



Short-Term Reliability Process Report: 2025 Near-Term Reliability Need

Solution Selection

A Report by the
New York Independent System Operator

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Background

The NYISO's Short-Term Reliability Process ("STRP"), as prescribed in Attachments Y and FF of the NYISO's Open Access Transmission Tariff ("OATT")¹, evaluates the first five years of the planning horizon, with a focus on needs arising in the first three years of the planning horizon. The Reliability Planning Process focuses on solutions to longer term needs (years four through ten) through the Reliability Needs Assessment ("RNA") and the Comprehensive Reliability Plan ("CRP").

The first step in the STRP is the Short-Term Assessment of Reliability ("STAR"). STARS are performed quarterly to proactively address reliability needs that may arise within five years ("Short-Term Reliability Needs")² due to various changes to the grid such as generator deactivations, revised transmission plans, and updated load forecasts. Transmission Owners also assess the impact of generator deactivations on their local systems. A Short-Term Reliability Need that is observed within (a) three years of the conclusion of the 365-day notice period for a Generator Deactivation Reliability Need, or (b) within three years after the posting of the relevant STAR for any other short-term reliability Process Need, is a "Near-Term Reliability Need."³ When a Near-Term Reliability Need is identified in a STAR, the NYISO solicits and selects solution(s) to address the need. The NYISO may choose to address Short-Term Reliability Needs that are not Near-Term Reliability Needs within the STRP or, if time permits, through the long-term Reliability Planning Process that considers needs and solutions in years four through ten of the study period.⁴

The 2023 Quarter 2 STAR⁵ found a Near-Term Reliability Need ("Need") beginning in summer 2025 within New York City primarily driven by a combination of forecasted increases in peak demand and the assumed unavailability of certain generation in New York City affected by the "Peaker Rule."⁶ Specifically, the New York City zone (Zone J) would be deficient by as much as 446 MW for a duration of nine hours on the peak day during expected weather conditions when accounting for forecasted economic growth and policy-driven increases in demand. Combustion turbines known as "peakers" typically operate to maintain bulk power system reliability during the most stressful operating conditions, such as periods of

¹ Capitalized terms in this report refer to defined terms in the NYISO's Open Access Transmission Tariff ("OATT"). *See* OATT Article 1, Section 38.1 and Section 31.1.1.

² OATT Section 38.1 contains the tariff definition of a Short-Term Reliability Process Need.

³ OATT Section 38.1 contains the tariff definition of a Near-Term Reliability Need. *See also*, OATT Section 38.3.6, which sets forth provisions applicable to the treatment of Near-Term Reliability Needs.

⁴ The Reliability Planning Process is the preferred option. *See* OATT Section 38.2.

⁵ Short-Term Assessment of Reliability: 2023 Quarter 2, July 14, 2023 ([here](#))

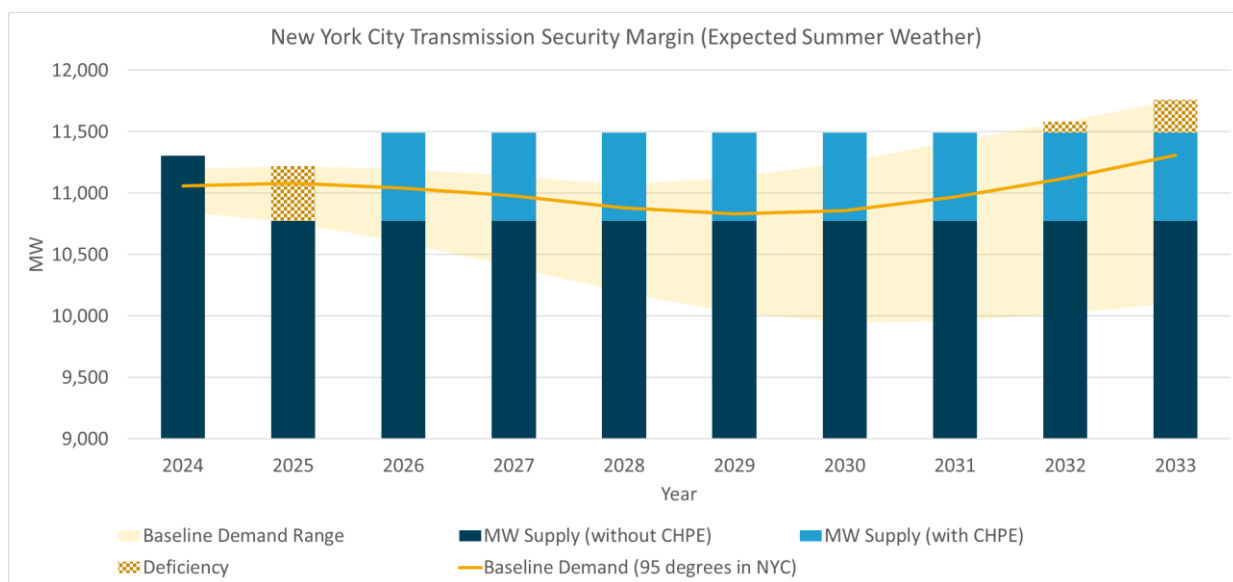
⁶ In 2019, the New York State Department of Environmental Conservation adopted a regulation to limit nitrogen oxides (NOx) emissions from simple-cycle combustion turbines, referred to as the "Peaker Rule" ([here](#))

