

More Granular Operating Reserves: Market Design Complete

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Agenda

- Background
- Reserve Provider Performance
- Review of Load Pocket Reserves Proposal and Zone J Reserve Requirements
- Next Steps

Background

Background

- **The More Granular Operating Reserves project consists of the following components:**
 - ✓ Establishing a reserve region in Zone J (completed)
 - ✓ Market design approved by stakeholders in March 2019
 - ✓ Zone J reserve requirements implemented on June 26, 2019
 - ✓ Evaluating load pocket reserves in New York City (NYC) (completed)
 - Reviewing performance of resources scheduled to provide reserves
- **The purpose of today's presentation is to discuss NYISO's review of reserve provider performance**
- **Further, this presentation serves to review the other project components**

Previous Presentations

Date	Working Group	Discussion points and links to materials
01-08-19	ICAPWG/MIWG	Proposed schedule for accelerating implementation of Zone J operating reserves
01-15-19	ICAPWG/MIWG	Establishing a new Zone J reserve region with a 500 MW 10-minute and 1,000 MW 30-minute reserve requirement
01-24-19	ICAPWG/MIWG	Proposed operating reserve demand curve prices for the Zone J reserve products and the proposed tariff revisions for this initiative Operating Reserve Background
03-04-19	ICAPWG/MIWG	Analysis of potential impact
03-13-19	BIC	Stakeholder vote: Establishing Zone J Operating Reserves
03-27-19	MC	Stakeholder vote: Establishing Zone J Operating Reserves
04-30-19	ICAPWG/MIWG	More Granular Operating Reserves
07-10-19	ICAPWG/MIWG	More Granular Operating Reserves
09-24-19	ICAPWG/MIWG	More Granular Operating Reserves

Reserve Provider Performance

State of the Market Recommendation

- **The 2017 and 2018 State of the Market (SOM) reports provided an evaluation of gas turbine (GT) performance while responding to real-time start-up instructions.**
 - Performance was measured 10 or 30 minutes after an economic start-up signal was received
 - Based on this analysis, the Market Monitoring Unit (MMU) recommended that the NYISO “consider restructuring reserve payments to align with generator performance” and “consider discounting reserve awards based on past performance”¹

1. See Recommendation 2016-2 in the 2017 State of the Market Report, located at the following link: <https://www.nyiso.com/documents/20142/2223763/2017-State-Of-The-Market-Report.pdf/cd4ee8a0-1989-dfa0-b53e-2d642c65e46d> and pages 85 and 110 the 2018 State of the Market Report, located at the following link: <https://www.nyiso.com/documents/20142/2223763/2018-State-of-the-Market-Report.pdf/b5bd2213-9fe2-b0e7-a422-d4071b3d014b?t=1557344025932>

State of the Market Data Analysis

- **In 2018, the MMU found that 10-minute GTs provided an average of 82 percent of the MW offered, and 30-minute GTs provided an average of 87 percent of the MW offered**
 - In 2017, the MMU found that 10-minute GTs provided an average of 58 percent of the MW offered and 30-minute GTs provided an average of 80 percent of the MW offered ¹
 - In its analysis, the MMU attributes this improvement in overall performance to the fact that certain units that contributed to poor performance in 2016 and 2017 were not economically started by RTC in 2018 (including units that had since transitioned to an ICAP Ineligible Forced Outage status)

1. Refer to pages 85-86 of the 2018 State of the Market Report, located at the following link:
<https://www.nyiso.com/documents/20142/2223763/2018-State-of-the-Market-Report.pdf/b5bd2213-9fe2-b0e7-a422-d4071b3d014b?t=1557344025932>

Reserve Provider Audit Process

- **As noted in the presentation at the April 30, 2019 ICAPWG/MIWG meeting, the NYISO has the ability to audit reserve providers at any time and without prior notification**
 - The audit evaluates the actual response rate of resources in response to a reserve pickup
 - The NYISO may conduct audits outside of normal reserve activations, as if an actual emergency existed - no advance notice is provided
 - Resources to audit are randomly selected
 - The resource will not be scheduled to supply reserves until it passes a subsequent audit, and may have its response rate derated to reflect audit demonstrated performance capability
 - Historically, NYISO has conducted approximately 25-30 audits during each Capability Period
 - For more information, see [Technical Bulletin 142](#)

Reserve Audit Results

- NYISO performed 25 audits during the summer 2019 Capability Period with a total 88% pass rate
- The NYISO evaluated its reserve performance audit data from approximately 475 reserve audits from the last five years throughout NYCA
 - 10-minute units have an average 85% pass rate
 - 30-minute units have an average 90% pass rate
- These results indicate that suppliers are able to provide reliable reserve capability when activated by the NYISO

