

Winter Reliability Capacity Enhancements: Market Design Update and Review of Additional Proposed Tariff Revisions

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Capacity and New Resource Integration Market Design

ICAPWG

October 14, 2025

Previous ICAPWG Presentations

Date	Working Group	Discussion Points and Links to Materials
January 30, 2025	ICAPWG	2025 Winter Reliability Capacity Enhancements: Project Kick-off https://www.nyiso.com/documents/20142/49408264/04%202025%20Winter%20Reliability%20Kick-off%20Presentation.pdf/
April 1, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Winter Requirements https://www.nyiso.com/documents/20142/50614388/2025%20Winter%20Reliability%20Capacity%20Enhancements%20April%201%20ICAPWG%20(1).pdf/
April 9, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Seasonal Elections https://www.nyiso.com/documents/20142/50769536/2025%20Winter%20Reliability%20-%20Seasonal%20Elections%204.9.25%20Final.pdf/
May 5, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Existing Annual Capacity Accreditation Factor Methodology https://www.nyiso.com/documents/20142/51249988/Winter%20Reliability%20-%20Annual%20CAF%20Methodology%205.5.25%20-%20Final.pdf/
May 20, 2025	ICAPWG	2025 Winter Reliability Capacity Enhancements: Demand Curves Review https://www.nyiso.com/documents/20142/51501157/Winter%20Reliability%20-%20Demand%20Curves%2052025%20icap.pdf/
July 29, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Concept Proposal https://www.nyiso.com/documents/20142/52778669/2025%20Winter%20Reliability%20-%20July%2029%20ICAPWG%20MDC_Final.1.pdf/
August 5, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Proposed Consumer Impact Analysis Methodology https://www.nyiso.com/documents/20142/52908106/2025%20Winter%20Reliability%20-%20CIA%20Methodology%20FOR%20APPROVAL%2007302025.pdf/

Previous ICAPWG Presentations

Date	Working Group	Discussion Points and Links to Materials
August 19, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Analysis of Seasonal Capacity Accreditation Factors https://www.nyiso.com/documents/20142/53269544/2025%20Winter%20Reliability%20-%20August%2019%20ICAPWG_CAF%20Analysis.pdf/
August 19, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Proposed Demand Curve Changes https://www.nyiso.com/documents/20142/53269544/Winter%20Reliability%20-%20Proposed%20Demand%20Curve%20Changes%20Final.pdf/
September 22, 2025	ICAPWG	Winter Reliability Capacity Enhancements: Final Market Design Concept Proposal https://www.nyiso.com/documents/20142/53966122/2025%20Winter%20Reliability%20-%20September%2022%20Final%20MDC%20-%20Reposted_Final.pdf/8f2d7576-1985-833a-a3c5-55e6046ef0a3
October 6, 2025	ICAPWG	Market Design Update and Review of Proposed Tariff Revisions https://www.nyiso.com/documents/20142/54258786/2025%20Winter%20Reliability%20-%20October%2006%20ICAPWG.pdf/e575228a-5e3d-d9c7-1d36-573c182878b4

Agenda

- **Project Review**
 - Project Objective and Timeline
 - Summary of Market Design Proposal to Date
- **Proxy Unit Annual Revenue Sufficiency**
- **Updated ICAP Demand Curve Proposal**
 - Seasonal Level of Excess
- **Proposed Tariff Revisions**
 - Summary of Proposed Tariff Revisions Corresponding to Each Market Design Element
 - UDR/EDR Seasonal Elections with Must Offer Requirement
 - ICAP Demand Curve Changes
 - Additional Ministerial Edits
- **Next Steps**

Project Review

Project Objective and Timeline

- The objective of the Winter Reliability Capacity Enhancements project is to develop potential changes to the ICAP market that will support efficient market outcomes as the NYCA trends towards increasing winter resource adequacy risk
- The 2025 project goal is Market Design Complete, with the following milestones:
 - Consumer Impact Analysis (CIA)
 - Seek Business Issues Committee (BIC) approval of proposed market design and recommendation of proposed tariff revisions to the Management Committee
- The target implementation date is May 1, 2027
 - Targeting a Q1 2026 filing to FERC of any proposed tariff revisions approved by stakeholders and the NYISO Board of Directors
 - The NYISO plans to request that any FERC-accepted tariff revisions become effective immediately following the standard 60-day notice period for Section 205 filings under the Federal Power Act

