

# Additional Tariff Modifications Required for the ESR Participation Model

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Zachary Stines

Manager, Energy Market Design

**ICAPWG**

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# Agenda

- **Background**
- **Tariff Changes**
- **Next Steps**

# Background

- **During software development for the Energy Storage Resource Project, NYISO identified additional tariff revisions required to support the ESR participation model**
- **These revisions address:**
  - Day-Ahead Margin Assurance Payments
    - One modification is to support Fast-start pricing rule changes
  - Method for setting feasible Day-Ahead and real-time schedules
  - Generator offer caps and reference levels (presented February 26, 2020)
  - ICAP Supplier bidding requirements (presented March 6, 2020)
- **This presentation discusses the necessary changes to DAMAP and setting feasible schedules**

# Additional Tariff Changes

# Day-Ahead Margin Assurance Payments

- **MST Section 25 - Attachment J**
- **Clarify which of the two Energy contribution formulas will apply to ESR schedule changes.**
- **The first existing formula applies when the real-time Energy schedule is lower than the Generator's Day-Ahead Energy schedule**
  - NYISO proposes to clarify that this formula will apply (1) when the Day-Ahead schedule is to inject Energy and the real-time Energy schedule is lower than the Day-Ahead Energy schedule; or (2) when the Day-Ahead schedule is to withdraw Energy and the real-time Energy schedule is greater than the Day-Ahead Energy schedule
- **The second existing formula applies when the real-time Energy schedule is greater than or equal to the Generator's Day-Ahead Energy schedule**
  - NYISO proposes to clarify that this formula will apply (1) when the Day-Ahead schedule is to inject Energy and the real-time Energy schedule is greater than or equal to the Day-Ahead Energy schedule; or (2) when the Day-Ahead schedule is to withdraw Energy and the real-time Energy schedule is less than or equal to the Day-Ahead Energy schedule

# DAMAP continued

- **NYISO proposes to simplify and remove redundancy from the defined terms in Section 25.3.4 for the DAMAP formula**
- **NYISO proposes to add an exception to specify that Fast-start units that increase their minimum generation bids in real-time will not be eligible for DAMAP**
  - The proposed clarification is consistent with the Tariff rules that apply to increasing Incremental Energy Bids or Start-Up Bids in real-time
  - This proposed change is related to Fast-Start, not ESRs

# Setting Feasible Real-Time Schedules

- **MST 4.4.2.1**
- **Tariff revision needed to support the market software used to achieve feasible real-time schedules for ESRs**
  - As described in the NYISO's Order No. 841 compliance filing, the NYISO's Real-Time Dispatch software will account for the Energy Level of all ESRs, and is designed to avoid infeasible dispatch of both Self-Managed and ISO-Managed Energy Storage Resources.
  - Tariff language submitted and accepted states that the market software will reduce the ESR's UOL or increase its LOL, as appropriate, to achieve a feasible schedule
  - In the process of coding the market software, the NYISO determined that it is not necessary and may be inefficient to modify an ESR's UOL/LOL to achieve feasible real-time schedules
  - The software operates consistent with the intent and purpose of the accepted ESR tariff. It will determine feasible real-time schedules based on an ESR's actual telemetered energy storage level.

# Proposed Tariff Modifications

- **MST Sec. 4.4.2.1 as filed** : “Real-Time Dispatch will review each Energy Storage Resource’s Beginning Energy Level in each interval. Real-Time Dispatch will attempt to prevent dispatching a Self-Managed Energy Storage Resource in a manner that would be infeasible based on its Beginning Energy Level. Instead, Real-Time Dispatch will reduce the Energy Storage Resource’s Upper Operating Limit or increase its Lower Operating Limit, as appropriate, to an achievable value.”
- **Proposed Revisions to MST Sec. 4.4.2.1** : “Real-Time Dispatch will review each Energy Storage Resource’s Beginning Energy Level in each interval. Real-Time Dispatch will attempt to prevent dispatching a Self-Managed Energy Storage Resource in a manner that would be infeasible based on its Beginning Energy Level. Instead, Real-Time Dispatch will consider an Energy Storage Resource’s Beginning Energy Level in developing a schedule for the binding interval ~~reduce the Energy Storage Resource’s Upper Operating Limit or increase its Lower Operating Limit, as appropriate, to an achievable value.~~”



# Tariff Modifications for 205 Filing

# Tariff Changes

- **In addition to the changes discussed today, the following presentations outline other tariff modifications:**
  - ESR ICAP Supplier B/S/N Revisions
    - <https://www.nyiso.com/documents/20142/11214986/ESR%20Bidding%20for%20ICAP%20Suppliers.pdf>
  - Offer Price Capping and Mitigation
    - <https://www.nyiso.com/documents/20142/11026984/ESR%20Tariff%20Updates.pdf>

# Next Steps

# Next Steps

- **NYISO will review the feedback provided today and would like to bring the tariff modifications listed below to the March BIC**
  - Day-Ahead Margin Assurance Payment
  - Method for setting feasible schedules
  - Generator offer caps and reference levels
  - ICAP Supplier bidding requirements

# Questions?

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- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

