New York ISO
Independent System Operator

10 Krey Boulevard, Rensselaer, NY 12144
Ph: 518.356.6000 | **Fax:** 518.356.8899

December 19, 2023

Submitted Electronically

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: Docket No. ER24-___-000, *New York Independent System Operator, Inc.*; Proposed Installed Capacity Demand Curve Enhancements

Dear Secretary Bose:

In accordance with Section 205 of the Federal Power Act[1] and Part 35 of the regulations of the Federal Energy Regulatory Commission ("Commission"), the New York Independent System Operator, Inc. ("NYISO") submits proposed revisions to its Market Administration and Control Area Services Tariff ("Services Tariff") to implement enhancements to the calculation of the reference point price and maximum allowable clearing price of the Installed Capacity ("ICAP") Demand Curves.[2]

The NYISO respectfully requests that the proposed revisions become effective February 20, 2024. The NYISO will first utilize the enhancements proposed herein in determining the ICAP Demand Curves applicable for the 2025/2026 Capability Year.[3]

I. List of Documents Submitted

The NYISO submits the following with this filing letter:

1. A clean version of the proposed revisions to the Services Tariff ("Attachment I"); and

2. A blacklined version of the proposed revisions to the Services Tariff ("Attachment II").

II. Background

The NYISO develops ICAP Demand Curves based on the estimated cost to construct and

[1] 16 U.S.C. § 824d.

[2] Capitalized terms not otherwise defined herein shall have the meaning specified in the Services Tariff.

[3] This represents the first Capability Year encompassed by the ongoing quadrennial review process to establish the ICAP Demand Curves for the 2025-2029 period (*i.e.*, the 2025/2026 through 2028/2029 Capability Years).

operate a hypothetical new capacity supply resource in various locations throughout New York (*i.e.*, commonly referred to as the "gross cost of new entry" or "gross CONE").[4] This cost is offset by an estimate of the potential revenues the hypothetical resource could earn from participating in the NYISO-administered energy and ancillary services markets. The resulting net values (*i.e.*, commonly referred to as the "net cost of new entry" or "net CONE") represent the revenue the hypothetical resource would need to receive from the capacity market to obtain sufficient revenues to support market entry under the system conditions specified for use in the establishment of the ICAP Demand Curves.[5]

Gross and net CONE are initially determined as annualized values. Because the NYISO uses the ICAP Demand Curves in the monthly ICAP Spot Market Auctions, these annual values must be translated into monthly values for use in the auctions.[6] Currently, the translation of these annual values into monthly values produces ICAP Demand Curves that apply for the duration of each Capability Year.

The current translation of the annual gross and net CONE values to monthly values accounts for the specified system excess conditions used in establishing the ICAP Demand Curves, as well as seasonal differences in the expected quantity of capacity available to participate in the auctions.[7] The current translation, however, does not explicitly account for differences in the reliability risks applicable to the summer and winter periods. Given that New York is currently a summer peaking system, reliability risks are predominantly attributable to the Summer Capability Period. However, as events in various regions over the past several years have demonstrated, material reliability risks are also present during the winter season, such as risks related to resource performance and fuel availability during cold weather conditions.

To expressly account for seasonal reliability risks and to refine the current accounting for seasonal capacity availability, the NYISO proposes enhancements to the current methodologies

[4] Section 5.14.1.2.2 of the Services Tariff refers to the hypothetical new capacity supply resource as a "peaking plant."

[5] The costs and estimated revenues of each hypothetical resource are not determined based on current market conditions. Instead, Section 5.14.1.2.2 of the Services Tariff requires that such costs and revenues be estimated under market conditions in which the available capacity is equal to the applicable minimum Installed Capacity requirement plus the MW value of the hypothetical resource. This requirement is designed to ensure that the ICAP Demand Curves are established at a level that should provide sufficient revenues to cover the costs of the hypothetical resource when market entry by such facility is required to maintain reliability.

[6] Net CONE values are used to determine the reference point price of each ICAP Demand Curves. Gross CONE values are used in the determination of the maximum allowable clearing price of each ICAP Demand Curve.

