New York ISO
Independent System Operator

Capacity Market Structure Review

Brendan Long

Capacity and New Resource Integration Market Design

ICAPWG/MIWG

March 26, 2025

Agenda

- Background
- Today's Objective
- Nonprioritized ICAP Market Structure Changes
- Bifurcated ICAP Market Concept for New and Existing Resources
- Next Steps

New York ISO

Background

Background

- **The NYISO's objectives for the Capacity Market Structure Review (CMSR) project are to**
  - Identify market structures that will help facilitate New York's evolving grid consistent with policy goals and achieve the following objectives:
    - accurately value resources according to their contribution to maintaining bulk system reliability;
    - deliver transparent and predictable market outcomes;
    - operate cohesively with the Energy and Ancillary Services markets to meet the reliability requirements of the evolving grid;
    - provide appropriate, nondiscriminatory, price signals to existing and new resources;
    - function without unnecessary administrative complexity; and
    - provide an economically efficient, durable and stable market structure to facilitate investment.
  - Explore potential alternatives to the existing structure.
  - Determine if the existing structure or alternatives explored better meet the defined objectives.

New York ISO

Background - Project Timeline

- **Q1 – Identify key areas for potential structural improvement**
  - The NYISO has facilitated meetings with market sectors and the Market Monitoring Unit (MMU) and will use ICAPWG meetings to gather stakeholder feedback.
    - These discussions are expected to cover areas for potential methods for evolving the installed capacity (ICAP) market structure.
  - The NYISO presented a summary of the feedback received from the CMSR sector meetings and will present the NYISO's initial proposed prioritized list of key methods for evolving the ICAP market structure.
    - This list is intended to inform the 2025 project prioritization process for selecting projects beginning in 2026.
- **Q2 – Initial recommendations**
  - If necessary, the NYISO will further refine the initial proposed prioritized list of key methods for evolving the ICAP market structure.
  - The NYISO will collaborate with stakeholders and the MMU to identify potential high-level solutions for the key methods identified in Q1 and Q2.
- **Q3 – Refine proposals**
  - The NYISO will further analyze and refine the initial recommendations set forth in Q2.
- **Q4 – Final Report**
  - The NYISO will deliver a final report to stakeholders outlining an assessment of the current ICAP market and provide recommendations for alternative approaches when the NYISO and stakeholders identify ICAP market components that would benefit from improvement.

New York ISO

Today’s Objective

Today's Objective

- **The objective of this presentation is to (i) outline the NYISO's initial recommendations for methods for evolving the ICAP market structure to remove from further consideration and (ii) further discuss the bifurcated ICAP market concept for new and existing resources proposed by stakeholders.**
  - A bifurcated ICAP market concept for new and existing resources was proposed by certain stakeholders during the CMSR sector meetings in January and February 2025. The NYISO is seeking clarity from stakeholders regarding this concept.
    - Currently, the NYISO is not endorsing nor dismissing from consideration a bifurcated ICAP market concept for new and existing resources. Rather, the NYISO would like to further understand the concept proposed by stakeholders to facilitate analysis and consideration of the proposal.

New York ISO

Nonprioritized ICAP Market Structure Changes

Nonprioritized ICAP Market Structure Changes

- To focus discussion and analysis on potential methods for evolving the ICAP market that are of most interest to stakeholders and the NYISO, the NYISO proposes to remove from consideration the following methods for evolving the ICAP market:
  - Forward Capacity Markets (FCMs)
  - Value of Lost Load (VOLL) Demand Curves
  - Locational Marginal Capacity Pricing (C-LMP)
- In addition to concerns expressed with these methods by stakeholders during the CMSR sector meetings, the NYISO has concerns with their economic efficiency and practicality, as discussed on the following slides.

New York ISO

FCMs

- **Key Market Function**
  - FCMs generally procure capacity three years in advance through an auction process to secure sufficient supply to meet forecasted reliability needs.
- **NYISO Concerns**
  - The potential for inaccurate long-term load forecasting in FCMs can cause over-procurement, increasing consumer costs and shifting risks onto consumers, or under-procurement, leaving the system vulnerable to reliability issues, making this market structure potentially inefficient and unstable.
  - The NYISO has previously evaluated the potential benefits and drawbacks of moving to a FCM design and concluded that a move to an FCM design was not warranted[1]

[1] Paul Hibbard, Todd Schatzki, Craig Aubuchon, and Charles Wu, "NYISO Capacity Market, Evaluation of Options," May 2015. https://www.analysisgroup.com/globalassets/content/insights/publishing/nyiso_capacity_market_evaluation_of_options.pdf

VOLL Demand Curves

- **Key Market Functions**
  - VOLL represents the economic cost of an electrical outage, reflecting the value customers place on uninterrupted power supply.
  - VOLL could be considered as a foundational metric for price-setting mechanisms in the ICAP market, such as the demand curve, which currently relies on the Cost of New Entry (CONE).
- **NYISO Concerns**
  - Estimating outage costs to determine VOLL is an extremely complex process[1] that can be prone to inaccuracies and overestimations.
  - Translating VOLL into a seasonal capacity price introduces additional uncertainty and complexity, further complicating market efficiency and potentially distorting pricing signals.
  - Setting ICAP market requirements based on VOLL may not meet NPCC and NYSRC reliability standards.

