New York ISO
Independent System Operator

ESR Bidding Rules for ICAP Suppliers with an EDL

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Capacity Market Design

ICAPWG/MIWG

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Agenda

- Background
- Proposal
- Next Steps
- Appendix

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Background

A Grid in Transition – The Plan

- **Carbon Pricing**
- **Comprehensive Mitigation Review**
- **DER Participation Model**
- **Energy Storage Participation Model**
- **Hybrid Storage Model**

Aligning Competitive Markets and New York State Clean Energy Objectives

- **Enhancing Energy & Shortage Pricing**
  - Ancillary Services Shortage Pricing
  - Constraint Specific Transmission Shortage Pricing
  - Enhanced Fast Start Pricing
- **Review Energy & Ancillary Services Product Design**
  - More Granular Operating Reserves
  - Reserve Enhancements for Constrained Areas
  - Reserves for Resource Flexibility

Valuing Resource & Grid Flexibility

- **Enhancements to Resource Adequacy Models**
- **Revise Resource Capacity Ratings to Reflect Reliability Contribution**
  - Expanding Capacity Eligibility
  - Tailored Availability Metric
- **Capacity Demand Curve Adjustments**

Improving Capacity Market Valuation

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Background

- As part of the NYISO's filing for the Distributed Energy Resource and Expanding Capacity Eligibility models, the NYISO proposed that ESR ICAP Suppliers with an Energy Duration Limitation have a DAM Bid/Schedule/Notify obligation (B/S/N) equal to the ICAP Equivalent of UCAP Sold (injection) during the Peak Load Window as ISO-Managed
- Subsequent to submitting this filing, FERC directed the NYISO to allow ESRs that are ICAP Suppliers to bid either ISO-Managed or Self-Managed in the DAM
- NYISO has since identified that when an ESR utilizes the ISO-Managed Energy Level bidding parameter, and enters the DAM with an Energy Level of 0 MWh, it could satisfactorily meet its B/S/N obligation, but not make the Energy backing the sold capacity available to the NYISO
- NYISO previously proposed to remedy this by requiring the ESR ICAP Supplier to B/S/N its full range (withdrawal to injection) as part of its obligations as an ICAP Supplier
  - See ICAPWG presentation dated 3/6/2020 and MC presentation dated 3/25/2020 for additional information
  - Note that the changes previously proposed applies to ESRs prior to the implementation of the Expanding Capacity Eligibility (ECE) ruleset

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Purpose of Today's Meeting

- **Review NYISO's proposed design of the DAM bidding obligations for Energy Storage Resources with an Energy Duration Limitation (EDL)**
  - The Expanding Capacity Eligibility and the rules discussed today will become effective May 1, 2021
  - The change in DAM bidding obligation will influence the Availability Calculation for these resources

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Proposal

Proposed Change to DAM B/S/N Obligation

- **NYISO is proposing to require all ESR ICAP Suppliers with an Energy Duration Limitation to Bid, Schedule, or Notify the full injection range for all hours during the Peak Load Window and Bid, Schedule, or Notify the full withdrawal range for all hours outside of the Peak Load Window**
  - Bidding the full injection range, i.e. Installed Capacity Equivalent (ICE), for all hours during the Peak Load Window is consistent with the proposed rules for ESRs with an EDL
  - Bidding the full withdrawal range, i.e. max(negative Installed Capacity Equivalent, Lower Operating Limit), for all hours outside of the Peak Load Window will:
    - Ensure that the ESR has an opportunity to charge prior to the start of the PLW
    - Facilitate scheduling additional hours needed to charge beyond resource's duration due to roundtrip efficiency losses

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Proposed Change to Availability Calculation

- **ESRs without an Energy Duration Limitation will use the availability calculation that has previously been discussed with stakeholders**
  - This calculation is included in Section 3.7 of Attachment J of the ICAP Manual
- **ESRs with an Energy Duration Limitation will have a revised availability calculation, as compared to ESR ICAP Suppliers without a daily-run time limitation**
  - The availability calculation for ESRs with an Energy Duration Limitation will be calculated over the Peak Load Window, consistent with proposed rules
  - The availability calculation for ESRs with an Energy Duration Limitation should not reflect the LOL Availability component since the bidding obligation during the Peak Load Window does not extend to the withdrawal range

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Proposed Change to Availability Calculation

- **The availability calculation for ESRs with an Energy Duration Limitation will be adjusted in accordance with the revised DAM bidding obligation**
  - The Total Available ICAP Seconds$_{gh}$ equation will take the following parameters into account:
    - UOL Availability$_{gi}$
    - Storage Availability$_{gi}$
    - Energy Level Availability$_{gi}$
    - Interval Seconds$_{gi}$
  - The RTM intervals used in this calculation will be during the Peak Load Window
- **Additional details on the availability calculation for ESRs without a daily-run time limitation are in Section 3.7 of ICAP Manual Attachment J**

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Next Steps

Next Steps

- The NYISO is seeking stakeholder feedback on the proposal and will return to a future ICAPWG/MIWG with tariff language

Feedback/Questions?

Email additional feedback to: scarkner@nyiso.com and deckels@nyiso.com

Appendix

Proposed DAM B/S/N Obligation for ESRs

- **NYISO is proposing to require all ESR ICAP Suppliers to B/S/N the full range of the ESR**
  - Requirement will be applicable to ESRs utilizing both the ISO- and Self-Managed Energy Level bidding parameters
  - The proposed rule is necessary to harmonize the unique physical and operating characteristics of Energy Storage Resources with the purpose of the existing B/S/N requirements
    - The purpose of the B/S/N requirements is to either make the Energy backing the ICAP Supplier's capacity available or notify the NYISO that the capacity is unavailable in order for the NYISO to maintain reliability
    - Without the proposed requirement for an ESR, an ESR could meet its tariff obligation and yet not make that Energy available, which is inconsistent with the purpose of the requirement
    - Additionally, not reflecting an ESRs anticipated charging in the DAM could cause reliability issues in real-time by not having enough resources committed from the DAM to meet actual load, reserves, and the ESRs charging

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Availability Calculation for ESRs

- **The Unforced Capacity calculation for Energy Storage Resources will be based on the resource's availability to the Real-Time Market System**
  - This calculation uses the same timeframe as the EFORd calculation
    - This will consider all real-time intervals (e.g. 24 hours) for appropriate months, except for when the resource is fully unavailable due to planned or maintenance outages
  - The Unavailability Factor for ESRs will be calculated using the following components:
    - UOL Availability$_{gi}$
    - LOL Availability$_{gi}$
    - Storage Availability$_{gi}$
    - Energy Level Availability$_{gi}$
    - Interval Seconds$_{gi}$
  - Additional detail on these equations are included in Section 3.7 of ICAP Manual Attachment J

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Background

- **Peak Load Windows**
  - Obligations for Resources with Energy Duration Limitations are tied to the Peak Load Window
    - B/S/N obligation, DMNC test, derating factor calculation, etc.
  - The duration of the Peak Load Window will be tied to the lowest Energy Duration Limitation eligible for 100% capacity payment
    - The 6 hour Peak Load Window
      - Winter: HB 16 – 21
      - Summer: HB 13 – 18
    - The 8 hour Peak Load Window
      - Winter: HB 14 – 21
      - Summer: HB 12 – 19

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Questions?

Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

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

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