peak electricity demand. As of May 1, 2023, 1,027 MW of affected peakers have deactivated or limited their operation. An additional 590 MW of peakers are expected to become unavailable beginning May 1, 2025, all of which are in New York City. With the additional peakers unavailable, the bulk power transmission system will not be able to securely and reliably serve the forecasted demand in New York City according to applicable reliability criteria.

The Need is based on a deficient transmission security margin that accounts for expected generator availability, transmission limitations, and updated demand forecasts using data published in the 2023 Load & Capacity Data Report (“Gold Book”). The transmission security margin represents the balance between demand for electricity and the power supply available from generation and transmission to serve that demand. This assessment recognizes that there is uncertainty in the demand forecast due to uncertainties in key assumptions including population and economic growth, the proliferation of energy efficiency, the installation of behind-the-meter renewable energy resources, and electric vehicle adoption and charging patterns. These risks are accounted for in the transmission security margin calculations by incorporating the lower and higher bounds as a range of forecasted conditions during expected weather, specified in the Gold Book as the policy scenario forecasts. The lower and higher demand policy forecasts reflect achievement of policy targets through alternative pathways and assume the same weather factors as the baseline demand forecast.

Overall, the New York City transmission security margin is expected to improve in 2026 if the Champlain Hudson Power Express (“CHPE”) connection from Hydro Quebec to New York City enters service on schedule in spring 2026, but the margin gradually erodes through time thereafter as expected demand for electricity grows. Beyond 2025, the forecasted reliability margins within New York City may not be sufficient if (i) the CHPE project experiences a significant delay, (ii) additional power plants become unavailable, or (iii) demand significantly exceeds current forecasts. Without the CHPE project in service or other offsetting changes or solutions, the reliability margins continue to be deficient for the ten-year planning horizon. In addition, while CHPE is expected to contribute to reliability in the summer, the facility is not expected to provide any capacity in the winter. Demand for electricity in the winter is forecasted to increase over the ten-year planning horizon.

Figure 1: 2025 Near-Term Reliability Need in New York City



The NYISO’s *Statement Regarding Identification of Near-Term Reliability Need for the 2023 Quarter 2 Short-Term Assessment of Reliability*⁷ explains that the NYISO, in consultation with Con Edison, reviewed whether the adoption of alternative operating procedures could address the Needs identified in the STAR, and whether updates to Con Edison’s Local Transmission Owner Plan, could address the Need.⁸ The review did not identify operating procedures or updates to Con Edison’s Local Transmission Owner Plan that could address the identified Need. The NYISO also reviewed the status of tracked projects and did not identify additional transmission or non-transmission (including generation) solutions that are expected to enter or re-enter service by 2025.⁹

On August 4, 2023, the NYISO issued a solution solicitation requesting the submission of proposed STRP Solutions to address the identified Need.¹⁰ Proposed solutions were due to the NYISO on October 3, 2023.

Throughout the process the NYISO explained that, if proposed solutions, either individually or in combination, are not viable or sufficient to meet the identified Short-Term Reliability Need, then interim

⁷ The NYISO statement regarding the identification of a Near-Term Reliability Need for the 2023 Quarter 2 Short-Term Assessment of Reliability was discussed with stakeholders at the July 25, 2023 ESPWG/TPAS meeting and subsequently posted on the NYISO website ([here](#)).

⁸ See OATT Section 38.3.5.2.

⁹ As part of its ongoing Reliability Planning Process, the NYISO monitors and tracks the progress of market-based projects and regulated backstop solutions, together with other resource additions and retirements, consistent with its obligation to protect confidential information under its Code of Conduct. See OATT Section 31.2.13.

