New York ISO
Independent System Operator

DER Participation Model – Group 1 Concepts & Draft Manual Language Continued

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Agenda

- Background & Overview
- Key Concepts for Discussion
- Draft Manual Language for Discussion
- Next Steps

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Background & Overview

- To support the deployment of the DER Participation Model, NYISO seeks stakeholder feedback of key concepts that will be included in NYISO Manuals, Guides, & Technical Bulletins.
- At the February 24, 2022, ICAPWG/MIWG, NYISO shared the high-level timeline and anticipated scope of updates for the full suite of documents.
- Before NYISO seeks approval of draft manual language, stakeholder input on the concepts must be solicited and captured in the documents by staff.

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Background & Overview

- Today's discussion will review the concepts pertaining to control center communications requirements and Ancillary Services market rules applicable to Aggregations.
- Concepts are presented first, followed by draft manual language for stakeholder consideration.
  - Please note: The ISO Procedures in existing Manuals are generally applicable to Resources including Aggregations; – this discussion focuses on concepts that specifically apply to Aggregations.

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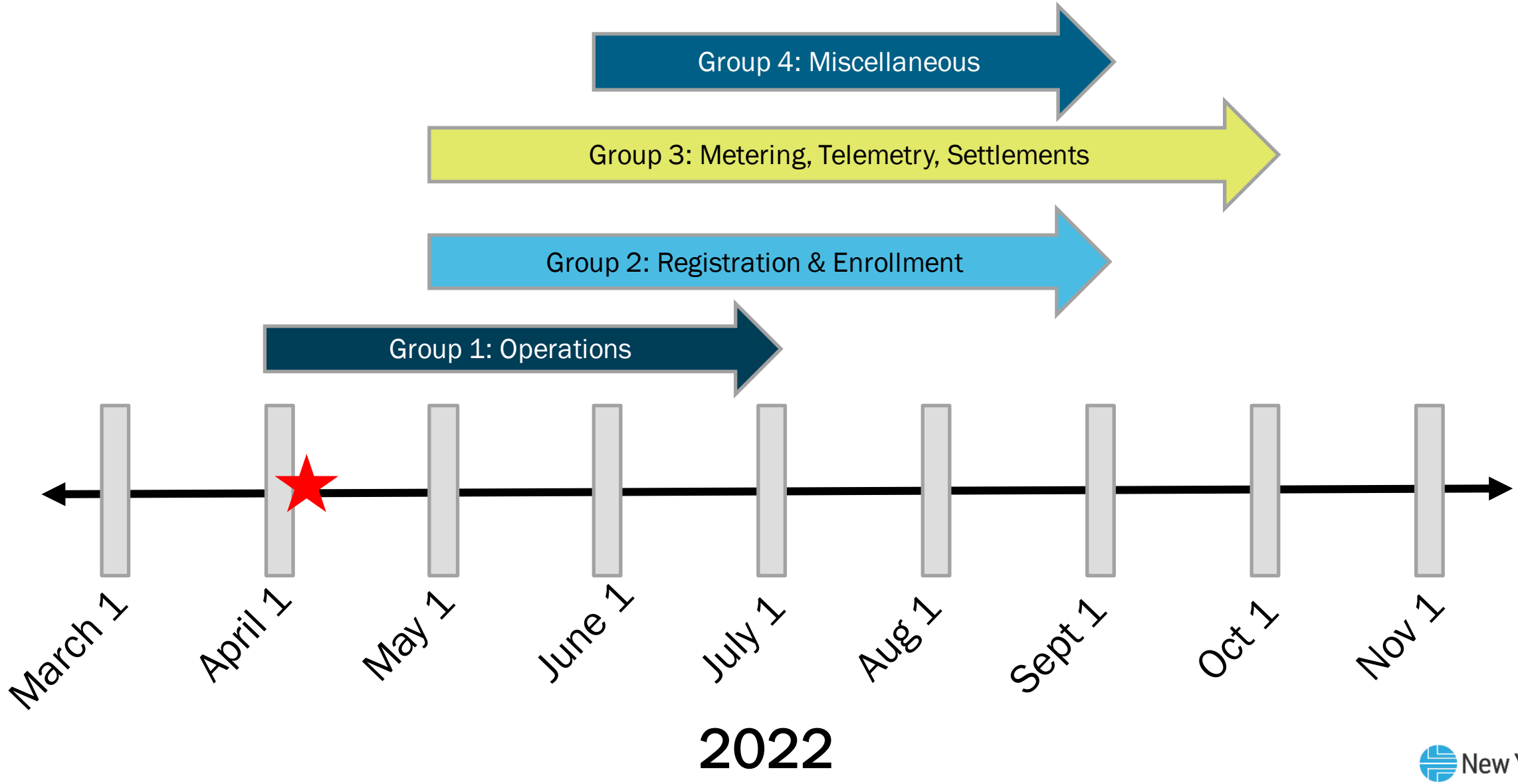
Timeline Discussion



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Summary of Progress – Group 1: Operations