[7] Based on the current resource mix in New York, more capacity is typically expected to be available during the Winter Capability Period than in the Summer Capability Period, resulting in lower capacity prices during the winter due to the higher level of capacity supply. However, as the composition of the resource mix continues to evolve in response to energy and environmental requirements and policies, this historical trend may not persist in the future.

for translating the annual gross and net CONE values to monthly values used in establishing the ICAP Demand Curves. To provide greater transparency as to the seasonal value of capacity, the proposed enhancements will also result in the production of seasonal ICAP Demand Curves (*i.e.*, separate curves applicable to the summer and winter periods encompassed by each Capability Year). Consistent with current requirements, the seasonal curves applicable for each Capability Year will continue to be designed to ensure that the hypothetical resource used to establish the ICAP Demand Curves earns sufficient revenues annually to cover its cost of market entry under the capacity market supply conditions assumed in determining the ICAP Demand Curves.

III. Description of Proposed Tariff Revisions

The New York electric grid is undergoing unprecedented change in response to technological developments, economic and environmental considerations, and public policies. For example, the Climate Leadership and Community Protection Act ("CLCPA") requires that: (1) 70% of the state's electricity requirements be met by eligible renewable generation resources by 2030; and (2) 100% of electricity demand in New York be served by zero-emissions resources by 2040.[8] These factors are rapidly transforming the resource mix and resulting in forecasted increases in future demand as decarbonization efforts unfold across all sectors of New York's economy.

The transformation of the power system is producing a shift away from reliance on fossil fuels for electric power generation.[9] These changes are anticipated to require transition from fossil-fired generators to renewable and other clean energy resources. The change in the resource mix will present new challenges to maintaining system reliability.

At the same time, the shift to reliance on clean energy to facilitate decarbonization efforts in the transportation and building sectors will profoundly change the patterns of load consumption. In fact, this shift is a predominant factor in the expected transition of New York from a summer peaking system to a winter peaking system within approximately the next ten years. The unfolding changes to the magnitude and pattern of electricity demand will alter the risks to reliability that must be managed in operating the system.

In consideration of these evolving dynamics, the NYISO proposes enhancements to its current procedures for translating the annual gross and net CONE values to monthly values for use in establishing the parameters of the ICAP Demand Curves. The proposed enhancements seek to facilitate improved accounting for the changing patterns of load, supply, and reliability risks arising from the ongoing transition to a carbon free electric grid.

Specifically, the NYISO proposes revisions to Sections 5.14.1.2 and 5.14.1.2.2 of the Services Tariff to apportion the annual gross and net CONE values for a given Capability Year to each Capability Period encompassed by that Capability Year. Such apportionment will be used

[8] Chapter 106 of the Laws of the State of New York of 2019.

[9] *See, e.g.*, NYISO, *2023-2032 Comprehensive Reliability Plan* at 6-12, available at: https://www.nyiso.com/documents/20142/2248481/2023-2032-Comprehensive-Reliability-Plan.pdf.

to produce separate ICAP Demand Curves for each Capability Period. The NYISO's proposal is intended to develop such seasonal ICAP Demand Curves: (1) in a manner that accounts for: (a) the relative risk of reliability events in each season, and (b) the expected seasonal availability of capacity supply; and (2) subject to prescribed limitations on the maximum and minimum portions of the annual gross and net CONE values that can be assigned to each season.

A. Establishing Seasonal ICAP Demand Curves

Currently, the NYISO establishes annual ICAP Demand Curves that apply for the duration of each Capability Year using the applicable monthly values of gross and net CONE. The proposed enhancements to the translation of annual gross and net CONE values will include the establishment of separate ICAP Demand Curves for each Capability Period encompassed by a given Capability Year.[10] The transition to ICAP Demand Curves for each Capability Period is intended to reflect the value of capacity more transparently in each season. The value of such increased transparency grows with the ongoing transformation of New York's electric grid and the resulting impacts thereof on resource needs and reliability risks during each season. The development of seasonal ICAP Demand Curves is also a prerequisite to facilitating the transition to seasonal accreditation factors for capacity supply resources under the NYISO's marginal capacity accreditation methodology.[11]

B. Accounting for Seasonal Reliability Risks

To better account for the evolving nature of reliability risks presented by the clean energy grid envisioned by energy and environmental policies, including the CLCPA, the NYISO proposes to expressly account for the relative risk of reliability events in each season as part of the apportionment of the annual gross and net CONE values to each Capability Period encompassed by a given Capability Year.[12] This seasonal reliability risk will be determined annually based on the percentage of the loss of load risk attributed to each Capability Period as identified from the results of the preliminary base case model approved by the New York State Reliability Council, L.L.C. ("NYSRC") for determining the NYCA Installed Reserve Margin for the Capability Year at issue.[13] The percentage loss of load risk attributable to each Capability Period is used as a basis to apportion the annual gross and net CONE values for a Capability Year to the respective Capability Periods thereof.[14] Accounting for the relative risk of reliability

[10] *See* the proposed revisions to Sections 5.14.1.2 and 5.14.1.2.2 of the Services Tariff.

