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Independent System Operator

DER Participation Model – Aggregation Manual Part I

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Agenda

- Background & Overview
- Feedback & Updates
- Next Steps

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Background & Overview

- **On March 25, 2022, the NYISO presented an initial draft of the Aggregation Manual Part I.**
  - The NYISO sought stakeholder feedback on the Manual draft.
  - NYISO has reviewed and incorporated feedback provided.
- **Today's discussion will review feedback and accompanying updates to the Aggregation Manual Part I.**

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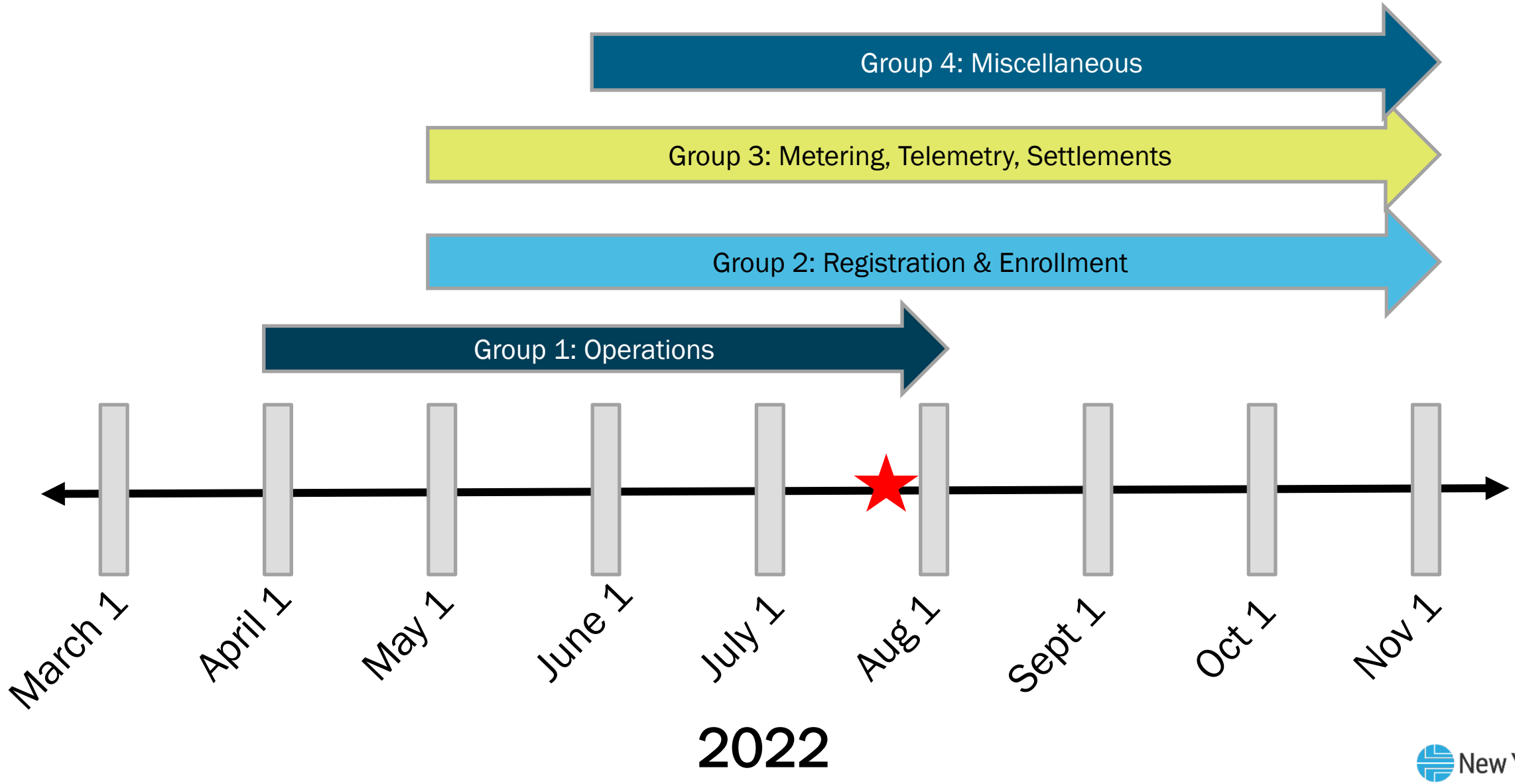
Timeline