¹⁰ Short-Term Reliability Process Solution Solicitation Regarding Near-Term Reliability Need ([here](#))

solutions must be in place to keep the grid reliable. The NYISO explained that a potential outcome could include relying on generators that are subject to the Peaker Rule to remain in operation until a permanent solution is in place. The Peaker Rule anticipated the possibility that it might be necessary to temporarily retain peakers while permanent solutions are being developed when it authorized the NYISO to designate peakers to remain in operation beyond 2025 on an as-needed basis for reliability. Based on findings from its Short-Term Reliability Process, the NYISO may designate certain units, in sufficient quantity, to remain in operation for an additional two years (until May 1, 2027) with the potential of an additional two-year extension (to May 1, 2029) if a permanent solution that is needed to maintain reliability has been identified but is not yet online. The NYISO only temporarily retains peakers as a last resort, if it does not expect other solutions to be in place by the time the identified reliability need is expected in 2025.

Evaluation of Proposed Solutions

In response to the solution solicitation to address the Need, the NYISO received a regulated transmission solution from Con Edison and a Reliability Must-Run (“RMR”) generator solution from Orenda, Inc. (“Orenda”). The NYISO did not receive proposed market-based solutions from any developers.

Con Edison Regulated Transmission Solution

As the Responsible Transmission Owner, Con Edison proposed a regulated transmission solution comprised of the installation of about 16 miles of 345 kV underground cable, construction of a 345 kV switching station, and reconfiguration of two existing 345 kV substations. However, Con Edison stated that the solution could not be completed until well after the anticipated 2026 in-service date of CHPE, let alone the initial occurrence of the Need in 2025. As such, the proposed transmission solution is not viable to meet the identified Need.

Con Edison also examined whether additional demand-side measures could reduce the identified Need. Con Edison has plans for additional energy efficiency measures and distributed energy storage by 2025, all of which are already captured in the New York City demand forecast. As such, there are no additional demand-side measures proposed to reduce the projected Need.

Market-Based Solutions

In response to the solution solicitation, there were no proposed market-based solutions submitted by any developers.

Reliability Must-Run (RMR) Solutions

Orenda proposed a solution comprised of several small battery storage projects, totaling a maximum of 27 MW over four hours (or up to 12 MW over the nine-hour duration of the Need), planned to interconnect at various points on the Con Edison distribution system. The distributed energy storage projects are proposed to be aggregated through a market aggregator. Orenda's proposal seeks an RMR agreement, the details of which are treated as Market Participant Confidential, to accelerate construction of its batteries to be in-service by May 2025.

The solution Orenda proposed is not viable and sufficient to meet the Need. The total size of the battery project is not sufficient to address the Need by itself; had other solutions been proposed, NYISO could have considered selecting multiple solutions that, collectively, meet the Need. Also, the total capability of the Orenda batteries is less than the output of the smallest Gowanus or Narrows peaker. The NYISO considered whether Orenda's proposed solution could avoid the need to retain peakers and determined that executing an RMR agreement for Orenda's proposed solution would not avoid the need to temporarily retain peakers.

Permanent Solution

The Champlain Hudson Power Express ("CHPE") project, planned to enter service in spring 2026, is a 1,250 MW HVDC underground and submarine cable from the Hertel substation in Quebec to the Astoria Annex 345 kV substation in New York City (Zone J). The project will deliver power from the Hydro Quebec control area to Zone J during the summer, but the facility is not expected to provide any capacity in the winter.

CHPE has met all major milestones to be included in the NYISO reliability plans, starting with the 2022 RNA. The project completed the NYISO interconnection process as a member of Class Year 2021 in queue positions Q#631 and Q#887. In November 2021, NYSERDA finalized contracts with CHPE as a result of New York State's Tier 4 Renewable Energy Credit (REC) program. CHPE has received all major necessary permits and several segments of the project are now under construction.