[11] *See, e.g.*, Docket No. ER22-772-000, *New York Independent System Operator, Inc.*, Informational Filing Regarding Phase 2 Work Completing the NYISO's Marginal Capacity Accreditation Market Design at Attachment I, p. 15, fn. 15 (March 14, 2023).

[12] *See* the proposed revisions to Sections 5.14.1.2.2 and 5.14.1.2.2.3 of the Services Tariff.

[13] The NYSRC, with support from the NYISO, conducts an annual study to determine the statewide reserve margin for each Capability Year (*i.e.*, the NYCA Installed Reserve Margin) which represents an additional quantity of capacity that must be procured above the minimum forecasted peak load requirement to maintain the reliability of New York's bulk power system.

[14] For example, if the resource adequacy modeling to determine the statewide reserve margin for a Capability Year identified an equivalent percentage loss of load risk within each Capability Period (*i.e.*,

events occurring within each Capability Period is intended to improve the alignment of capacity market pricing signals with the seasonal risks to continued reliable operation of the system.

C. Proposed Limitations on Seasonal Apportionment

To help ensure that appropriate incentives remain to encourage capacity market participation of resources during all months of each Capability Year, the NYISO proposes to establish limits on the portion of the annual gross and net CONE values that can be allocated to each Capability Period.[15] Because New York is currently (and historically has been) a summer peaking system, the resource adequacy modeling construct utilized by the NYSRC in its annual determination of the statewide reserve margin predominantly identifies reliability risks attendant to the summer period. The NYSRC is currently engaged in a multi-year effort in coordination with the NYISO to enhance the resource adequacy model to better account for winter reliability risks.[16] Absent such improvements, the results of the NYSRC's analysis likely understates the relative risk of reliability events occurring in the winter. This could result in suboptimal apportioning of the annual gross and net CONE values as part of the proposed development of seasonal ICAP Demand Curves. In addition, apportioning an excessive quantity of the annual gross and net CONE values to a single Capability Period could undermine incentives for resources to remain available for operation throughout all months of the year. Capacity market participation in all months incentivizes resources to participate in the energy market and outage scheduling process, thus, supporting the efficient and reliable operation of the system.

In response to these considerations, the NYISO proposes to establish limits on the maximum and minimum portions of the annual gross and net CONE values that can be allocated to each Capability Period as part of annually establishing the seasonal ICAP Demand Curves. If the results of the NYSRC's resource adequacy modeling identified an apportionment that is outside the bounds of proposed maximum and minimum allowable percentages, the apportionment to each Capability Period is adjusted to the specified maximum and minimum allowable values.[17]

50% of the loss of load risk is attributable to each Capability Period), the annual values would be apportioned in equal shares to each Capability Period (*i.e.*, 50% to the Summer Capability Period and 50% to the Winter Capability Period).

[15] *See* the proposed revisions to Sections 5.14.1.2.2 and 5.14.1.2.2.3 of the Services Tariff. These seasonal apportionment limitations would apply to the ICAP Demand Curves for the first Capability Year encompassed by each reset period, as well as the ICAP Demand Curves determined as part of the subsequent annual updates for the remaining three years of the reset period.

[16] *See, e.g.*, Docket No. ER22-772-000, *New York Independent System Operator, Inc.*, Informational Filing Regarding Phase 2 Work Completing the NYISO's Marginal Capacity Accreditation Market Design at 8 and Attachment I, pp. 25-26 (March 14, 2023); and NYISO, *Capacity Accreditation* (presented at the NYISO Installed Capacity Working Group meeting on November 21, 2022) at 50-54, available at: https://www.nyiso.com/documents/20142/34549258/11-21-22%20ICAPWG%20Capacity%20Accreditation%20Presentation.pdf.

[17] For example, based on the NYISO's proposed initial maximum allowable apportionment of 65% and corresponding 35% minimum, if the results of the resource adequacy modeling for a given Capability Year identified 75% of the loss of load risk attributable to the Summer Capability Period and

Based on an assessment of the implied seasonal apportionment reflected in the annual ICAP Demand Curves from the 2014/2015 through 2022/2023 Capability Years, the NYISO proposes to establish initial limits at a maximum allowable apportionment of 65% to one Capability Period and a corresponding minimum allowable apportionment of 35%.[18] The NYISO proposes that these apportionment limitation values remain fixed for the period covered by the ongoing quadrennial review process to establish the ICAP Demand Curves for the 2025-2029 period.