Summary of Market Design Proposal to Date*

- **Seasonal New York Control Area (NYCA) Minimum Installed Capacity (ICAP) Requirements, Seasonal Transmission Security Limit (TSL) Floor Values, and Seasonal Locational Minimum ICAP Requirements**
 - The proposed seasonal NYCA Minimum ICAP requirements seek to better account for the differences in available capacity and the reliability requirements in Summer and Winter Capability Periods due to the anticipated shift in reliability risk to the winter
 - The NYISO proposes that (1) seasonal Transmission District (TD) capacity be determined and allocated to Load Serving Entities (LSEs) separately for the Summer and Winter Capability Periods for NYCA and the Localities and (2) seasonal TD Minimum Unforced Capacity (UCAP) be used to calculate seasonal LSE Minimum UCAP Requirements
 - To implement NYCA seasonal Minimum ICAP requirements, seasonal TSL floor values and seasonal LCR values would need to be calculated

* Presented at the [10/06/2025 ICAPWG](#). The 10/06/2025 ICAPWG meeting materials include the proposed revisions to MST 2.14, 5.10 and 5.11 related to these proposed market design elements, which can be found here: [10/6/2025 ICAP Working Group Materials](#)

Summary of Market Design Proposal to Date* (cont.)

- **Seasonal Elections for Unforced Capacity Deliverability Rights (UDRs) and External-to-Rest of State Deliverability Rights (EDRs) with Must Offer Requirement**
 - These proposed seasonal election values aim to provide more accurate input of available capacity in the applicable season that can be reflected in the New York State Reliability Council's (NYSRC) Installed Reserve Margin (IRM) study
 - The proposed must-offer requirement aims to address potential misalignment between the proposed seasonal election requirements for UDRs and EDRs and supply in a delivery month
- **Demand Curve Changes**
 - With the proposed development of distinct seasonal NYCA Minimum ICAP Requirements, the current seasonal availability adjustments (i.e., the winter-to-summer ratio (WSR) and summer-to-winter (SWR)) would no longer be required to determine the maximum clearing and reference point prices of the demand curves.
 - The NYISO proposes removing the current seasonal availability adjustment components of the denominators of the maximum clearing price and reference point price formulas to account for the proposal to capture seasonal differences in ICAP availability through seasonal NYCA Minimum ICAP requirements
 - With the proposed development of distinct seasonal NYCA Minimum ICAP Requirements, the NYISO proposes to create distinct zero crossing points (ZCPs) for the summer and winter ICAP Demand Curves.

* Presented at the [10/06/2025 ICAPWG](#). The 10/06/2025 ICAPWG meeting materials include the proposed revisions to MST 2.14, 5.10 and 5.11 related to these proposed market design elements, which can be found here: [10/6/2025 ICAP Working Group Materials](#)

