New York ISO
Independent System Operator

Hybrid Aggregated Storage (HSR) Model – Generator Deactivation Tariff Updates

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New Resource Integration

MIWG/ICAPWG

December 6, 2022

Agenda

- Project Background
- OATT 38.3
- MST 4.1.8
- OATT 30
- Next Steps

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Previous HSR Presentations (2022)

Date	Working Group	Topic/Links to Materials
March 25th, 2022	MIWG/ICAPWG	Hybrid Storage Model – Energy and Capacity Market Design Proposal
May 11th, 2022	MIWG/ICAPWG	NYISO Hybrid Aggregated Storage Resource (HSR) Model Use Case and Proposal Update
July 15th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Energy and Ancillary Services Market Design Proposal Update
August 9th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Energy and Capacity Market Design Proposal
August 24th, 2022	MIWG/ICAPWG	Hybrid Storage Model – CSR Market Design Proposal Updates
September 12th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – CSR Market Design Proposal Updates (Settlements/Metering and Telemetry)
September 12th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Tariff Modifications, Energy and Settlements
September 20th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Tariff Modifications: Interconnection, ERIS, CRIS
October 4th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Tariff Modifications: Energy and Settlements
October 20th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Capacity Tariff, Capacity Mitigation Tariff, Interconnection Tariff, CSR Updates Tariff, Enhanced Fast Start Resources Tariff, and Metering and Telemetry
November 3rd, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Metering and Telemetry Tariff
November 14th, 2022	MIWG/ICAPWG	Hybrid Aggregated Storage (HSR) Model – Generator Deactivation Rules for HSRs, Energy Mitigation - Updated
November 21st, 2022	MIWG/ICAPWG	HSR Participation Model: Generator Deactivation and Energy Market Mitigation Tariff Updates - Updated

Project Background

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HSR Project Background

- **A HSR consists of an Energy Storage Resource (ESR) and at least one Intermittent Power Resource (IPR) and/or Limited Control Run-of-River (RoR) Hydro Resource**
  - This model will support several Wind, Solar, Landfill Gas, RoR Hydro, and ESR(s) resources that aggregate, share a POI, and operate as a single dispatchable resource

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OATT 38.3

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OATT 38.3 – Generator Deactivation Requirements

- **In response to stakeholder feedback received at the 11/21 MIWG, the NYISO proposes the following modification to the language presented for OATT 38.3.1.7, discussing the Mothball Outage of an ESR that participates as part of a HSR:**
  - An Energy Storage Resource that participates in the ISO-Administered Markets as a component of a Hybrid Storage Resource is only permitted to submit a Generator Deactivation Notice to become Retired if all of that Hybrid Storage Resource's other remaining component Generators will be Retired on or before the Energy Storage Resource's retirement date. An Energy Storage Resource that participates in the ISO-Administered Markets as a component of a Hybrid Storage Resource is only permitted to submit a Generator Deactivation Notice to enter a Mothball Outage if all of that Hybrid Storage Resource's other remaining component Generators ~~are or~~ will be in a Mothball Outage on or before the date the Energy Storage Resource enters a Mothball Outage. A Market Participant must reconfigure and change the market participation model of any non-Energy Storage Resource component Generators that it does not intend to deactivate in advance of submitting a Generator Deactivation Notice for a Hybrid Storage Resource's Energy Storage Resource to the ISO.
  - The above restrictions do not apply to the deactivation of an Intermittent Power Resource or a Limited Control Run-of-River Hydro Generator that participate in the ISO-Administered Markets as a component of a Hybrid Storage Resource. Additional information about the deactivation of Generators that are components of a HSR is available in Section 5.18 of the Market Services Tariff.

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MST 4.1.8

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MST 4.1.8 – Commitment for Reliability

- **The NYISO proposes updates to language in MST 4.1.8 that was accepted by FERC in 2020 as part of the DER filing, and will become effective when DER is implemented. The proposed addition to the redlined language from the 2019 DER filing is highlighted.**
  - Suppliers with generating units committed by the ISO for service to ensure NYCA reliability or local system reliability, ~~except for Behind-the-Meter Net Generation Resources and Energy Storage Resources~~that are eligible to submit start-up and minimum generation Bids, will recover startup and minimum generation costs that were not bid, that were not known before the close of the Real-Time Scheduling Window, and that were not recovered in the Dispatch Day, provided however, eligibility to recover such additional costs shall not be available for megawatts scheduled Day-Ahead. Payment for such costs shall be determined, as if bid, pursuant to the provisions of Attachment C of this Tariff. Energy Storage Resources, Hybrid Storage Resources, Aggregations that include Withdrawal-Eligible Generator(s), and Behind-the-Meter Net Generation Resources dispatched by the ISO for service to ensure NYCA reliability or local system reliability will recover incremental energy costs that were not bid, that were not known before the close of the Real-Time Scheduling Window, and that were not recovered in the Dispatch Day, provided however, eligibility to recover such additional costs shall not be available for megawatts scheduled Day-Ahead. Payments for securing NYCA reliability and local system reliability shall be recovered by the ISO in accordance with Rate Schedule 1 of the ISO OATT.

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OATT 30

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Appendix 3 to LFIP – Large Facility Modification Request

- **The NYISO proposes the following modification to the Large Facility Modification Request, adding clarification to the conceptual breaker one-line diagram submitted with the Interconnection Request form:**

  5. Attach a revised conceptual breaker one-line diagram ~~and a project location geo map, as applicable~~.

  The conceptual breaker one-line diagram is a representation of electrical components that are connecting into the NYSTS or distribution system as applicable. This conceptual breaker one-line diagram should include, at a minimum:

  - The Project name, and the Developer name on the diagram;
  - The Large Facility address (specific location of the facility);
  - The number of inverters or generator units (type, nameplate rating MW and MVA), and configuration of the Large Facility;
  - The Large Facility's electrical components (i.e., generation, transformers (GSU, PSU, current transformer, and potential transformers), breakers, switches, cables/lines/feeders, compensation, FACTs, auxiliary load, buses, etc.) as described in the modeling data form;
  - The capability and voltage levels of the electrical components, their connection to each other and to the New York State Transmission System or Distribution System;
  - The Point of Interconnection (name of the substation name (specify the bus) or transmission/distribution line name and number); and
  - References to other diagram sheets if there is more than one diagram sheet (i.e., use references to indicate how the diagrams are interconnected).

  Acronyms used in the conceptual breaker one-line diagram should follow ANSI Standard Device Numbers & Common Acronyms.

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Next Steps

- **BIC vote**
  - December 14, 2022

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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?

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