

2025 - 2029 ICAP Demand Curve Reset: Seasonal Reference Point Price Proposal

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Agenda

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Background

Background

- **The Market Services Tariff requires the NYISO and its stakeholders undertake a periodic comprehensive review to determine the necessary inputs and assumptions for developing the ICAP Demand Curves for the period covered by each such review**
 - This review process is undertaken every four years and is commonly referred to as the DCR
 - Each ICAP Demand Curve is based on the estimated cost to construct and operate a hypothetical new capacity supply resource in various locations throughout New York
- **The 2023 project deliverable is a Q3 Study Defined**

Background

- **During the 2022 Improving Capacity Accreditation project, the NYISO committed to investigate ICAP Demand Curves that more explicitly reflect seasonal reliability risk as part of this DCR**
 - Moving to ICAP Demand Curves that reflect seasonal reliability risks: (1) is intended to send a clearer signal of the value of capacity in each season, and (2) is a necessary step to accommodate moving from annual Capacity Accreditation Factors to seasonal Capacity Accreditation Factors in the future

Overview of Proposed Enhancements

Proposed Enhancements: Reference Point Prices

- **The NYISO proposes to separately calculate summer and winter reference point prices, resulting in separate curves for each season, starting with the 2025/2026 Capability Year**
 - The following slides provide an overview of the proposed formula changes

Proposed Enhancements: Reference Point Prices

- The NYISO proposes adjustments to the numerators of the reference point price formulas to allocate the annual net revenue requirement of the peaking plant (i.e., “ $ARV_z * AssmdCap_z$ ”) between the Summer and Winter Capability Periods, based upon the percentage of reliability risk in each season (i.e., “ $SLOLE$ ” and “ $WLOLE$ ”), subject to guardrails on the maximum and minimum percentages assumed to be recoverable in each season (i.e., “ $CPMax$ ” and “ $CPMin$ ”)
 - The $CPMax$ and $CPMin$ guardrails are intended to help ensure that the ICAP Demand Curves continue to incentivize capacity market participation during all months of the year
 - Capacity market participation during all months of the year provides value to system operations by incentivizing resources to participate in the NYISO’s day-ahead market and outage scheduling process, which support the efficiency and reliability of the system

Proposed Enhancements: Reference Point Prices

- **The NYISO proposes to initially set the CPM_{ax} and CPM_{in} values at 65% and 35%, respectively, for the 2025-2029 reset period**
 - Proposed initial values are intended as conservative bounds while the IRM modeling is undergoing consideration of modifications to enhance seasonal modeling assumptions
 - Initial values are also informed by the historical seasonal revenue recovery implicitly assumed in establishing the ICAP Demand Curves
 - Illustrative examples demonstrating the operation of the proposed guardrails were included in the [presentation](#) at the 4/27/2023 ICAPWG/MIWG/PRLWG meeting
- **The NYISO also proposes that the CPM_{ax} and CPM_{in} values be evaluated as part of each quadrennial review beginning with the 2029-2033 reset**
 - CPM_{ax} and CPM_{in} values are fixed for the duration of each reset period and apply to each year encompassed by the reset

Proposed Enhancements: Reference Point Prices

- The NYISO proposes adjustments to the denominators of the formulas to improve the accounting for seasonal differences in capacity availability and the seasonal “level of excess” conditions considered in establishing the curves

Proposed Enhancements: Reference Point Prices

- Current Monthly Reference Point Price Formula:¹

$$RP_z = \frac{ARV_z * AssmdCap_z}{6 * [SDMNC_z * \left(1 - \frac{LOE_z - 1}{ZCPR_z - 1}\right) + WDMNC_z * \left(1 - \frac{LOE_z - 1 + WSR_z - 1}{ZCPR_z - 1}\right)]}$$

- Proposed Summer Monthly Reference Point Price Formula:²

$$SRP_z = \frac{ARV_z * AssmdCap_z * \max[\min(CPMax, SLOLE), CPMin]}{6 * SDMNC_z * \left(1 - \frac{SLOE_z - 1 + \max(0, SWR_z - 1)}{ZCPR_z - 1}\right)}$$

New Terms

- CPMax
- CPMin
- SLOLE
- WLOLE
- SWR_z
- SLOE_z
- WLOE_z

- Proposed Winter Monthly Reference Point Price Formula:²

$$WRP_z = \frac{ARV_z * AssmdCap_z * \max[\min(CPMax, WLOLE), CPMin]}{6 * WDMNC_z * \left(1 - \frac{WLOE_z - 1 + \max(0, WSR_z - 1)}{ZCPR_z - 1}\right)}$$

