



Operational Practices for Intermittent Resources

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Generation Dispatch Data Requirements

Generation Operations Expectations

- All Units
- Wind
- Solar

Curtailement Processes

- Wind
- Solar

Benefits to following dispatch

- Reliability
- Compensation

Manual 1 and 14D both have requirements for all PJM dispatchable generation

- Operating data points will be provided to PJM either through an EMS data link or through the Markets Gateway interface whenever the data changes.
- The plant/station/PJM Member:
 - Provides PJM with all necessary information to dispatch individual units
 - Notifies PJM of any actual or potential changes in unit status or capacity

PJM uses its Security Constrained Economic Dispatch (SCED) to determine the appropriate generation output.

- An individual unit MW base point is sent to each plant/station/PJM Member as the dispatch signal

Expectations to follow dispatch (Manual 14D Section 7)

- Generating Facilities must respond immediately to a PJM request directing a change in real power output.
- Under normal conditions, Generator follows PJM dispatch which would typically mirror the day ahead schedule/forecast
- When the system is constrained, PJM may direct the Generator to deviate from schedule output for reliability
 - Based on dispatchable range in Markets Gateway

Expectations to update unit information

- Provide notification to PJM at least 20 minutes prior to a change in state of each generating unit.
- Any changes to the output of a self-scheduled resource by more than 50 MW that are not following SCED basepoint, real or reactive power capability or any testing potentially affecting reliable unit operation, e.g. governor, AVR or PSS testing.
- Updating Markets Gateway information as necessary will help PJM dispatch as well

Wind Resources (Manual 14D Section 8)

- Computer System Data Exchange
 - Following PJM-directed operation during transmission-constrained conditions.
- Forecast
 - Five-minute Forecast
 - Hourly Forecast
- Outage Reporting
 - eDART ticket is required when the wind farm is unavailable or derated.
 - Lack of wind does not require an eDART ticket.
- Expected to follow SCED Dispatch plus Curtailment Flag indicator
 - Only contacted if deviating while Curtailment Flag indicator is on

Solar Resources (Manual 14D Section 12)

- Computer System Data Exchange
 - Following PJM-directed operation during transmission-constrained conditions.
- Solar Power Forecasting
 - Five-minute Forecast
 - Hourly Forecast
- Outage Reporting
 - eDART ticket is required when the solar park is unavailable or derated.
 - Lack of solar irradiance does not require an eDART ticket.
- Expected to be at maximum output unless notified manually by PJM dispatch

Wind Resources

- SCED Curtailed
- Manually Curtailed

Solar Resources

- Manually Curtailed

SCED Controlled Process

- Receive SCED dispatch signal
- Receive curtailment flag status(wind specific)

Manual Dispatch

- No reaction to SCED dispatch signal
- PJM confirms with generator “unable to follow SCED dispatch”
- Manual dispatch of the generator is left in place until curtailment can be reliably lifted

Only Manual Dispatch

- Receive SCED dispatch signal
- Do NOT receive curtailment flag status
- No reaction to SCED dispatch signal
- PJM still confirms with generator “unable to follow SCED dispatch”
- Manual dispatch of the generator is left in place until curtailment can be reliably lifted

Automatically following PJM dispatch signal assures:

- Automated Congestion Management
 - Alternatively controlled by operator judgement
 - Based on distribution factor(dfax) and economic details
 - Affects amount of reduction and duration
- Accurate Compensation
 - Generators that do not follow SCED dispatch signal will not be eligible for lost opportunity cost

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Operational Practices for Intermittent Resources



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