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Document	Progress	Milestones
Aggregation Manual Part I	Reviewed – Posted, NYISO reviewing feedback	7/21 ICAPWG 8/11 SOAS
Emergency Operations Manual	All updates completed and feedback incorporated	5/11 ICAPWG 5/12 SOAS
Transmission & Dispatch Operations Manual	All updates completed and feedback incorporated	5/11 ICAPWG 5/12 SOAS
Day Ahead Scheduling Manual	All updates completed and feedback incorporated	5/11 ICAPWG 5/12 SOAS
Ancillary Services Manual	All updates completed and feedback incorporated	6/7 ICAPWG 6/9 SOAS
Control Center Requirements Manual	All updates completed and feedback incorporated	5/11 ICAPWG 5/12 SOAS & CDAS
Outage Scheduling Manual	All updates completed and feedback incorporated	7/15 ICAPWG 8/11 SOAS
Emergency Demand Response Manual	All updates completed and feedback incorporated	7/15 ICAPWG

Manual Revisions Complete for Vote

- Ancillary Services Manual
- Emergency Operations Manual
- Transmission & Dispatch Operations Manual
- Day-Ahead Scheduling Manual
- Control Center Requirements Manual
- Outage Scheduling Manual
- Emergency Demand Response Program Manual

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Remaining Documents

- Aggregation Manual Part I - Today
- Grid Operations Coordination Portal User's Guide
- Direct Communications Procedure
- Installed Capacity Manual
- Load Forecasting Manual
- Reference Level Manual
- RLS User's Guide
- Day Ahead Demand Response Program Manual
- Wind and Solar Plant Data User's Guide
- Market Participant User's Guide
- Aggregation System User's Guide
- Transmission Congestion Contracts Manual
- Demand Response Information System User's Guide
- AMS Automated Market User's Guide
- Revenue Grade Metering Manual

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Work Plan

- **July – September**
  - Today's presentation:
    - Aggregation Manual Part I
  - Aggregation Manual Parts II, III, IV
  - Direct Communications Procedure
  - Installed Capacity Manual
  - Load Forecasting Manual
- **September – December**
  - Reference Level Manual
  - Grid Operations Coordination Portal User's Guide
  - Aggregation Manual Parts II, III, IV
  - Revenue Grade Metering Manual
  - Accounting and Billing Manual
  - Transmission Congestion Contracts Manual
- **2023**
  - Demand Response Information System User's Guide
  - Day Ahead Demand Response Program Manual
  - Wind and Solar Plant Data User's Guide
  - RLS User's Guide
  - Market Participant User's Guide
  - Aggregation System User's Guide
  - AMS Automated Market User's Guide

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Feedback and Updates

Aggregation Manual Part I

- **Feedback received:**
  - Various sections –
    - Clarify singular versus plural use of the term ‘DER’.
- **Response:**
  - Various grammatical updates included.

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Aggregation Manual Part I

- **Feedback received:**
  - Various sections –
    - Diagrams illustrating communication among DER, Aggregators, Distribution Utilities, Transmission Owners, and Meter Authorities should specify plan for initial deployment – current diagrams illustrate medium/long term.
    - Diagrams should clarify 'DU as MSE,' as other entities may be the Meter Authority for an Aggregation.
- **Response:**
  - Diagrams have been updated to reflect configurations for initial deployment only – any subsequent updates to the communication configurations will be presented at an ICAPWG for review.
  - Diagrams now reflect 'Meter Authority' to accurately represent possible use cases (MSE, Member System).

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Aggregation Manual Part I

- **Feedback received:**
  - Various sections –
    - The Distribution Utilities will communicate with the individual DER directly should distribution system changes arise, rather than to the Aggregator of said DER.
- **Response:**
  - The NYISO has clarified language and visuals based on the recommendations of the Distribution Utilities that the DER shall be the primary recipient, not the Aggregator.
  - The term 'DER/Aggregator' is used throughout the document to illustrate that the DER will receive such notices, and the Aggregator is an optional additional recipient based on current Distribution Utility communication channels.
- **Please note: This process will be effective until the NYISO implements its Order No. 2222 tariff revisions, at which point the DU must communicate with the Aggregator.**

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Aggregation Manual Part I

- **Feedback received:**
  - Section 2.1.3. Day-Ahead and Real-Time Market Bids –
    - Please clarify Aggregation energy balancing and fixed versus flexible offers – currently, one diagram illustrates fixed bidding performance. Aggregation flexible bidding should also be illustrated.
- **Response:**
  - Additional diagram and language included in Section 2.1.3. to describe flexible Aggregation bidding.
    - E.g., An Aggregation with 5 MW of withdrawal capability and 4 MW of injection capability, seeking to withdraw 5 MW. The Aggregation may bid to withdraw 1 MW from the market, as 4 MW may be provided by the Aggregation's injection capability to satisfy the withdrawal requirement.

