule when possible.</li><li>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.</li></ol> <p>Target: Distribution Companies/Transmission Owners/Generation</p>	WESTERN

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##### **PCLLRW (15 Events)**

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.23.2024 07:40	12.23.2024 14:22	A Post Contingency Local Load Relief Warning has been issued to maintain JAMESRV 138 KV *E04 at 127.0 KV in the AEP for Transmission Contingency Control. Additional Comments: Post Contingency Switching available	AEP
12.22.2024 20:46	12.22.2024 22:26	A Post Contingency Local Load Relief Warning has been issued to maintain JENNINGS 138 KV *E04 at 127.0 KV in the FE(APS) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	FE-AP
12.22.2024 18:43	12.22.2024 19:36	A Post Contingency Local Load Relief Warning has been issued to maintain JENNINGS 138 KV *E04 at 127.0 KV in the FE(APS) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	FE-AP
12.12.2024 18:02	12.13.2024 18:25	A Post Contingency Local Load Relief Warning has been issued to maintain NFINDLAY-NWOODCOC at 207.0 MVA in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AEP
12.12.2024 17:11	12.13.2024 18:25	A Post Contingency Local Load Relief Warning has been issued to maintain HODGIN 138 KV BB_17610 at 127.0 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AEP
12.11.2024 09:59	12.11.2024 14:27	A Post Contingency Local Load Relief Warning has been issued to maintain LAURELCO 161 KV ND_143 at 148.9 KV in the EKPC for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	EKPC
12.05.2024 19:14	12.05.2024 21:41	A Post Contingency Local Load Relief Warning has been issued to maintain CARLLS 69 KV 69-1 at 65.0 KV in the AE for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AECO
12.05.2024 19:02	12.05.2024 19:09	A Post Contingency Local Load Relief Warning has been issued to maintain CARLLS 69 KV 69-1 at 65.0 KV in the AE for Transmission Contingency Control. Additional Comments: Post Contingency Switching available	AECO
12.05.2024 06:17	12.05.2024 13:10	A Post Contingency Local Load Relief Warning has been issued to maintain BOUTWELL 138 KV *E07 at 127.0 KV in the AEP for Transmission Contingency Control.	AEP

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		Additional Comments: Load -No Generation or Switching available	
12.03.2024 07:15	12.03.2024 08:20	A Post Contingency Local Load Relief Warning has been issued to maintain CLIMAXDP 69 KV B at 63.5 KV in the DOM for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	DOM
12.03.2024 06:57	12.07.2024 03:15	A Post Contingency Local Load Relief Warning has been issued to maintain HODGIN 138 KV BB_17610 at 127.0 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AEP
12.03.2024 06:34	12.07.2024 03:16	A Post Contingency Local Load Relief Warning has been issued to maintain LYNBROOK 138 KV *E04 at 127.0 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AEP
12.02.2024 17:23	12.02.2024 18:03	A Post Contingency Local Load Relief Warning has been issued to maintain GARDNERS-TEXSEAST GAR-TEX at 179.0 MVA in the FE(ME) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	FE-ME
12.02.2024 06:44	12.08.2024 03:28	A Post Contingency Local Load Relief Warning has been issued to maintain OPEQUON 138 KV 138-B at 127.0 KV in the FE(APS) for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	FE-AP
11.25.2024 10:17	12.01.2024 10:54	A Post Contingency Local Load Relief Warning has been issued to maintain SHACKMIL 138 KV *E04 at 127.0 KV in the AEP for Transmission Contingency Control. Additional Comments: Load -No Generation or Switching available	AEP

#### **Non-Market PCLLRW Event (2 Events)**

<b>Effective Start Time</b>	<b>Effective End Time</b>	<b>Message</b>	<b>Region</b>
12.06.2024 21:08	12.08.2024 03:32	A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain BARD_IND-E_BARDST TIE at 93 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Post Contingency Switching available	EKPC
12.03.2024 20:58	12.05.2024 10:03	A Non-Market Post Contingency Local Load Relief Warn has been issued to maintain BARD_IND-E_BARDST TIE at 93.0 MVA in the EKPC for Transmission Contingency Control. Additional Comments: Post Contingency Switching available	EKPC

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Conservative Operation (0 Events)  
Curtailment of Non-Essential Building Load (0 Events)  
Deploy All Resources Action (0 Events)  
Emergency Energy Request (0 Events)  
Emergency Load Mgmt Reduction Action (0 Events)  
Emergency Voluntary Energy Only Demand Response (0 Events)  
Gas Pipeline Contingencies (0 Events)  
Geomagnetic Disturbance Action (0 Events)  
Geomagnetic Disturbance Warning (0 Events)  
HLV Action (0 Events)  
HLV Warning (0 Events)  
Hot Weather Alert (0 Events)  
IROL - Information Only (0 Events)  
Load Shed Directive (0 Events)  
Local Minimum Generation Event (0 Events)  
Low Voltage Alert (0 Events)  
Maintenance Outage Recall (0 Events)  
Manual Load Dump Action (0 Events)  
Manual Load Dump Warning (0 Events)  
Maximum Generation Emergency/Load Management Alert (0 Events)  
Maximum Generation Emergency Action (0 Events)  
Minimum Generation Advisory (0 Events)  
Minimum Generation Alert (0 Events)  
Minimum Generation Emergency Declaration (0 Events)  
Minimum Generation Event (0 Events)  
Pre-Emergency Load Mgmt Reduction Action (0 Events)  
Primary Reserve Alert (0 Events)  
Primary Reserve Warning (0 Events)  
TLR (0 Events)  
Unit Startup Notification Alert (0 Events)  
Voltage Reduction Action (0 Events)  
Voltage Reduction Alert (0 Events)  
Voltage Reduction Warning and Reduction of NCPL (0 Events)