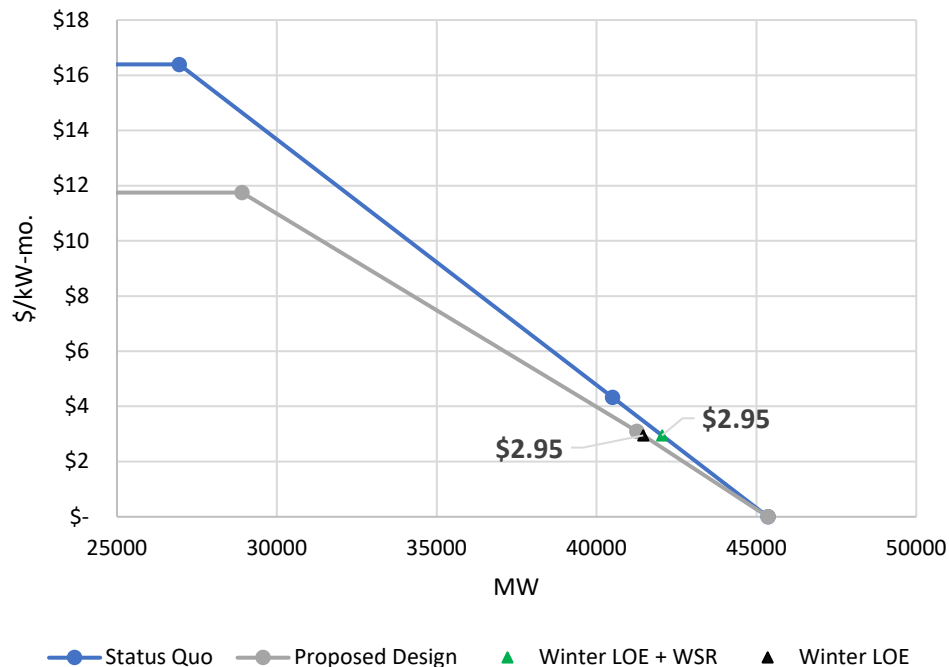
Proxy Unit Annual Revenue Sufficiency

Proxy Unit Revenue Sufficiency Under Proposed Market Design

- At the 10/6/2025 ICAPWG meeting, a stakeholder requested that the NYISO demonstrate the revenue sufficiency of the proxy unit under the proposed market design
- As illustrated in this example, the market clearing price at the prescribed level of excess with the proposed winter NYCA ICAP Demand Curve remains at \$2.95/kW-month under the proposed market design, which is the winter market clearing price required for the proxy unit to be revenue sufficient for the 2025-2026 Capability Year, as reported in the [2025-2026 ICAP Demand Curve Parameters](#)

- Note: The status quo ICAP demand curve reflects the existing reference point price compared to the proposed market design winter NYCA ICAP Demand Curve that reflects the removal of the winter-to-summer ratio, a separate winter ZCP percentage, and the separate Winter NYCA Minimum ICAP Requirement

Indicative Winter NYCA ICAP Demand Curve Comparison



2025-2026 ICAP Demand Curve Parameters

Parameter	Source	Current Year (2025-2026)			
		F - Capital	G - Hudson Valley (Dutchess)	J - New York City	K - Long Island
Gross Cost of New Entry (\$/kW-Year)	[1]	\$127.71	\$127.58	\$222.73	\$137.03
Net EAS Revenues (\$/kW-Year)	[2]	\$77.15	\$76.92	\$82.25	\$87.42
Annual Reference Value (\$/kW-Year)	[3]=[1]-[2]	\$50.55	\$50.66	\$140.47	\$49.61
ICAP DMNC (MW)	[4]	200	200	200	200
Annual Reference Value	[5]=[3]*[4]	\$10,111	\$10,132	\$28,094	\$9,922
Level of Excess (%)	[6]	100.52%	101.62%	102.23%	103.77%
Ratio of Winter to Summer DMNCs	[7]	103.30%	105.00%	105.70%	108.30%
Summer DMNC (MW)	[8]	200	200	200	200
Winter DMNC (MW)	[9]	200	200	200	200
Assumed Capacity Prices at Tariff Prescribed Level of Excess Conditions					
Summer (\$/kW-Month)	[10]	\$5.48	\$5.49	\$15.22	\$5.37
Winter (\$/kW-Month)	[11]	\$2.95	\$2.96	\$8.19	\$2.89
Monthly Revenue (Summer)	[12]=[10]*[8]	\$1,095	\$1,098	\$3,044	\$1,075
Monthly Revenue (Winter)	[13]=[11]*[9]	\$590	\$591	\$1,639	\$579
Seasonal Revenue (Summer)	[14]=6*[12]	\$6,572	\$6,585	\$18,261	\$6,450
Seasonal Revenue (Winter)	[15]=6*[13]	\$3,539	\$3,546	\$9,833	\$3,473
Total Annual Reference Value	[16]=[14]+[15]	\$10,111	\$10,131	\$28,094	\$9,922
ICAP Demand Curve Parameters					
Summer ICAP Monthly Reference Point Price (\$/kW-Month)		\$5.72	\$6.15	\$17.37	\$6.80
Winter ICAP Monthly Reference Point Price (\$/kW-Month)		\$4.33	\$5.29	\$14.64	\$8.78
Summer ICAP Maximum Clearing Price (\$/kW-Month)		\$21.69	\$23.25	\$41.30	\$28.16
Winter ICAP Maximum Clearing Price (\$/kW-Month)		\$16.39	\$19.99	\$34.83	\$36.37
Demand Curve Length		12%	15%	18%	18%

Updated ICAP Demand Curve Proposal

Seasonal Level of Excess

- **Market Administration and Control Area Services Tariff (MST) Section 5.14.1.2.2 provides that the determination of the reference point and maximum value for each ICAP Demand Curve for a given Capability Year shall account for conditions reflecting the prescribed level of excess and seasonal differences in the amount of capacity available**
 - For a given Capability Year, the Capability Period in which less capacity is expected to be available due to seasonal differences in availability utilizes conditions that account for only the prescribed level of excess
 - The prescribed level of excess is fixed for each reset period and calculated as the applicable minimum ICAP requirement in effect during the Capability Year in which the independent consultant's final report is issued, plus the applicable peaking plant's capacity
- **With the development of distinct seasonal requirements, the NYISO proposes the following:**
 - An update to the prescribed level of excess definition to reflect the applicable seasonal minimum ICAP requirements
 - Annual updates to the prescribed level of excess percentage to reflect the most recent Capability Year's seasonal minimum ICAP requirements

Seasonal Level of Excess (cont.)