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- **Feedback received:**
  - Section 2.1.3.2 Real-Time Market Bids –
    - "A DER Aggregation is not permitted to balance Energy withdrawals by Withdrawal Eligible Generators with Demand Reductions in a Real-Time Market internal if the Transmission Node LBMP for that intervals is less than the Monthly New Benefits Threshold value"
      - Stakeholders express concern regarding this requirement, and restriction of Aggregations from adjusting bids for a given hour to balance an economic response in Real-Time.
- **Response on the following slide.**

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Aggregation Manual Part I

- **Response (cont'd from previous slide):**
  - An Aggregator may use a combination of Energy injections, Energy withdrawals and Demand Reductions to meet its ISO-issued dispatch. However, Energy withdrawals cannot be balanced by Demand Reductions when the LBMP is less than the Monthly Net Benefits Threshold. This concept is consistent with the NYISO's FERC-accepted tariff language revisions and was discussed at length in the stakeholder process prior to filing in 2019.
  - The NYISO's 2019 DER and Aggregation filing stated that: "[c]onsistent with the application of the Monthly Net Benefits Threshold to determine compensation, a DER Aggregation will not be permitted to balance Energy withdrawals by Withdrawal Eligible Generators with Demand Reductions in a given Real-Time Market interval if the LBMP for that interval is less than the Monthly Net Benefits Threshold value."
  - "Allowing Demand Reductions to be paid the LBMP to offset Energy Withdrawals at times when the LBMP is less than the Monthly Net Benefits Threshold would effectively permit uneconomic supply to be used to meet demand." An Aggregation may still balance its Withdrawals with Injections regardless of interval, and the Aggregator is permitted to structure its bid/offers for a given Aggregation such that withdrawals are made at certain specified $/MW points, and DR is used for balancing only at or above the Monthly Net Benefits Threshold.

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- **Feedback received:**
  - Section 2.2.1. Communication Between Distribution Utility and Aggregator –
    - Stakeholders express concern regarding the requirement that the operating plans of individual DER must be reviewed by the applicable Distribution Utility, specifically that the review process in Real-Time may result in inadequate time to adjust and meet dispatch signals.
- **Response:**
  - The NYISO and Distribution Utilities clarify that individual DER operating plans must only be reviewed in the Day-Ahead timeframe, including updates – updates during the operating day are not required to be reviewed by the applicable Distribution Utility.

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Aggregation Manual Part I

- **Feedback received:**
  - Section 2.2.2. Communication Between Distribution Utility and Transmission Owner –
    - Stakeholders express concern regarding the details contained in this section, including the communication of telemetry and revenue-grade meter data – the original language appears to indicate that the data must be provided by the Aggregator to the Distribution Utility.
- **Response:**
  - NYISO does not require telemetry and revenue grade meter data to be transmitted to the applicable Distribution Utility by the Aggregator.

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Aggregation Manual – Transmission Nodes

- **The Transmission Node section of the Aggregation Manual has been added as section 3.**
- **The following changes have been made since the 2/24 ICAPWG:**
  - Section 3.3.1 DER Transmission Node Designation Changes
    - Changes to system topology or operational practices may impact the analysis of the Transmission Node to which a DER is designated. The Member System and the NYISO may redesignate a DER to a new Transmission Node during the Transmission Node change timeline.
  - Section 3.4 Transmission Node Operations
    - The NYISO's market software will continuously calculate an LBMP for each Transmission Node regardless of the operating status of the substation to which the Transmission Node is associated.
    - The Aggregator shall reflect their Aggregation's availability through market bids/offers based on the current conditions of the Distribution/Transmission system.

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Next Steps

Next Steps

- **NYISO will return to discuss remaining concepts and language at a future ICAPWG.**
- **Please send any questions that were not addressed during this presentation to: DER_Feedback@nyiso.com**
  - Comments/feedback submitted to the NYISO will be posted publicly unless the NYISO is specifically asked not to do so.

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Our Mission & Vision

Mission

Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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Questions?