FERC Order No. 2222

Refresher on Key Compliance Directives, Effective Dates, and Compliance Approach

Objectives

- This presentation provides a brief refresh on
  - Order No. 2222 Background
  - Compliance Filing and Effective Dates
  - Participation Models
  - Registration Coordination
  - Operational Coordination
  - Metering Requirements and Responsibilities

BACKGROUND

Key Compliance Directives and Effective Dates

Order No. 2222 Background

- Issued by FERC on September 17, 2020
- Requires ISO/RTO to allow Distributed Energy Resources (DER) to provide all wholesale services they are technically capable of, through resource aggregation
- NEPOOL supported the proposal, with over 71% voting in favor

Commission Orders and Further Compliance Filings

- March 1, 2023, FERC issued a Compliance Order, partially accepting and partially rejecting the Compliance Proposal, requiring further filings within 30, 60, and 180 days
- The ISO submitted the required compliance filings; FERC largely accepted the Compliance Proposal with minor modifications
- The ISO requested a rehearing regarding FERC's rejection of their proposal for the Host Utility or Assigned Meter Reader to provide metering data (instead of the DER Aggregator)
- October 6, 2023, FERC confirmed the requirement that the DER Aggregator provide metering data to ISO-NE
- January 31, 2024, the ISO submitted a final compliance filing designating the DER Aggregator as responsible for metering data

Terminology

- Distributed Energy Resource (DER) –Any resource connected to the distribution system, parts of it, or on the customer's side of the meter. This includes assets like battery storage, renewable generations (e.g. solar, wind) distributed generation, demand response, energy efficiency measures, thermal storage, and EVs with controllable charging infrastructure
- DER Aggregation (DERA) – One or more DERs participating together in the wholesale markets, which acts as a single resource
- DER Aggregator – The entity that aggregates one or more distributed energy resources for purposes of participation in the capacity, energy and/or ancillary service markets of the regional transmission organizations and/or independent system operators

Key Compliance Directives

1. Allow DERAs to participate directly in RTO/ISO markets and establish DER aggregators as a type of market participant; DERAs may include more than one technology type, i.e., heterogeneous aggregations
2. Allow DER aggregators to register DERAs under one or more participation models that accommodate the physical and operational characteristics of the DERA
3. Address size requirements for DERAs and individual DERs
4. Address locational requirements for DERAs
5. Address distribution factors and bidding parameters for DERAs

Key Compliance Directives, cont.

6. Address information and data requirements for DERAs
7. Address metering and telemetry requirements for DERAs
8. Establish market rules on coordination between the RTO/ISO, DER aggregator, distribution utility, and Relevant Electric Retail Regulatory Authorities (RERRAs)
9. Address modifications to the list of DERs in a DERA
10. Address market participation agreements for DER aggregators
11. Implement opt-in provision for distribution companies with ≤ 4 million MWh of annual deliveries

Effective Dates

- Tariff changes affecting Forward Capacity Market rules are effective for the 2028-29 Capacity Commitment Period (CCP 19)
  - Current tariff reflects a delayed schedule for the capacity auction commitment period (CCP) 19.
  - Additional changes for CCP 19, reflecting anticipated capacity auction reforms, are expected to be filled ahead of and effective for CCP 19.
- Tariff changes affecting energy and ancillary service market rules are effective on November 1, 2026
- Distribution companies to develop processes to:
  - Review DER eligibility to participate in a DERA
  - Accommodate third-party (non-Host Utility) DER/DERA meter readers
  - Assess the safety and reliability impacts of DERAs and DERs on their systems
- Relevant Electric Retail Regulatory Authorities (RERRAs) to complete any processes addressing DER participation

ISO NEW ENGLAND'S COMPLIANCE APPROACH

Participation Model Design

- Order 2222 mandates that DER Aggregations (DERAs) include a mix of different technologies
  - All ISO-NE proposed models allow for a mix of technologies
- ISO-NE's approach centers on resource capabilities rather than specific technologies
- Each DER has at least one—and up to all four—key capabilities:
  - Demand Reduction: Reducing demand in response to dispatch, measured against a baseline (may include incremental injections)
  - Energy Injection: Injecting energy into the grid
  - Energy Withdrawal: Withdrawing energy from the grid
  - Regulation: Ability to respond to dispatch to balance the grid every 4 seconds
- Single resource “aggregations” are allowed

Existing Models Included

- **(Modeled) Generator Asset**
- **Binary Storage Facility (BSF)** and **Continuous Storage Facility (CSF)** models are currently used for dispatchable electric storage facilities
  - **Electric Storage Device (e.g., battery)**: May offer both a load generation, or may offer just flexible load if storage is located behind retail meters
  - These models can also be used by aggregations with flexible load and/or distributed generation, even if there's no electric storage included
- **Alternative Technology Regulation Resource**: Minimum size limit lowered from 1,000 kW (1 MW) to 100 kW and locational requirement added

