New York ISO
Independent System Operator

2025-2029 ICAP Demand Curve Reset: NYISO Staff Interim Final Recommendations

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Agenda

- Background
- NYISO Staff Interim Final Recommendations
- Battery Energy Storage System (BESS) Derating Factor
- Open Items
- Remaining 2025-2029 DCR Schedule

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Background

Background

- As part of each ICAP Demand Curve reset (DCR), NYISO staff is required to issue its recommended: (i) methodologies and inputs used for determining the ICAP Demand Curves for the four Capability Years covered by the periodic review; and (ii) ICAP Demand Curves for the first Capability Year covered by the periodic review
- NYISO staff's interim final recommendations report is available on the ICAP Market webpage
- This presentation summarizes NYISO staff's interim final recommendations, including updates from the NYISO staff's draft recommendations

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NYISO Staff Interim Final Recommendations

NYISO Staff Final Recommendations

- **In general, the NYISO staff concurs with the independent consultant's recommendations**
  - Based on the data developed to date, NYISO staff agrees that a 2-hour BESS represents the highest variable cost, lowest fixed cost peaking plant technology option for each demand curve that is economically viable and contributes to meeting New York's resource adequacy needs
- **Updates from the staff draft recommendations:**
  - Inclusion of land lease payments for the full construction period
  - Updated interconnection costs for the BESS in all locations outside Load Zone K
  - Updated BESS net energy and ancillary services (EAS) revenues model logic to maintain state of charge for meeting day-ahead schedules in the Peak Load Window (PLW)

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Land Lease Payments during Construction

- NYISO staff's draft recommendations assumed lease payments during 15 months of the 30-month construction period for a 2-hour BESS
- After review of stakeholder comments, NYISO staff has updated its assumptions for all technology options to include land lease payments for the full construction period to adequately prepare the site and align with the site control requirements of the interconnection process

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BESS Interconnection Voltage

- For all peaking plant technologies outside of Load Zone K, NYISO staff's draft recommendations assumed interconnection to the 345 kV system for all technology options
  - Interconnection to the 138 kV system was assumed for Load Zone K
- Interconnection to a lower voltage (115 kV or 138 kV depending on location) is available for the 200 MW BESS in all evaluated locations, is less costly than interconnecting to the 345 kV system, and appears better aligned with interconnection requests for similarly sized BESS
- NYISO staff has updated the interconnection cost assumptions for the BESS for all evaluated locations outside Load Zone K to reflect interconnection at the 115/138 kV level

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BESS Net EAS Model

- The BESS net EAS model recommended for adoption in NYISO staff's draft recommendations allowed the BESS to take actions in the real time market that could prevent the BESS from fulfilling its day-ahead schedule during the PLW due to insufficient state of charge
- The NYISO expects a revenue-maximizing BESS operator would avoid taking actions in the real time market that prevent the BESS from fulfilling its day-ahead schedule during the PLW due to insufficient state of charge
  - Failing to fulfill its day-ahead schedule during the PLW due to insufficient state of charge (not the result of operator-directed action) would increase the BESS's derating factor for the upcoming like-Capability Period, all else equal
- Analysis Group (AG) has updated the BESS net EAS model to restrict the BESS from taking real-time actions that would prevent the BESS from fulfilling its day-ahead schedule during the PLW due to insufficient state of charge
  - Details of this model change are included in AG's presentation for today's ICAPWG meeting

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Other Updates

- **Corrected application of voltage support service (VSS) adder in the Demand Curve Model**
  - The model unnecessarily escalated the VSS adder when converting net EAS revenues to current dollar values
  - This escalation adjustment has been removed from the VSS adder; the VSS adder is now added to the annual average net EAS values determined by the model after such net EAS values are escalated to current dollar values
- **Incorporation of the revised CAFs for the 2024-2025 Winter Capability Period based on the updated LCR model with the corrected Load Zone J LCR**
  - Available here: Updated Final CAFs for the 2024-2025 Capability Year

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BESS Derating Factor

Background

- **MST 5.14.1.2 requires that the derating factor utilized in the translation of the ICAP reference point prices to UCAP terms be determined as part of the DCR**
  - The independent consultant has recommended a 2% derating factor for BESS based on their engineering experience
- **The ICAP Manual (Section 4.5) currently establishes that the initial derating factor a new BESS would receive upon entering the ICAP market is based on the NERC class average equivalent demand forced outage rate (EFORd) of pumped hydro storage until three energy storage resources are participating in the ICAP market and have sufficient historical operating data to establish a "NYISO class average" EFORd for energy storage resources**
  - The NERC class average “proxy” value would apply because, currently, there is not sufficient operating history to establish a “NYISO class average” for energy storage
  - The current NERC class average EFORd of pumped hydro storage is 9.19%

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Update

- **NYISO staff recommends use of a 2.5% derating factor, along with the applicable CAFs, to convert the BESS ICAP reference point prices to UCAP reference point prices during the 2025-2029 reset period**
- **The 2.5% derating factor was calculated as a weighted average of the derating factors that the BESS options would be expected to receive across the assumed 20-year amortization period given currently applicable NYISO rules**
  - To calculate the 2.5% derating factor, NYISO staff assumed the BESS would have a 9.19% derating factor for its first year of operation, a 5.6% derating factor for its second year of operation (average of 9.19% and the 2% expected BESS availability determined by the independent consultant), and a 2% derating factor for years 3-20 of its assumed economic life

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Open Items

Open Items

- **The NYISO and the independent consultant are still evaluating stakeholder comments including, but not limited to:**
  - Sales tax application for BESS labor and operations and maintenance
  - Investment Tax Credit (ITC) application to the transmission line for BESS
  - Mortgage recording taxes
  - Cost of debt and cost of equity (including consideration of market data through August 2024)
- **Any further updates to assumptions, if warranted, will be included in the final reports due for posting on September 19, 2024**
  - The final reports will also reflect net EAS data through August 31, 2024, optimized seasonal hurdle rates for the BESS based on the data through August 31, 2024, and seasonal capacity available values (winter-to-summer and summer-to-winter ratios) based on the data through August 31, 2024

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Remaining 2025-2029 DCR Schedule

Remaining 2025-2029 DCR Schedule

- **The final staff recommendations and the independent consultant's final report, reflecting data through August 31, 2024, will be posted on September 19, 2024**
  - This release will include NYISO staff's proposed ICAP Demand Curves for the 2025-2026 Capability Year
- **Stakeholders may provide written comments to the NYISO Board of Directors (Board) by October 9, 2024**
  - Oral presentations to the Board are currently scheduled to occur on October 14, 2024
- **The NYISO is required to file the proposed outcomes for the 2025-2029 DCR, as approved by the Board, with FERC on or before November 30, 2024**

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Questions?

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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