¹Detailed in Section 5.5 of the ICAP Manual

²Proposed additions to existing reference point price formula noted in red

Proposed Enhancements: Reference Point Prices

■ New Terms in proposed reference point price formulas

- **CPMax**: the maximum percentage of the Annual Reference Value (ARV_z) to be recovered by the peaking plant in one Capability Period
- **CPMin**: the minimum percentage of the Annual Reference Value (ARV_z) to be recovered by the peaking plant in one Capability Period (equal to 1 minus **CPMax**)
- **SLOE**: the percentage of the annual loss of load expectation expected to occur in the Summer Capability Period based on the preliminary base case, as approved by the NYSRC, for the NYCA Installed Reserve Margin study covering the Capability Year for which the monthly ICAP reference point price is calculated
- **WLOE**: the percentage of the annual loss of load expectation expected to occur in the Winter Capability Period based on the preliminary base case, as approved by the NYSRC, for the NYCA Installed Reserve Margin study covering the Capability Year for which the monthly ICAP reference point price is calculated (equal to 1 minus **SLOE**)
- **SWR_z**: the ratio of the amount of ICAP available in the ICAP Spot Market Auctions in the Summer Capability Period to the amount of ICAP available in the ICAP Spot Market Auctions for the Winter Capability Period for location z (equal to 1 divided by **WSR_z**)
- **SLOE_z**: the ratio of level of excess that would occur in the Summer Capability Period (i.e., the applicable minimum ICAP requirement, plus **SDMNC_z**) to the applicable minimum ICAP requirement for location z
- **WLOE_z**: the ratio of level of excess that would occur in the Winter Capability Period (i.e., the applicable minimum ICAP requirement, plus **WDMNC_z**) to the applicable minimum ICAP requirement for location z

Proposed Enhancements: Maximum Clearing Prices

- **The maximum clearing price on each ICAP Demand Curve is set at 1.5 times the monthly value of the applicable peaking plant gross cost**
 - The NYISO currently accounts for the applicable winter-to-summer ratio and the percentage of capacity at the prescribed level of excess conditions when translating the annual value of the applicable peaking plant gross cost to a monthly value (see ICAP Manual Section 5.5)
- **The current calculation of the maximum clearing price could, under certain conditions, produce a maximum clearing price that is less than the seasonal reference point price resulting from the proposed enhancements**
- **In order to ensure that the maximum clearing price is greater than the seasonal reference point price, the NYISO proposes to calculate seasonal maximum clearing prices**
 - As shown on the next slide, the proposed seasonal maximum clearing price calculations utilize the proposed seasonal reference point price formulas but replace net cost of new entry (CONE) with 1.5 times gross CONE

Proposed Enhancements: Maximum Clearing Prices

- Current Maximum Clearing Price Formula:

$$MaxCP_z = 1.5 * WSR_z * LOE_z * \left(\frac{Gross\ CONE_z}{12}\right)$$

- Proposed Summer Maximum Clearing Price Formula:¹

$$SMaxCP_z = \frac{1.5 * Gross\ CONE_z * AssmdCap_z * \max[\min(CPMax, SLOLE), CPMin]}{6 * SDMNC_z * \left(1 - \frac{SLOE_z - 1 + \max(0, SWR_z - 1)}{ZCPR_z - 1}\right)}$$

- Proposed Winter Maximum Clearing Price Formula:¹

$$WMaxCP_z = \frac{1.5 * Gross\ CONE_z * AssmdCap_z * \max[\min(CPMax, WLOLE), CPMin]}{6 * WDMNC_z * \left(1 - \frac{WLOE_z - 1 + \max(0, WSR_z - 1)}{ZCPR_z - 1}\right)}$$

¹Differences from the proposed reference point price formulas are noted in red

Proposed Enhancements: Tariff Revisions

- **As summarized in the Appendix, the NYISO is proposing revisions to MST 5.14.1.2 that describe/implement the proposed enhancements to the reference point and maximum clearing price calculations, starting with the 2025/2026 Capability Year**
 - The proposed tariff revisions were reviewed at ICAPWG (8/3 and 8/24) and BIC (9/14) and are posted with today's meeting material

Next Steps

Next Steps

- **If approved by stakeholders, seek approval from NYISO Board of Directors**
- **If approved by NYISO Board of Directors, file proposal with FERC**
 - Currently targeting to file before the end of 2023

Questions?

Appendix

Previous Discussions

Previous Discussions

Date	Working Group	Discussion Points and Links to Materials
February 7, 2023	ICAPWG	DCR Kickoff: https://www.nyiso.com/documents/20142/36079056/2%202023-02-07%20ICAPWG%20DCR%20Kickoff.pdf/90011547-9c0b-bead-ac10-f56ff479415d
February 21, 2023	ICAPWG	Overview of draft DCR schedule, RFP schedule, draft RFP sections, and ICAP Demand Curve Reference Point Price Proposal: https://www.nyiso.com/documents/20142/36339783/2023-02-21%20ICAPWG%20-%20Demand%20Curve%20Reset.pdf/75b586ad-7725-e47a-8f34-89705e5004f4
March 7, 2023	ICAPWG	Review of updated DCR schedule and RFP sections: https://www.nyiso.com/documents/20142/36639552/2023-03-07%20ICAPWG%20-%20Demand%20Curve%20Reset%20v2.pdf/ae66691e-224d-ce7d-afbe-40f8f6fcb9a7
April 27, 2023	ICAPWG	ICAP Demand Curve Reference Point Price Proposal – CPM _{ax} and CPM _{in} Values: https://www.nyiso.com/documents/20142/37254128/2025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20ICAPWG%2004272023%20v3%20-%20clean.pdf/1f5ff7b9-17b9-84cd-5b90-dce23952291e
June 27, 2023	ICAPWG	Maximum Clearing Price Calculation and WSR/SWR and ZCP Interaction: https://www.nyiso.com/documents/20142/38423065/3%202025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20ICAPWG%2006272023.pdf/e2eefd32-c689-105b-7e2d-17fb14e72a2d ICAP Demand Curve Reference Point Price Proposal – Example Reference Point Prices: https://www.nyiso.com/documents/20142/38423065/Seasonal%20Reference%20Point%20Price%20Proposal%20-%20Example%20Reference%20Point%20Prices%20v2%20-%20clean.pdf/e6e8443d-12e5-96d3-4d2b-d605a2f2830c