Reserve Provider Audit Process Enhancements

- **In consideration of stakeholder feedback at the April 30, 2019 ICAPWG/MIWG meeting, and in ongoing collaboration with the MMU, the NYISO is comprehensively reviewing its reserve audit process and has identified the following enhancements to pursue:**
 - Increasing the number of audits performed each Capability Period
 - Reviewing the procedures for actions taken in response to demonstrated performance concerns, including limitations/restrictions on a resource's continued ability to provide reserves
 - The NYISO also is reminding resources of the obligation to provide a written explanation that describes the reason(s) for the failure and a corrective action plan
 - This requirement applies if a resource fails an audit
 - Written explanation is required to be submitted with 5 business days after a resource receives a copy of its audit report
 - In the past, resources have often provided the required explanation via phone

Reserve Provider Audit Process Enhancements

- **The identified enhancements to the reserve audit process will continue to allow the NYISO to successfully evaluate the performance of reserve providers and ensure that resources are able to reliably provide reserves**
 - The NYISO does not recommend the development of a performance metric or other reserve payment discounting mechanism at this time

Reserve Pickup (RPU) Event Performance

- At the April 30, 2019 ICAPWG/MIWG meeting, stakeholders requested that the NYISO supplement the audit performance data with information regarding actual performance during reserve pickups
- Based on this feedback, NYISO has been actively working to enhance its ongoing evaluation of reserve pickup performance
 - Evaluation of reserve pickup performance encompasses resources that:
 - Received a reserve schedule in RTD
 - Received a Reserve Pickup Signal when the RPU was activated
 - Not all resources that have received a reserve schedule are asked to convert to energy during a RPU
 - This evaluation assesses a resource's basepoint 10 minutes after the RPU signal
- NYISO will use analysis of RPU performance in conjunction with reserve audits to continuously evaluate the performance of reserve providers and in assessing whether to implement responsive action for addressing performance concerns

Reserve Performance Reporting

- The NYISO is developing a process to enhance transparency of resource performance during reserve audits and pickups, and its reporting of performance analytics
- Currently, the NYISO reports instances of reserve pickups/activations to stakeholders as follows:
 - MC and OC: In the Operations Performance Metrics Monthly Report
 - SOAS: In the NYISO Operations report (provided monthly) (Note: MyNYISO website access required for accessing meeting materials)
 - NYISO website: Under daily Operational Announcements
- **Going forward, starting in early 2020, the NYISO proposes to begin reporting the following analytics within the Operations report distributed at SOAS, at least once per Capability Period**
 - Reserve Audit Results: total number of reserve units audited and the pass rate
 - Reserve Pickup Performance: evaluation of performance during the recent RPU

Load Pocket Reserves: Market Design Complete

Load Pocket Reserve Requirements

- The NYISO has proposed the following 30-minute reserve requirements for identified load pockets within New York City:

Load Pocket	30-Minute Operating Reserve Requirement (MW)
Astoria East/Corona/Jamaica	325
Astoria West/Queensbridge/Vernon	225
Greenwood/Staten Island	250

- The reserve requirements are based on the quantity of resource capacity required to return transmission lines into each pocket to applicable limits following an N-1 contingency on one of the other transmission lines into the pocket, consistent with rules for NYCA reliability
- The reserve requirements would be procured in both the Day-Ahead and Real-Time Markets
- The NYISO is proposing to establish operating reserve demand curves for each load pocket that assign a \$25/MWh value to the proposed reserve requirements
- The load pocket reserve regions would be nested within existing, upstream reserve regions (Zone J, SENY, East and NYCA)

Zone J Reserves: Market Design Complete

Zone J Operating Reserves

- **The Zone J Operating Reserves component was successfully deployed in June 2019**
- **An accelerated stakeholder engagement process and deployment timeline was required to meet this implementation timeline**
 - ✓ January and February 2019 (MIWG/ICAPWG)
 - ✓ Presented and discussed market design, associated tariff revisions, and market impacts
 - ✓ March 2019
 - ✓ Received stakeholder approval at BIC and MC
 - ✓ April 2019
 - ✓ Received NYISO Board of Directors approval and filed tariff revisions with FERC
 - ✓ June 2019
 - ✓ June 21, 2019: FERC issued an order approving the NYC reserves proposal
 - ✓ June 26, 2019: Zone J reserves implemented in the markets

Next Steps

Next Steps

- **The NYISO is currently evaluating when load pocket reserves can be implemented**
 - This determination will depend on the implementation schedule for other projects such as the DER Participation Model, ESRs, and Reserves for Resource Flexibility
- **If NYISO determines that this project can be implemented in 2020, then proposed tariff revisions will be developed and a consumer impact analysis will be conducted in early 2020**

Next Steps (continued)

- **The NYISO plans to present the Market Design Complete at the November 6, 2019 Business Issues Committee meeting**
 - The NYISO will not be seeking a stakeholder vote at this time
 - Stakeholder approval will not be pursued until draft tariff revisions have been developed and reviewed, and a consumer impact analysis has been completed
- **At the September 24, 2019 ICAPWG/MIWG meeting, stakeholders requested additional information on the potential impact of developing load pocket reserves (e.g., impacts on commitment of resources and out-of-market costs)**
 - The NYISO would plan to analyze impacts of this type as part of a consumer impact analysis

Feedback/Questions?

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- Planning the power system for the future
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