The applicable maximum and minimum allowable apportionment values would be subject to review and potential modification as part of subsequent quadrennial reviews. Each quadrennial review would establish apportionment limitations that remain fixed for the reset period associated therewith. Such periodic reviews will facilitate the establishment of appropriate limitations on seasonal apportionment in consideration of various factors including the state of enhancements to the current resource adequacy modeling construct to better account for winter reliability risks and the evolving nature of the reliability risk landscape presented by the ongoing transition of the electric grid to a clean energy system as required by the CLCPA.

D. Seasonal Capacity Supply Accounting Enhancements

The NYISO also proposes to refine the current methodology to account for differences in seasonal capacity availability when translating annual gross and net CONE values to monthly values.[19] The current methodology is, in part, based on the existing characteristics of the resource fleet in New York. Due, in part, to the prevalence of a substantial amount of fossil-fired thermal generators, the resource fleet exhibits higher availability of capacity supply in the winter season compared to the summer. However, this characteristic may not always persist into the future due to the transformation of the resource fleet to support the clean energy grid required by the CLCPA.

Consistent with the current calculations for establishing the parameters of the ICAP Demand Curves, the NYISO will continue to account for expected seasonal differences in capacity availability in determining the reference point price and maximum allowable clearing

---

the remaining 25% attributable to the Winter Capability Period, the proposed limitations would apply and produce an apportionment based on the maximum and minimum allowable values (*i.e.*, 65% of the annual values would be apportioned to the Summer Capability Period and 35% would be apportioned to the Winter Capability Period).

[18] NYISO, *2025-2029 ICAP Demand Curve Reset: Reference Point Price Proposal* (presented at the NYISO Installed Capacity Working Group meeting on April 27, 2023) at 11-13, available at: https://www.nyiso.com/documents/20142/37254128/2025-2029%20DCR%20Reference%20Point%20Price%20Proposal%20-%20ICAPWG%2004272023%20v3%20-%20clean.pdf. The assessment identified that over the nine-year historical period evaluated, the portion of the annual net revenue requirement implicitly assumed by the ICAP Demand Curves to be recovered in the Summer Capability Period predominantly ranged from 60% to 70%, with 65% representing the approximate average of such historical data points.

[19] *See* the proposed revisions to Sections 5.14.1.2.2 and 5.14.1.2.2.3 of the Services Tariff.

price for each ICAP Demand Curve. The development of seasonal ICAP Demand Curves requires that these seasonal differences in capacity availability be determined for each Capability Period. As noted above, based on current and historical system conditions, the annual ICAP Demand Curves have accounted for seasonal differences in capacity availability based on the ratio of expected capacity available during the Winter Capability Period months to the expected amount of capacity available during the months encompassed by the Summer Capability Period (*i.e.*, commonly referred to as the "winter-to-summer ratio"). With the development of seasonal ICAP Demand Curves, the winter-to-summer ratio will continue to be utilized in determining the parameters of the ICAP Demand Curves applicable to Winter Capability Period. The inverse of this ratio would be used in determining the parameters of the ICAP Demand Curves applicable to Summer Capability Period (*i.e.*, referred to as the "summer-to-winter ratio").[20] These enhancements are designed to help ensure that the ICAP Demand Curves continue to appropriately account for seasonal differences in expected capacity availability as the pattern of such differences evolves in response to the ongoing transition of the resource fleet to a carbon-free electric grid.[21]

Because the seasonal ICAP Demand Curves represent an apportionment of the annual gross and net CONE values, such seasonal curves are interrelated and must account for the relative expectation of differences in capacity availability throughout the year to, in aggregate, provide revenue adequacy for the applicable hypothetical resource used to establish each ICAP Demand Curve. The proposed seasonal ICAP Demand Curve parameter calculations are designed to account for this interrelationship. In establishing the seasonal ICAP Demand Curves, the system conditions for the Capability Period that is expected to experience higher capacity availability will account for the system excess conditions specified for the establishment of the ICAP Demand Curves (*i.e.*, the applicable minimum capacity requirement, plus the MW value of the hypothetical resourced used to establish such curves), plus the expected additional capacity due to differences in seasonal availability. The other Capability Period will account for conditions reflecting the system excess conditions specified for the establishment of the ICAP Demand Curves.[22]

E. Maintaining Consistency with Gross CONE Translations

The NYISO applies similar methodologies to translate annual gross and net CONE values to monthly values used in establishing the parameters of the ICAP Demand Curves. Currently, consistent with the translation of annual net CONE values to monthly values, the translation of

[20] The summer-to-winter ratio would be determined based on the ratio of expected capacity available during the months encompassed by the Summer Capability Period to the expected amount of capacity available during the Winter Capability Period months.