■ Illustrative Example

- The current New York City Locality (NYC) prescribed level of excess percentage is 102.23%,¹ which is the sum of (i) the 2024-2025 NYC Locational Minimum ICAP Requirement of 8,979 MW and (ii) the 200 MW peaking unit divided by the 2024-2025 NYC Locational Minimum ICAP Requirement

$$- \frac{8,979 + 200}{8,979} = 102.23\%$$

- Under the proposed market design, if the NYC Locational Minimum ICAP Requirement for the Winter Capability Period were 9,500 MW~~s~~, the winter prescribed level of excess percentage would be

$$- \frac{9,500 + 200}{9,500} = 102.11\%$$

¹ See [2025-2026 ICAP Demand Curve Parameters](#)

Proposed Tariff Revisions

Summary of Proposed Tariff Revisions Corresponding to Each Market Design Element¹

- **Seasonal NYCA Minimum ICAP Requirements, Seasonal TSL Floor Values, and Seasonal Locational Minimum ICAP Requirements**
 - See proposed revisions to MST Sections 2.14, 5.10 and 5.11 included in the 10/6/2025 ICAPWG meeting materials²
- **Seasonal Elections for UDRs and EDRs with Must Offer Requirement**
 - See proposed revisions to MST Section 5.12 described on Slides 17 and 18 below and posted with today's ICAPWG meeting materials
- **Demand Curve Changes**
 - See proposed revisions to MST Section 5.14 described on Slides 19 and 20 below and posted with today's ICAPWG meeting materials

1. The NYISO anticipates presenting a complete package of these proposed MST revisions at the 10/28/2025 ICAPWG.

2. For MST Sections 5.10 and 5.11, the NYISO may also need to supplement the proposed revisions to account for the changes to these sections as part of the “triggering resource” proposal approved by stakeholders at the 9/24/2025 MC meeting

UDR/EDR Seasonal Elections with Must Offer Requirement

- **The NYISO proposes seasonal elections for UDRs and EDRs with Must Offer Requirement**
 - These proposed seasonal election values aim to provide more accurate input of available capacity in the applicable season that can be reflected in the NYSRC's IRM study
 - The proposed must-offer requirement aims to address potential misalignment between the proposed seasonal election requirements for UDRs and EDRs and supply in a delivery month
 - The proposed sanction aims to address the scenario in which a UDR/EDR rights holder may have a financial incentive to elect a higher MW amount than it intends to offer during the Capability Period if the ICAP Supplier expects it would still have a net gain in revenue even with a penalty of $1.5 \times \text{the market clearing price in a month} \times \text{unoffered capacity in the month}$
 - Penalty equation is described in the Appendix of this presentation

UDR/EDR Seasonal Elections with Must Offer Requirement (cont.)

- **Proposed MST revisions:**

- MST Section 5.12.2.5 (Annual Election and Must Offer Requirement Applicable to UDR and EDR UCAP) (New)
 - Describes the UDR and EDR election process that is applicable prior to and starting with the 2027-2028 Capability Year
 - Provides that, starting with the 2027-2028 Capability Year, the UCAP associated with an External UDR or EDR that has not been returned to the NYCA as described above must be offered in each ICAP Spot Market Auction in accordance with Section 5.14.1.1 of this Services Tariff and the ISO Procedures
 - States that the sanctions for failure to offer the UCAP associated with an External UDR or EDR that has not been returned to the NYCA in accordance with this section of the Services Tariff are set forth in Section 5.12.12.4 of this Services Tariff
- MST Section 5.12.12.4 (Sanctions for Failure to Offer UDR and EDR UCAP) (New)
 - Explains that the UCAP associated with an External UDR or EDR that has not been returned to the NYCA as described in Section 5.12.2.5 shall be offered in each ICAP Spot Market Auction in accordance with Section 5.14.1.1 of this Services Tariff and the ISO Procedures
 - Establishes that, if the holder of an External UDR or EDR fails to offer UCAP associated with an External UDR or EDR that has not been returned to the NYCA in any ICAP Spot Market Auction during the subject Capability Period, it shall pay the ISO an amount for all months of the subject Capability Period equal to the product of
 - (i) 1.5 times the applicable ICAP Spot Market Auction price and
 - (ii) the difference between the UCAP associated with the given External UDR or EDR that has not been returned to the NYCA and the minimum amount of UCAP associated with the given External UDR or EDR that has not been returned to the NYCA that is offered during the subject Capability Period
- MST Section 5.12.12.4 (Sanctions for Failure to Offer UDR and EDR UCAP) (New) and MST Section 23.4.5.4.2
 - Clarifies that, if the NYISO determines that the holder of an External UDR or EDR is required to pay the ISO for (1) the failure to offer the UCAP associated with an External UDR or EDR that has not been returned to the NYCA in any ICAP Spot Market Auction during the subject Capability Period as described in this section of the Services Tariff as well as (2) the failure to offer or sell Mitigated UCAP or External Sale UCAP in accordance with Section 23.4.5.4.2 of this Services Tariff, then the holder of the applicable External UDR or EDR shall pay the ISO the larger of these two sanction amounts