Previous Discussions

Date	Working Group	Discussion Points and Links to Materials
August 3, 2023	ICAPWG	<p>Summary of Draft Tariff Revisions: https://www.nyiso.com/documents/20142/39102681/2025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20ICAPWG%2008032023%20Draft%20v3.pdf/9070bd79-8d30-6966-a6b6-6a181e6c280f</p> <p>Draft Tariff Revisions: https://www.nyiso.com/documents/20142/39102681/MST%205.14%20-%20Seasonal%20Reference%20Point%20Price%20Revisions.pdf/34efe711-8465-1685-be3b-95a0f57b9d2a</p>
August 24, 2023	ICAPWG	<p>Summary of Incremental Tariff Revisions: https://www.nyiso.com/documents/20142/39593642/3%202025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20ICAPWG%2008242023.pdf/a20a1914-69bf-f1d8-f39c-068c0cf40857</p> <p>Incremental Tariff Revisions: https://www.nyiso.com/documents/20142/39593642/3a%20MST%205.14.pdf/17b3a31f-25e9-b3f9-fe62-68bd27d42648</p>
September 14, 2023	BIC	<p>Seasonal Reference Point Price Proposal: https://www.nyiso.com/documents/20142/39925526/4%202025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20BIC.pdf/3427445b-67a5-5393-e6e4-5a053107abe1</p> <p>MST 5.14 Revisions: https://www.nyiso.com/documents/20142/39925526/4%20MST%205.14%20-%20Redline.pdf/7e3465df-adc2-dd28-92d9-d9d879ecd0c0</p>

Tariff Revisions Summary

Tariff Revisions Summary

■ MST 5.14.1.2

- Added requirement that, starting with the 2025/2026 Capability Year, ICAP Demand Curves be established for each Capability Period within a Capability Year

■ MST 5.14.1.2.2

- Clarified the system excess conditions assumed for each Capability Period when setting the reference point and maximum clearing price, starting with the 2025/2026 Capability Year
- Added requirement that, starting with the 2025/2026 Capability Year, seasonal reliability risk be accounted for in the establishment of the ICAP Demand Curves
 - Added specification that the seasonal reliability risk be based on the results produced from the preliminary base case model approved by the NYSRC for determining the NYCA Installed Reserve Margin applicable to the Capability Year for which the applicable ICAP Demand Curves will be in effect

Tariff Revisions Summary

■ MST 5.14.1.2.2 (continued)

- Added requirement that, starting with the 2025/2026 Capability Year, the ICAP Demand Curves be subject to maximum and minimum percentages of the allowable portion of the annual net revenue requirement recoverable in each Capability Period (i.e., CPmax and CPmin)
 - Sets the maximum and minimum percentage values at 65% and 35%, respectively, for the 2025/2026 through 2028/2029 Capability Years
 - Requires the maximum and minimum percentage values to be evaluated each Demand Curve reset (DCR) starting with the 2029-2033 DCR
 - Specifies that any adjustments to the maximum and minimum percentage values shall be identified in the DCR filing and remain fixed for the entire period covered by the applicable periodic review

Tariff Revisions Summary

■ MST 5.14.1.2.2 (continued)

- Revised the description of accounting for seasonal differences in capacity availability as part of the annual update process to account for the need to update both the winter-to-summer ratio (WSR) and the summer-to-winter ratio (SWR), starting with the 2025/2026 Capability Year
 - Further discussed in MST 5.14.1.2.3
- Added requirement that, starting with the 2025/2026 Capability Year, the seasonal reliability risk percentages be updated as part of the annual update process

Tariff Revisions Summary

■ MST 5.14.1.2.3

- Added requirements that, starting with the 2025/2026 Capability Year, the maximum clearing price and reference point for each ICAP Demand Curve account for: (i) the applicable WSR or SWR; (ii) seasonal reliability risk; and (iii) the maximum and minimum percentages of the allowable portion of the annual net revenue requirement recoverable in each Capability Period (i.e., CPmax and CPmin)
 - Included clarification that if a WSR or SWR is a value less than one, the value shall be deemed to be zero for purposes of determining the applicable reference point, consistent with the proposed seasonal reference point formulas
- Made conforming edits to replace references to “winter-to-summer ratio” with “the seasonal amount of capacity available in ICAP Spot Market Auctions” to account for consideration of both the winter-to-summer ratio and the summer-to-winter ratio

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