

Energy Storage Integration Feedback Update

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NEW YORK INDEPENDENT SYSTEM OPERATOR^{®®}

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 Since the announcement of the NYS PSC REV initiative, there has been a growing interest in Currently, the NYISO has several resource of storage in the wholesale markets **Energy Limited Resource (ELR)** Limited Energy Storage Resource (LESR) Special Case Resource (SCR)

Background wholesale market participation of storage resources classifications that can accommodate participation **Demand Side Ancillary Services Program (DSASP)**



Initiative Scope

- participate and assessing potential needs for
- resources

 In the near-term, the NYISO is evaluating its current programs in which energy storage resources can expanding and/or enhancing such existing programs In the longer-term, the NYISO will evaluate storage optimization techniques that will provide additional tools to aid the scheduling of storage resources The longer-term initiative is primarily intended to address wholesale, in-front-of-the-meter storage



the feedback:

- programs that would
 - Provide additional market participation options for 4 hours of service capability
 - current program requirements to participate

Stakeholder Feedback Summary NYISO solicited stakeholder feedback on March 1, 2016 on Storage Market rules. The following is a summary of

• Evaluate options for new programs or modify existing

storage resources with greater than 1 hour, but less than

• Enabling storage resources with runtimes that don't meet



Stakeholder Feedback Summary cont.

signal to more resource types required to participate Reduce 1 MW threshold for LESR participation classification

- Expanding the availability of "state of charge" management
- Expand the allowable uses of aggregations to more resource types and decrease the minimum MW threshold
- Define the rules for determining the Capacity value for renewable resources paired with storage and consider if these paired resources would retain "intermittent"



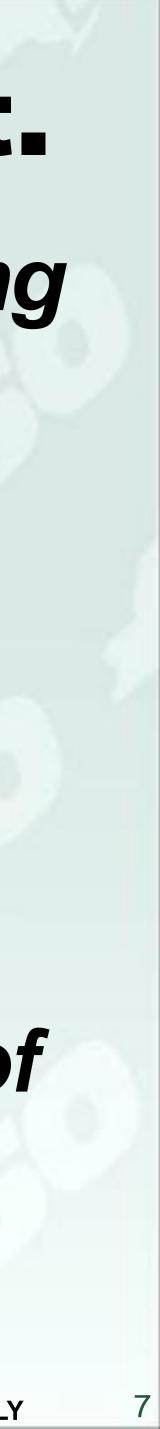
Stakeholder Feedback Summary cont. **Consider allowing storage resources with less than 4** hours of capability to participate in the energy market Integration of storage resources should be an evolving process. The NYISO should continue to improve upon its programs and assess opportunities for additional enhancements over time The NYISO should seek to improve price formation and market participation options for storage resources proactively, rather than awaiting investment in resources (i.e., the market constructs should help aid and guide investment decisions)



Stakeholder Feedback Summary cont.

- Clarify and assist Market Participants in understanding current market rules for storage resources to participate in existing programs Clarify NPCC rules for the provision of synchronized
 - reserves
- Assess opportunities to accommodate the other supply resources

characteristics of storage resources as part of other ongoing efforts by the NYISO to optimize the output of



Anticipated Timeline

Jun - Sept **Develop Energy Storage Concepts** & Request/Review Feedback

2017 **Continue to Work on Energy Storage** Concepts

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Oct - Dec **Develop Tariff & Implementation Plan**

DRAFT – FOR DISCUSSION PURPOSES ONLY



interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability •
- Operating open, fair and competitive wholesale electricity markets ullet
- Planning the power system for the future •
- Providing factual information to policy makers, stakeholders and • investors in the power system

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