ICAP Demand Curve Changes

- The NYISO proposes removing the current seasonal availability adjustment components of the denominators of the maximum clearing price and reference point price formulas to account for the proposal to capture seasonal differences in ICAP availability through seasonal NYCA Minimum ICAP requirements
- With the proposed development of distinct seasonal NYCA Minimum ICAP Requirements, the NYISO proposes
 - to create distinct ZCPs for the summer and winter ICAP Demand Curves.
 - to update the prescribed level of excess definition to reflect seasonal minimum ICAP requirements
 - to require annual updates to the prescribed level of excess percentage to reflect the most recent Capability Year's Minimum ICAP Requirements
- **MST Section 5.14.1.2.2 (Periodic Reviews of ICAP Demand Curves)**
 - Indicates the definition of Locational Minimum ICAP Requirement that will continue to apply prior to the 2027-2028 Capability Year
 - Provides the definition of Locational Minimum ICAP Requirement that will apply starting with the 2027-2028 Capability Year
 - Indicates the factors (level of excess and seasonal differences) that the NYISO will continue to take into account in determining the reference point and maximum value of each ICAP Demand Curve prior to the 2027-2028 Capability Year
 - Updates the prescribed seasonal level of excess definition the NYISO will use in determining the reference point and maximum value of each ICAP Demand Curve to account for seasonal minimum ICAP requirements starting with the 2027-2028 Capability Year
 - Requires the ICAP Demand Curves reflect prescribed level of excess in each season starting with the 2027-2028 Capability Year
 - Adds a requirement to update the ZCP for the Winter Capability Period annually
 - Removes outdated language

ICAP Demand Curve Changes (cont.)

- **MST Section 5.14.1.2.2.3 (Annual Updates for ICAP Demand Curve Parameters)**
 - Removes the seasonal availability adjustments from the ICAP Demand Curves and annual update process starting with the 2027-2028 Capability Year
 - Provides that ICAP Demand Curves shall reflect the prescribed level of excess in each Capability Period starting with the 2027-2028 Capability Year
 - Adds a process to annually update the ZCP for the Winter Capability Period and the prescribed level of excess for each Capability Period and a method for calculating the ZCP percentage starting with the 2027-2028 Capability Year.
 - Removes outdated sunset language

Additional Ministerial Edits

- **MST Section 5.12.1.14**

- Removes outdated language related to the Duration Adjustment Factor

- **MST Section 5.12.6.1.2**

- Adds “NYCA” to the reference to “Installed Reserve Margin” consistent with the tariff-defined term

Next Steps

Next Steps

- **Return to the October 28, 2025 ICAPWG meeting for review of the complete proposed market design and tariff revisions**
- **Targeting seeking stakeholder approval of the proposed tariff revisions at the November 12, 2025 Business Issues Committee meeting**
 - Intended to facilitate a Q1 2026 filing to FERC of any proposed tariff revisions approved by stakeholders and the NYISO Board of Directors
- **For any questions or feedback, please email mwidener@nyiso.com**

Appendix

UDR/EDR Seasonal Elections Must Offer Requirement:

Penalty Calculation

$$Penalty = \sum_{m=1}^6 \left(1.5 \times MCP_m \times 1,000 \times \left[ElectedMW - \min_m(OfferedMW_m) \right] \right)$$

<u>Parameter</u>	<u>Unit</u>	<u>Definition</u>
m	1 to 6	Index for month in Capability Period
MCP_m	\$/kW-month	The Market-Clearing Price for the Locality in which the UDR sinks, or the NYCA for any EDR, for the ICAP Spot Market Auction for month m
$ElectedMW$	MW	Total MW capacity elected by the UDR or EDR for the Capability Period
$OfferedMW_m$	MW	Total offered capacity in month m by the UDR or EDR
$\min_m(OfferedMW_m)$	MW	The minimum total offered capacity across all $m = 1$ to 6

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