New Models

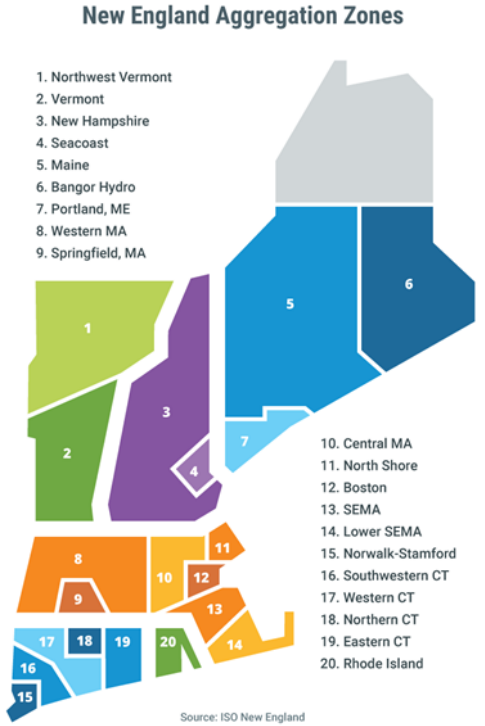
- **Settlement Only Distributed Energy Resource Aggregation (SODERA):**
  - Enables non-dispatchable resources, which could otherwise be Settlement Only Resources, to (optionally) aggregate with flexible loads, supporting diverse technology mixes in a single aggregation
  - Allows participation in the Day-Ahead energy market, unlike the current Settlement Only Resource model
- **Demand Response Distributed Energy Resource Aggregation (DRDERA):**
  - This model provides for aggregations that include demand response along with other DER types
  - Aggregations under this model may provide demand reduction as well as energy injection and/or energy withdrawal capabilities
  - The DRDERA model allows for energy injection or withdrawal outside of dispatch to be compensated or billed at the Locational Marginal Price (LMP)

Size Limits and Metering Requirements

- Adopted the 100 kW minimum size limit for DERAs
- Proposed that larger DERs (> 5 MW) participate individually or in more geographically limited aggregations in certain situations
  - Individual DERs with a capability of 5 MW or more at a single node;
  - Aggregations of DERs with a capability of 5 MW or greater located at a single node
- Metering of DERAs is required to comply with OP-18
  - Meters of behind-the-meter DERs must be located at the Retail Delivery Point (RDP)
    - DER sub-metering is allowed, but only if the Host Utility is able to accommodate metering configurations that address double-counting
  - The DER Aggregator can designate itself, an agent acting its behalf, or the Host Participant to be the Assigned Meter Reader of a DERA containing Generator Assets or Load Assets
    - Manual M-28 – Market Rule 1 Accounting – requirements would apply
    - The DER Aggregator must enter into applicable meter data coordination agreements with the relevant Host Participant subject to any RERRA requirements

Locational Requirements

- Multi-Node Approach Using DRR Aggregation Zones
  - All DERs in a DERA must be in the same DRR Aggregation Zone and the same metering domain
  - The DRR Aggregation Zone is modeled as a single pNode
  - Since all DERs in a DERA are in the same pNode location, DER Aggregators do not need to submit distribution factors



APPENDIX: ORDER NO. 2222 CONFORMING CHANGES SUMMARY

Order No. 2222 Conforming Changes Summary | WMPP ID: 186

Proposed Effective Date: November 1, 2026

- Conforming changes required to implement the Order No. 2222 design have been discussed and voted on through the NEPOOL Technical Committee process:
  - Rename energy offers from DRDERAs
  - Include DRDERAs in the Day-Ahead Ancillary Services Market
  - Include DRDERAs in NCPC
  - Reduce the minimum size for Generators to participate in the Regulation Market
  - Update the base text for Tariff Section I.2.2
  - Remove “Baseline Deviation Offer” and associated terms from Tariff Section III.13
- In August 2025, ISO seeks a vote at the Participants Committee meeting

Stakeholder Schedule

Stakeholder Committee and Date	Scheduled Project Milestone
Markets Committee | Presentation **April 8-9, 2025**	- Introduce Order No. 2222 Conforming Changes
Markets Committee | Presentation **June 10-11, 2025**	- Continued discussion on Order No. 2222 Conforming Changes - Introduce Tariff redlines for Order No. 2222 Conforming Changes
Transmission Committee | Presentation **June 12, 2025**	- Introduce Order No. 2222 Conforming Changes - Introduce Tariff redlines for Order No. 2222 Conforming Changes
Reliability Committee | Presentation **June 17, 2025**	- Introduce Order No. 2222 Conforming Changes - Introduce Tariff redlines for Order No. 2222 Conforming Changes
Markets Committee | Presentation | Voting Memo **July 8-9, 2025**	- Vote on Order No. 2222 Conforming Changes
Joint Reliability and Transmission Committee Summer Meeting | Presentation | Voting Memo **July 15-16, 2025**	- Vote on Order No. 2222 Conforming Changes
Budget and Finance Subcommittee | Presentation **July 18, 2025**	- Review Order No. 2222 Conforming Changes
Participants Committee **August 7, 2025**	- Vote on Order No. 2222 Conforming Changes