[1] Will Gorman, *The Quest to Quantify the Value of Lost Load: A Critical Review of the Economics of Power Outages*, 35 The Electricity Journal 107187, 2022 https://doi.org/10.1016/j.tej.2022.107187. (providing an overview of methods used to estimate VOLL).

New York ISO

C-LMP

- **Key Market Functions**
  - C-LMP sets capacity prices based on the Marginal Reliability Impact (MRI) of resources at specific locations, aligning prices with the marginal contribution of each resource to system reliability.
  - The approach aims to enhance market efficiency by eliminating the need for individual locality-specific demand curves and instead determining prices based on the MRI and a system-wide reliability parameter.[1]
- **NYISO Concerns**
  - C-LMP faces potential challenges in administration, feasibility, volatility, and accurately calculating marginal reliability impacts at specific locations, which could lead to unpredictable outcomes.
- **Elements of C-LMP can be explored as potential ICAP market enhancements, including incorporating transmission security into the ICAP market and improving capacity zoning.**

[1] See 2022 State of the Market Report for an overview of C-LMP.

New York ISO

Bifurcated ICAP Market Concept for New and Existing Resources

Bifurcated ICAP Market Concept for New and Existing Resources

- A bifurcated ICAP market concept for new and existing resources was proposed by certain stakeholders during the CMSR sector meetings.
- The NYISO is seeking clarity from stakeholders regarding this concept to facilitate further analysis and consideration of the proposal.
- The following slide presents the NYISO's current understanding of the bifurcated ICAP market concept for new and existing resources proposed by stakeholders.

New York ISO

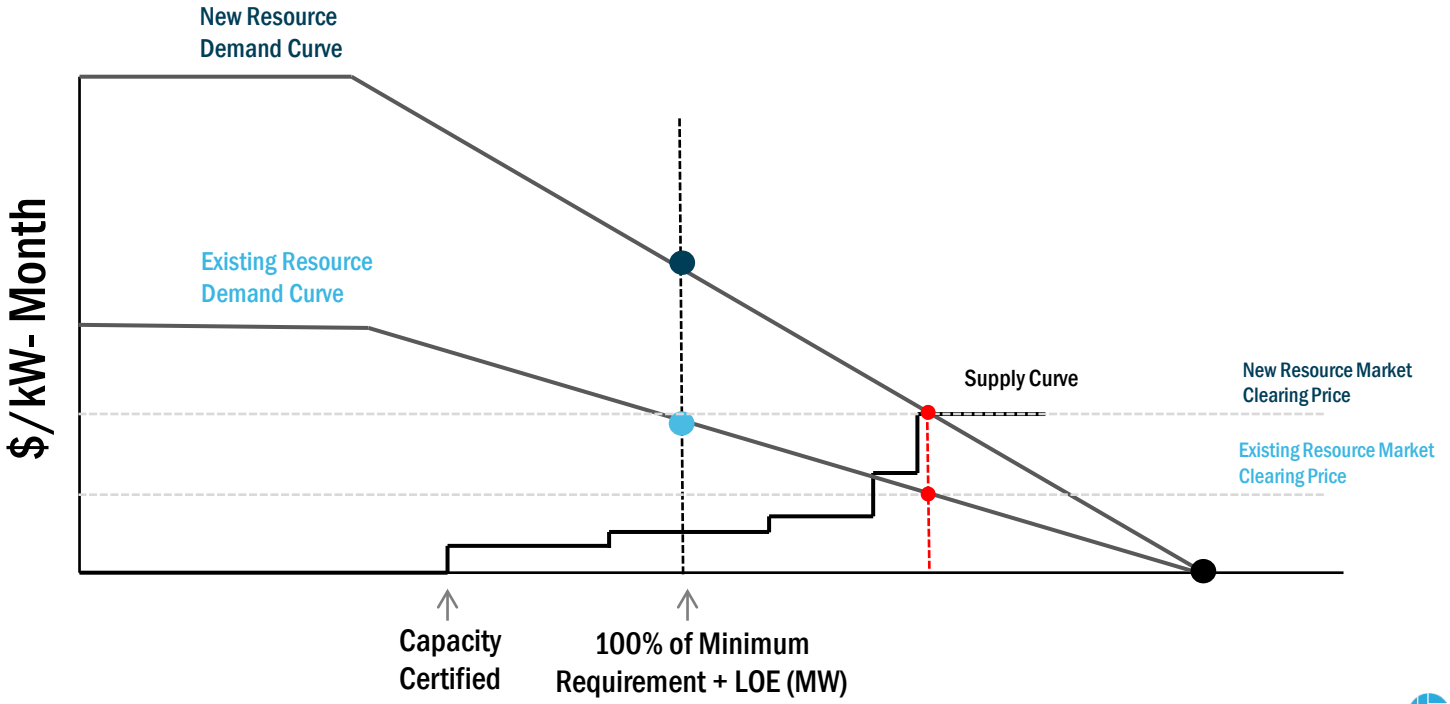
Bifurcated ICAP Market Concept for New and Existing Resources (Cont'd)

