

2022 PJM Fall RTO Restoration Drill

Drill Date	October 12, 2022
Alternate Date	October 19, 2022
Key Pre-Drill Date	October 11, 2022 (Communications Testing & WebEx)
Drill Summary	<p><u>General Information:</u></p> <p>PJM will conduct a one day Fall RTO Restoration Drill, TOs only, on Wednesday, October 12, 2022 at 0730 hours EPT. The Drill will finish at 1530 hours EPT.</p> <p>The Fall Restoration Drill provides an opportunity for all applicable entities to comply with the various NERC Standards and requirements</p> <p>PJM will have experienced a large system disturbance with a majority of the footprint shutdown. The drill will utilize generation and transmission system conditions & outages that actually exist on the dates of the drill. Transmission that is out of service for maintenance will be assumed unavailable for use in the drill.</p> <p>PJM will utilize its OTS during the drill. A full complement of PJM system operators will participate in the training exercise. Detailed documentation of the restoration procedures, as well as black start generating units performing intended functions, will be logged and archived.</p> <p><u>PJM Drill Responsibilities:</u></p> <ol style="list-style-type: none"> 1. Coordinate activities with all participating Transmission Owners. PJM will collect system status information and provide restoration status updates to participating members. 2. Be proactive in identifying opportunities to assist the TOs in the restoration process. 3. Direct the restoration of ALL available 765 / 500kV transmission facilities that had been interrupted by the end of the drill provided an appropriate amount of load and generation had also been restored. 4. Facilitate all interactions and schedules with outside pools / control areas. 5. Coordinate the restoration process with fuel-limited, unavailable generation and / or possibly damaged transmission equipment. 6. Assume frequency control when appropriate. 7. Calculate an ACE, and return to a centrally coordinated or normal operation when appropriate. <p><u>Transmission Owner Expectations:</u></p> <ol style="list-style-type: none"> 1. Each Transmission Owner is encouraged to Identify two injects to be used in the restoration scenario. Please notify PJM of the injects that will be used by October 3, 2022. 2. Correct and report any restoration plan deficiencies found during the simulated restoration exercise. If deviations to a restoration plan need to occur, please notify PJM.

2022 PJM Fall RTO Restoration Drill

<p>Drill Summary Cont.</p>	<ol style="list-style-type: none"> 3. Utilize both the top-down and bottom-up approach during the drill, understanding that initial actions would have to be bottom-up for companies that are blacked-out and isolated. The first portion of the drill will utilize bottom up restoration strategies. 4. Ensure that all nuclear units have been provided with off-site sources for safe shutdown power within 4 hours. Transmission Owners are required to notify the nuclear units within their transmission zone of expected arrival of safe shutdown power. 5. Utilize appropriate internal / external Communication Protocols. 6. Participants will be asked to evaluate drill activities, tools and processes via coordinated debriefs and during PJM DTS meetings. <p><u>Drill Injects Examples:</u></p> <ul style="list-style-type: none"> • Major transmission line unavailable • Substation damaged • Cranking path unavailable • Unavailable generation • Communication issues with field personnel • Loss of battery power at a substation <p><u>Generation Operator Expectations:</u></p> <ol style="list-style-type: none"> 1. GOs are not expected to participate in the Fall Restoration drill unless requested to by the TO.
<p>Pre-Drill Information & Communications Testing</p>	<p><u>RTO Pre-Drill Meeting:</u> Tuesday October 11, 2022</p> <p>A Dispatcher Training Subcommittee Meeting will be held on Tuesday, October 11th from 09:00-11:00 EPT. PJM will discuss drill logistics and planning as well as Test communication systems. Please register for the DTS meeting at http://www.pjm.com/committees-and-groups/subcommittees/dts.aspx</p> <p>During the DTS, the following information will be discussed:</p> <ul style="list-style-type: none"> • SOS Conference Calls • Drill WebEx information • Associated paperwork • PJM Roles • Member Company expectations <ul style="list-style-type: none"> ○ How to complete and submit reports ○ Items that need to be logged <p><u>Communications Testing:</u></p> <p>PJM will conduct a test of the communication systems on <u>Tuesday October 11th</u>. The test will begin with an SOS-style conference call at 0900 hours EPT in which all participants will review their responsibilities and discuss any communication issues. All phone and email systems utilized during the drill will be tested at this time. The communications testing is expected to be completed by 11:00 hours EPT.</p>