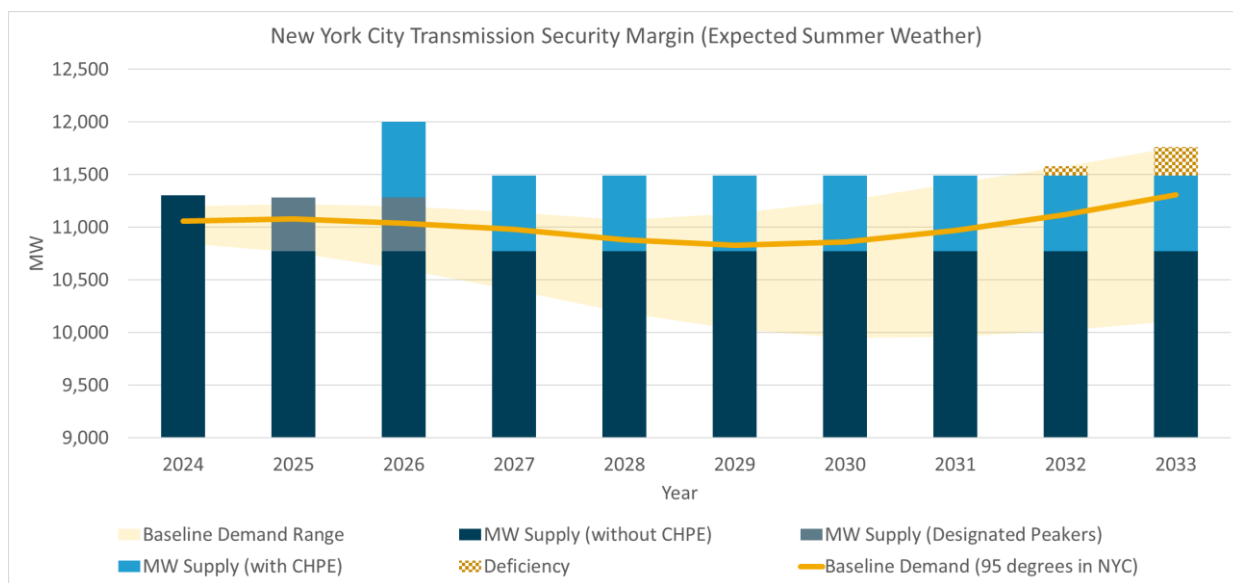
Explanation of the Solution Selection

There were no viable and sufficient solutions submitted that meet the Need in 2025. The NYISO has determined that temporarily retaining the generators on the Gowanus 2 & 3 and Narrows 1 & 2 barges is necessary to address the Need. Specifically, the NYISO designates the generators listed in Appendix A as resources that must be temporarily retained in order to ensure the continued reliability of electric service

in New York City until permanent solutions to the Need are in place, for an initial period of up to two years (May 1, 2027). The total capability of the four barges is 564.9 MW, but the generators contribute a total of 508 MW towards the New York City transmission security margin. Based on the magnitude of the Need it is not possible to fully address the Need with only three barges.

The NYISO’s designation of the Gowanus 2 & 3 and Narrows 1 & 2 generators will allow their continued operation beyond May 2025 until a permanent solution is in place and a reliability need does not exist, consistent with the Peaker Rule. The Gowanus and Narrows plant owner, Astoria Generating Company L.P., informed the NYISO that its generators are available to continue operation for so long as they are determined to be needed for reliability and are allowed to continue operating consistent with the Peaker Rule. With the continued operation of these peakers until the earlier of the date, a permanent solution is in place (*i.e.*, CHPE) or May 2027, the Need for the currently forecasted demand is addressed if CHPE is not delayed beyond 2026, as shown in the following chart. Without the retention of these generators, the New York City area would not meet the mandatory reliability criteria during expected summer weather peak demand periods.

Figure 2: New York City Margin with Designated Peakers



As identified in the NYISO’s 2023-2032 Comprehensive Reliability Plan, there are several key risk factors to the reliability of the grid, including generation unavailability and extreme weather. In addition to meeting the identified Near-Term Need and satisfying the mandatory reliability criteria, the retention of the generators on the Gowanus 2 & 3 and Narrows 1 & 2 barges helps to increase New York City bulk power transmission system resilience during unexpected facility outages or under extreme weather conditions, such as heatwaves (98 degrees Fahrenheit) and extreme heatwaves (102 degrees Fahrenheit).

The retained generators will participate in the NYISO's economic dispatch which aligns generation operating schedules with real-time reliability needs. The operating characteristics of the units, primarily their high operating costs relative to other New York City generation and their ability to start quickly and operate with short run times, will result in the NYISO limiting the run times of the units to the duration of real-time energy needs.

Conclusion

To ensure the continued reliability of electric service in New York City, the NYISO is designating the generators on the Gowanus 2 & 3 and Narrows 1 & 2 barges (identified in Appendix A hereto) to temporarily remain in operation after the DEC Peaker Rule¹¹ compliance date until permanent solutions to the Need are in place, for an initial period of up to two years (May 1, 2027). There is a potential for an additional two-year extension (to May 1, 2029) if reliability needs still exist, as provided by the DEC Peaker Rule. Through the quarterly STAR studies, the NYISO will continuously evaluate the reliability of the system as changes occur and will carefully monitor the progress of the Champlain Hudson Power Express ("CHPE") project toward completion, currently scheduled to enter service in spring 2026.