The NYISO's current understanding of the bifurcated ICAP market concept for new and existing resources proposed by stakeholders is as follows:

- **Single ICAP Requirement**
  - New and existing resources would collectively contribute to meeting a single NYCA Installed Reserve Margin (IRM) requirement and a single set of Locational Minimum Installed Capacity Requirements (LCRs)
- **Different Demand Curves**
  - The ICAP spot market auction would utilize two separate demand curves — one for new resources and one for existing resources — resulting in distinct clearing prices.
  - Reference point prices, which anchor each demand curve, would be determined using different methodologies.
    - Currently, reference point prices are based on the CONE for an economically viable peaking plant with the lowest fixed and highest variable costs.
- **Single Auction with Differentiated Bidding**
  - All ICAP Suppliers would participate in a single ICAP spot market auction but would be classified as either new or existing.
  - A single supply curve, encompassing both new and existing resources, would rank bids economically.
  - Each ICAP Supplier would be compensated at the market clearing price determined by the demand curve corresponding to its resource classification as either new or existing.
- **Different Cost Allocations**
  - Load Serving Entities would be required to purchase a portion of existing capacity and a portion of new capacity.
- **Eligibility and Classification**
  - A clear eligibility and classification framework would be needed to define whether a resource qualifies as new or existing based on factors such as technology type, time in service, and retrofits or upgrades.

New York ISO

Bifurcated ICAP Market Concept for New and Existing Resources (Cont'd)



New York ISO

Next Steps

Next Steps

- The NYISO plans to return to the 4/1/2025 ICAPWG to present greater detail on the remaining methods under consideration for evolving the ICAP market structure and NYISO's initial prioritized list of recommended topics for further exploration.

New York ISO

Questions?

Appendix

Previous Presentations on CMSR

Date	Working Group	Topic/Link to Materials
1/22/25	ICAPWG/MIWG	Project Kickoff
2/4/25	ICAPWG/MIWG	CMSR Sector Meeting Schedule
2/25/25	ICAPWG/MIWG	Review of Potential Methods for Evolving the ICAP Market Structure
3/3/25	ICAPWG/MIWG	CMSR Sector Meeting Feedback Summary

New York ISO

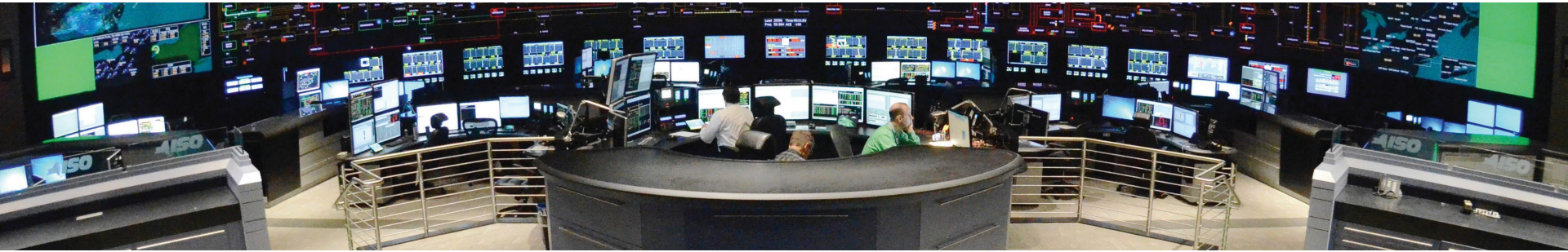
Our Mission and Vision

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



New York ISO