2022 PJM Fall RTO Restoration Drill

<p>Conference Call Information</p>	<p>Actual Conference calls (and tests) will be held as outlined below and as part of the drill progression. Members are requested to dial into these calls as appropriate. All times listed are in Eastern Prevailing Time (EPT). *Note: The conference call schedule may adjust during the drill to have additional or less calls if necessary.</p> <p>Tuesday, October 11th</p> <p>0900 DTS & Communication Systems Test</p> <p>Wednesday, October 12th</p> <p>0730 Pre-Drill Conference Call (All Participants)</p> <p>1200 RTO Drill Check- In & System Status Conference Call (TOs)</p> <p>1530 RTO Drill De-brief Conference Call (All Participants)</p> <p>*There will not be a scheduled break for lunch.</p> <p>The information for <u>all PJM Drill Conference Calls</u> is as follows:</p> <p>Conference Call Number:</p> <p>United States Toll Free: 1-844-992-4726</p> <p>United States Toll:+ 1-408-418-9388</p> <p>Teleconference Access Codes:</p> <p>Tuesday - 2349 775 2659</p> <p>Wednesday - 2342 970 6700</p>	
<p>Drill CE Hours</p>	<p>TO Participation: up to 8 CEHs*</p> <p>GO Participation if requested: up to 8 CEHs*</p>	<p>WebEx Information</p> <p>Tuesday Link Passcode phPt8R7pHr3</p> <p>Wednesday Link Passcode Hy9DwXuUj96</p> <p>NOTE: The WebEx and conference call will begin at the start of the drill and will remain on throughout the drill. Participants will also have the option to “Chat” questions during the drill via WebEx.</p>
<p>Forms</p>	<ul style="list-style-type: none"> • Drill Participation Form - http://pjm.com/~media/training/member-training-liaison-forms/att-d-app-4.ashx <p>This Drill Participation Form must be completed by all entities participating in the drill in order to receive CE credit. Please email to: trainingsupport@pjm.com</p> <ul style="list-style-type: none"> • Drill Evaluation Form - 2022 Fall Restoration Drill Evaluation • Company Initial Restoration Report – This form (Exhibit 12, M-36) should be completed within the first hour of the drill. Please use Restoration SharePoint to submit this form. 	

2022 PJM Fall RTO Restoration Drill

	<ul style="list-style-type: none"> • Log Sheets – At the conclusion of the drill, participants should submit any log sheets such as the <i>Company Transmission Restoration Report</i> with all relevant documentation including the following: <ul style="list-style-type: none"> • Cranking paths used during restoration • Black start units used during restoration • Paths and times for shut-down power to nuclear plants <p>Please send to RestorationDrill@pjm.com</p> <ul style="list-style-type: none"> • Company Transmission Restoration Report - This report (Exhibit 15, M-36) needs to be submitted <u>every 10 lines restored or every 30 minutes</u>. NOTE: You do not have to submit a form if you did not restore any transmission lines in the past 30 minutes. Please use Restoration SharePoint to submit this form. • Company Hourly Generation Restoration Report – This report (Exhibit 14, M-36) needs to be submitted on an hourly basis or sooner if more than 100 MWs were brought online since the last report was submitted. <i>*Please call PJM as black start units are brought online.*</i> Please use Restoration SharePoint to submit this form.
<p>Online Training Information</p>	<p>System Restoration Online Drill Refresh - Notification will be sent to the Dispatcher Training Subcommittee (DTS) when available</p>
<p>Drill Contacts/ Questions</p>	<p>For questions pertaining to the Drill please contact: SystemRestorationDrillTm@pjm.com</p> <p>For questions pertaining to the restoration refresh online training, CE hours, participation form or evaluation form please contact: Trainingsupport@pjm.com</p>