¹¹ In 2019, the New York State Department of Environmental Conservation adopted a regulation to limit nitrogen oxides (NOx) emissions from simple-cycle combustion turbines, referred to as the "Peaker Rule" ([here](#))

Appendix A: Designated Peaker Units

| Owner, Operator, and / or Billing Organization | Station Unit | Zone | PTID | Name Plate Rating | 2023 Summer Capability | Contribution to NYC Margin |
|---|--------------|------|-------|-------------------------|------------------------------|----------------------------------|
| | | | | MW | MW | MW |
| Astoria Generating Company L.P. | Gowanus 2-1 | J | 24114 | 20.0 | 17.0 | 15.3 |
| Astoria Generating Company L.P. | Gowanus 2-2 | J | 24115 | 20.0 | 16.8 | 15.1 |
| Astoria Generating Company L.P. | Gowanus 2-3 | J | 24116 | 20.0 | 18.8 | 16.9 |
| Astoria Generating Company L.P. | Gowanus 2-4 | J | 24117 | 20.0 | 16.9 | 15.2 |
| Astoria Generating Company L.P. | Gowanus 2-5 | J | 24118 | 20.0 | 17.6 | 15.8 |
| Astoria Generating Company L.P. | Gowanus 2-6 | J | 24119 | 20.0 | 19.1 | 17.2 |
| Astoria Generating Company L.P. | Gowanus 2-7 | J | 24120 | 20.0 | 18.7 | 16.8 |
| Astoria Generating Company L.P. | Gowanus 2-8 | J | 24121 | 20.0 | 17.2 | 15.5 |
| Astoria Generating Company L.P. | Gowanus 3-1 | J | 24122 | 20.0 | 17.0 | 15.3 |
| Astoria Generating Company L.P. | Gowanus 3-2 | J | 24123 | 20.0 | 16.7 | 15.0 |
| Astoria Generating Company L.P. | Gowanus 3-3 | J | 24124 | 20.0 | 17.8 | 16.0 |
| Astoria Generating Company L.P. | Gowanus 3-4 | J | 24125 | 20.0 | 16.1 | 14.5 |
| Astoria Generating Company L.P. | Gowanus 3-5 | J | 24126 | 20.0 | 17.5 | 15.7 |
| Astoria Generating Company L.P. | Gowanus 3-6 | J | 24127 | 20.0 | 15.5 | 13.9 |
| Astoria Generating Company L.P. | Gowanus 3-7 | J | 24128 | 20.0 | 18.5 | 16.6 |
| Astoria Generating Company L.P. | Gowanus 3-8 | J | 24129 | 20.0 | 17.8 | 16.0 |
| Astoria Generating Company L.P. | Narrows 1-1 | J | 24228 | 22.0 | 18.6 | 16.7 |
| Astoria Generating Company L.P. | Narrows 1-2 | J | 24229 | 22.0 | 17.6 | 15.8 |
| Astoria Generating Company L.P. | Narrows 1-3 | J | 24230 | 22.0 | 16.9 | 15.2 |
| Astoria Generating Company L.P. | Narrows 1-4 | J | 24231 | 22.0 | 18.2 | 16.4 |
| Astoria Generating Company L.P. | Narrows 1-5 | J | 24232 | 22.0 | 19.7 | 17.7 |
| Astoria Generating Company L.P. | Narrows 1-6 | J | 24233 | 22.0 | 16.2 | 14.6 |
| Astoria Generating Company L.P. | Narrows 1-7 | J | 24234 | 22.0 | 18.9 | 17.0 |
| Astoria Generating Company L.P. | Narrows 1-8 | J | 24235 | 22.0 | 16.7 | 15.0 |
| Astoria Generating Company L.P. | Narrows 2-1 | J | 24236 | 22.0 | 18.7 | 16.8 |
| Astoria Generating Company L.P. | Narrows 2-2 | J | 24237 | 22.0 | 16.3 | 14.7 |
| Astoria Generating Company L.P. | Narrows 2-3 | J | 24238 | 22.0 | 17.5 | 15.7 |
| Astoria Generating Company L.P. | Narrows 2-4 | J | 24239 | 22.0 | 19.1 | 17.2 |
| Astoria Generating Company L.P. | Narrows 2-5 | J | 24240 | 22.0 | 20.4 | 18.3 |
| Astoria Generating Company L.P. | Narrows 2-6 | J | 24241 | 22.0 | 16.2 | 14.6 |
| Astoria Generating Company L.P. | Narrows 2-7 | J | 24242 | 22.0 | 18.8 | 16.9 |
| Astoria Generating Company L.P. | Narrows 2-8 | J | 24243 | 22.0 | 16.1 | 14.5 |