[21] For example, it is possible that, over time, the transformation of New York's resource mix could result in a system where, unlike historical expectations, more capacity is available during the Summer Capability Period than the Winter Capability Period.

[22] To effectuate this outcome, if a summer-to-winter or winter-to-summer ratio value is determined to have a value less than one, such ratio value will be deemed to be zero for purposes of determining the parameter values of the ICAP Demand Curves.

annual gross CONE values to monthly values accounts for the specified system excess conditions used in establishing the ICAP Demand Curves, as well as seasonal differences in the expected quantity of capacity available to participate in the auctions.[23] As described above, the NYISO will maintain this consistency by applying the proposed enhancements to the translation of annual gross CONE values to monthly values.[24] The resulting monthly values are used to establish the maximum allowable clearing price for each ICAP Demand Curve.[25]

IV. Effective Date

The NYISO respectfully requests that the proposed tariff revisions become effective on February 20, 2024. The enhancements proposed herein will first be applied to the derivation of the ICAP Demand Curves applicable for 2025/2026 Capability Year (*i.e.*, the first Capability Year covered by the currently ongoing quadrennial review of the ICAP Demand Curves).[26]

V. Stakeholder Approval

Stakeholders unanimously approved the proposal at the Management Committee on September 27, 2023. The NYISO Board of Directors approved the proposed enhancements on November 14, 2023.

[23] *See, e.g.*, Docket No. ER21-502-000, *New York Independent System Operator, Inc.*, 2021-2025 ICAP Demand Curve Reset Proposal at 54 (November 30, 2020).

[24] *See* the proposed revisions to Section 5.14.1.2.2.3 of the Services Tariff.

[25] *See* Sections 5.14.1.2 and 5.14.1.2.2.3 of the Services Tariff. The maximum allowable clearing price for each ICAP Demand Curve is calculated by multiplying the applicable monthly gross CONE value by 1.5.

[26] As required by Section 5.14.1.2.2.4.11 of the Services Tariff, the NYISO will file the proposed results of the quadrennial review, as approved by the NYISO Board of Directors, with the Commission no later than November 30, 2024. This will include proposed ICAP Demand Curves to become effective May 1, 2025 (*i.e.*, the 2025/2026 Capability Year), as well as the methodologies and assumptions for conducting the tariff-prescribed annual updates to determine the ICAP Demand Curves for the remaining three years encompassed by the reset period (*i.e.*, the 2026/2027 through 2028/2029 Capability Years).

VI. Correspondence

Please direct all communications and service in this proceeding to:

Robert E. Fernandez, Executive Vice President, General Counsel & Chief Compliance Officer
Karen G. Gach, Deputy General Counsel
Raymond Stalter, Director, Regulatory Affairs
*Garrett E. Bissell, Senior Attorney
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, New York 12144
Telephone: 518-356-6000
Email: gbissell@nyiso.com

*Person designated for receipt of service.

VII. Service

A complete copy of this filing will be posted on the NYISO's website at www.nyiso.com. The NYISO will send an electronic link to this filing to the official representative of each of its customers, and each participant on its stakeholder committees. The NYISO will also send an electronic copy of this filing to the New York State Public Service Commission and the New Jersey Board of Public Utilities.

VIII. Conclusion

The NYISO respectfully requests that the Commission accept the proposed revisions to the Services Tariff attached hereto with an effective date of February 20, 2024.

Respectfully submitted,

/s/ Garrett E. Bissell
Garrett E. Bissell, Senior Attorney
New York Independent System Operator, Inc.

cc:

Janel Burdick	Emily Chen
Matthew Christiansen	Robert Fares
Jignasa Gadani	Jette Gebhart
Leanne Khammal	Jaime Knepper
Kurt Longo	David Morenoff
Douglas Roe	Eric Vandenberg