Document	Progress	Milestones
Aggregation Manual Part I	Reviewed - Posted	Feedback due 4/11 5/12 SOAS
Emergency Operations Manual	Reviewed - Posted	Feedback due 4/11 5/12 SOAS
Transmission & Dispatch Operations Manual	Reviewed - Posted	Feedback due 4/11 5/12 SOAS
Day Ahead Scheduling Manual	Reviewed - Posted	Feedback due 4/11 5/12 SOAS
Ancillary Services Manual	Stakeholder review	4/6 ICAPWG 5/12 SOAS
Control Center Requirements Manual	Stakeholder review	4/6 ICAPWG 4/7 SOAS & CDAS
Outage Scheduling Manual	Internal review	5/3 ICAPWG
Outage Scheduler User's Guide	Internal review	5/3 ICAPWG
GOCP User's Guide	Internal review	5/3 ICAPWG

Key Concepts for Discussion

Concepts for Review – Ancillary Services

- Aggregations are subject to all relevant ancillary services requirements that apply to conventional generators today, unless otherwise noted.
- Aggregations are not eligible to provide Voltage Support Service (VSS).
- Aggregations may qualify to provide Regulation service.
- Aggregations comprised solely of ESRs and LESRs are subject to the existing rules of that applicable participation model.
- Automatic Generation Control (AGC) signals shall be communicated to Aggregations via the applicable Transmission Owner (and optionally directly from the NYISO).

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Concepts for Review – Ancillary Services

- Aggregations may only qualify to provide Regulation Service, when each of the facilities comprising the Aggregation use (i) inverter-based energy storage technology or (ii) is a Demand Side Resource (that does not facilitate its Demand Reductions through the use of a Local Generator, unless the Local Generator utilizes inverter-based energy storage technology).
- An Aggregation of Demand Side Resources (A 'DER' Aggregation) in which at least one Demand Side Resource facilitates its demand reduction by using a Local Generator, is not eligible to provide Regulation Service, unless each Local Generator included in the Aggregation uses inverter-based energy storage technology.

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Concepts for Review – Ancillary Services

- Aggregations are tested using a 'verification' rather than a prequalification – the Aggregator is permitted to enroll an Aggregation and begin participating to provide Regulation Service/Operating Reserves without prequalifying but will be required to verify performance during the first two weeks of the first month active in the market.

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Concepts for Review – Ancillary Services

- Aggregations that are (i) ISO-Committed Flexible or Self-Committed Flexible; (ii) are operating within the dispatchable portion of their operating range; (iii) are capable of responding to NYISO instructions to change its operating level within ten minutes, shall be eligible to supply Spinning Reserve. The following Aggregation types may only provide Spinning Reserves if all of the generating units in their Aggregation use inverter-based energy storage technology and they meet the criteria in the NYISO's procedures: (i) Aggregations comprised of one or more generating units, and (ii) Aggregations that include Demand Side Resource(s) where at least one Demand Side Resource facilitates its Demand Reduction by using a Local Generator.

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Concepts for Review – Ancillary Services

- Aggregations comprised of Demand Side Resources, that are supporting their demand reduction through the use of Local Generators (unless the Local Generator utilizes inverter-based energy storage technology) and are capable of reducing their Energy usage within ten (10) minutes, shall be eligible to supply 10-Minute Non-Synchronized Reserve and (iv) Aggregations comprised of generating units (including Local Generators facilitating Demand Reductions by Demand Side Resources) and are capable of increasing its supply level within ten (10) minutes, shall be eligible to supply 10-Minute Non-Synchronized Reserve.

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Concepts for Review – Ancillary Services

- Aggregations comprised of Demand Side Resources that do not support their Demand Reduction through the use of Local Generation, or that use a Local Generator utilizing inverter-based energy storage technology, that are ISO-Committed Flexible or Self-Committed Flexible and operating within the dispatchable portion of their operating range, shall be eligible to supply synchronized 30-Minute Reserves. Aggregations (i) that are offered as ISO-Committed Flexible or Self-Committed Flexible, and (ii) operating within the dispatchable portion of their operating range may provide 30-minute synchronized reserve.

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Concepts for Review – Ancillary Services

- Aggregations comprised of Demand Side Resources that are supporting their demand reduction through the use of Local Generators (unless the Local Generator utilizes inverter-based energy storage technology) that are capable of starting, synchronizing, and increasing their output level within thirty minutes, shall be eligible to supply non-synchronized 30-Minute Reserves. Aggregations whose facility mix include one or more generating units (including non-inverter-based Local Generators facilitating Demand Reductions for Demand Side Resources) are eligible to supply non-synchronized 30-minute Reserves.

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Concepts for Review – Control Center Requirements

- Aggregations are subject to all relevant control center requirements that apply to conventional generators today, unless otherwise noted.
- Aggregators are subject to the requirements set forth for Generation Providers throughout the Control Center Requirements Manual.
- SD-WAN shall be an acceptable alternative telecommunications technology for direct communications with NYISO.
- A TO telemetry connection is always required from the Aggregator, regardless of direct communications configuration between NYISO and the Aggregator.

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Draft Manual Language for Discussion

Ancillary Services Manual Sections

- 1.2.2. Summary of Services
- 3. Voltage Support Service
- 4. Regulation and Frequency Response Service
- 6. Operating Reserve Service

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Control Center Requirements Manual Sections

- 1. Overview
- 2.6. Generation Provider Communications
- 3.2.2. Present Design Overview
- Appendix D. SD-WAN Direct Communication Redundancy Requirements

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Next Steps

Next Steps

- NYISO will return to discuss concepts and supporting language for Group 1 – Operations continued at further ICAPWG, CDAS, and SOAS in April and May.
- NYISO will post any subsequent revisions to redlined documents on the website.
- Please send any questions, comments, or feedback 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?