New York ISO
Independent System Operator

Short-Term Reliability Process Report

Zach Smith

Vice President, System & Resource Planning

Management Committee

November 29, 2023

Near-Term Need

2023 Q2 STAR Reliability Findings

- **Beginning in summer 2025, the transmission security margin within New York City is deficient.**
  - The New York City zone (Zone J) is 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
  - Accounts for unavailability of 1,617 MW of peakers affected by the DEC Peaker Rule
- **Beyond 2025, the reliability margins within New York City may not be sufficient if:**
  - The CHPE project experiences a delay from Spring 2026;
  - There are additional generator deactivations beyond what is already planned; or
  - Demand significantly exceeds current forecasts.

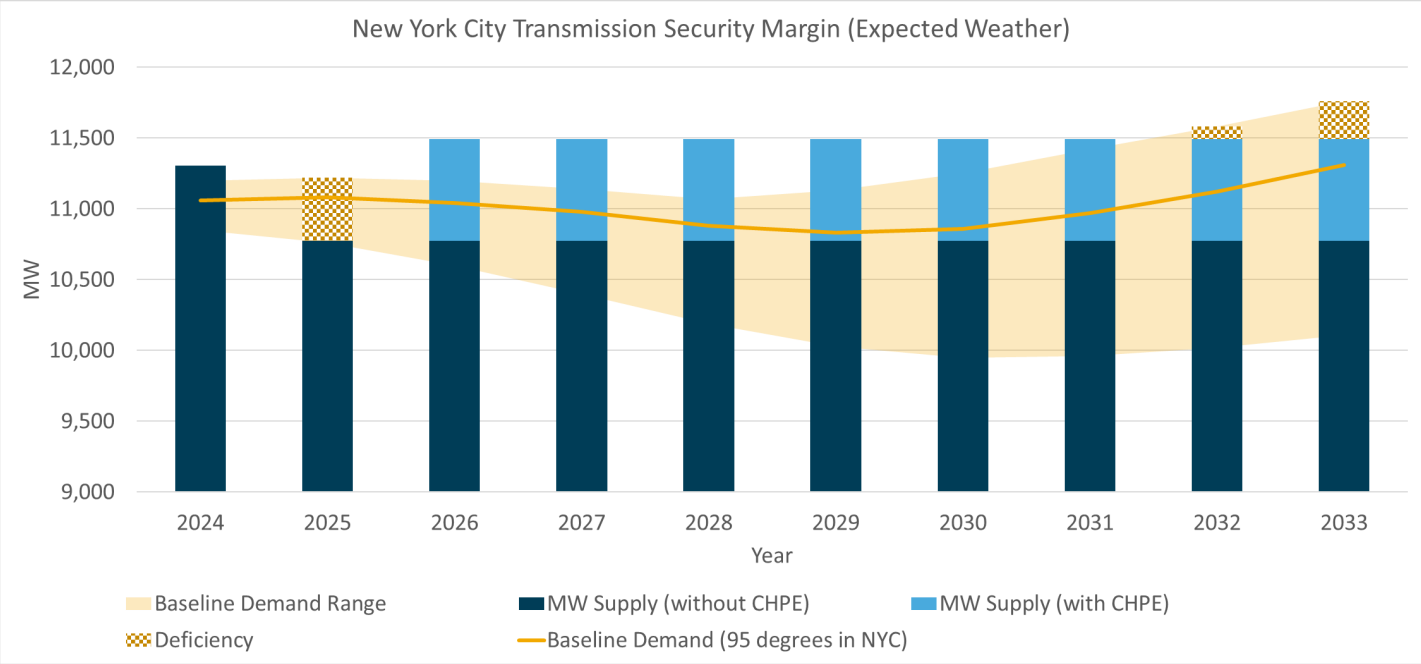
New York ISO

Overview: DEC's Peaker Rule

- The DEC's peaker rule limits emissions from simple cycle combustion turbines.
- As of May 1, 2023, 1,027 MW of affected peakers have deactivated or limited operations.
- An additional 590 MW of peakers are expected to be impacted beginning May 1, 2025, all of which are in New York City.
- The DEC's Peaker Rule anticipated this scenario when it authorized the NYISO to designate certain units to remain in operation beyond 2025 on an as needed basis for reliability.
- The rule allows the NYISO to designate a two-year extension (through 2027) and a potential additional two-year extension (through 2029) if needed for reliability.

New York ISO

NYC Supply vs. Demand



New York ISO

DRAFT – FOR DISCUSSION PURPOSES ONLY

The NYISO Identifies a Reliability Need

Process Timeline

1

July 14, 2023

NYISO RELEASES Q2 "STAR" REPORT; DECLARES A RELIABILITY NEED

The NYISO's report identifies a reliability need for New York City beginning in summer 2025 driven by forecasted increases in peak demand and the expected retirement of generation units in response to NYS DEC's "Peaker Rule."

2

August 4 - October 3, 2023

NYISO CALLS FOR BACKSTOP SOLUTION FROM CON EDISON

In response to the NYISO's declaration, the local utility (Con Edison) will be called upon to propose a backstop solution. The NYISO will work closely with the local utility to evaluate proposals.

3

August 4 – October 3, 2023

NYISO SOLICITS MARKET-BASED AND RMR SOLUTIONS

Solutions proposed by developers may include generation and demand response offerings. Parties will have 60 days to submit proposals in response to the solicitation.

4

October – November 2023

NYISO REVIEWS PROPOSED SOLUTIONS

The NYISO reviews Con Edison's backstop solution and proposed market-based solutions to determine if any are viable and sufficient to meet the need within the required timeframe.

5

November 2023

NYISO DETERMINES SOLUTIONS

The NYISO selects viable and sufficient solution(s). If solutions are not sufficient to address the need within the necessary timeframe, the NYISO would submit a letter to the NYS DEC designating which "peaker" generators may be needed to maintain reliability until permanent solutions are in place.

More info at: https://www.nyiso.com/short-term-reliability-process

New York ISO

Proposed Solutions

Con Edison Regulated Solution

- **Con Edison**
  - Proposed a regulated transmission solution that would include the construction of a new 345 kV switching station, reconfiguration of two existing 345 kV substations, and the installation of about 16 miles of 345 kV underground cable
    - Con Edison states that this solution could not be completed until well after the currently anticipated in-service date of CHPE of 2026
    - Not viable to address the need in 2025
  - 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.
    - No additional demand-side measures are proposed to reduce the projected need

New York ISO

Proposed Solutions

- No market-based solutions were proposed
- 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)
  - To be interconnected through the Con Edison distribution system
  - Proposed to participate in the markets through a market aggregator
  - Required an RMR agreement to accelerate development and construction to be in-service by May 1, 2025

New York ISO

Review of Orenda Solution

- **Orenda is not a Viable and Sufficient Solution:**
  - 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.
  - 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.

New York ISO

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.

New York ISO

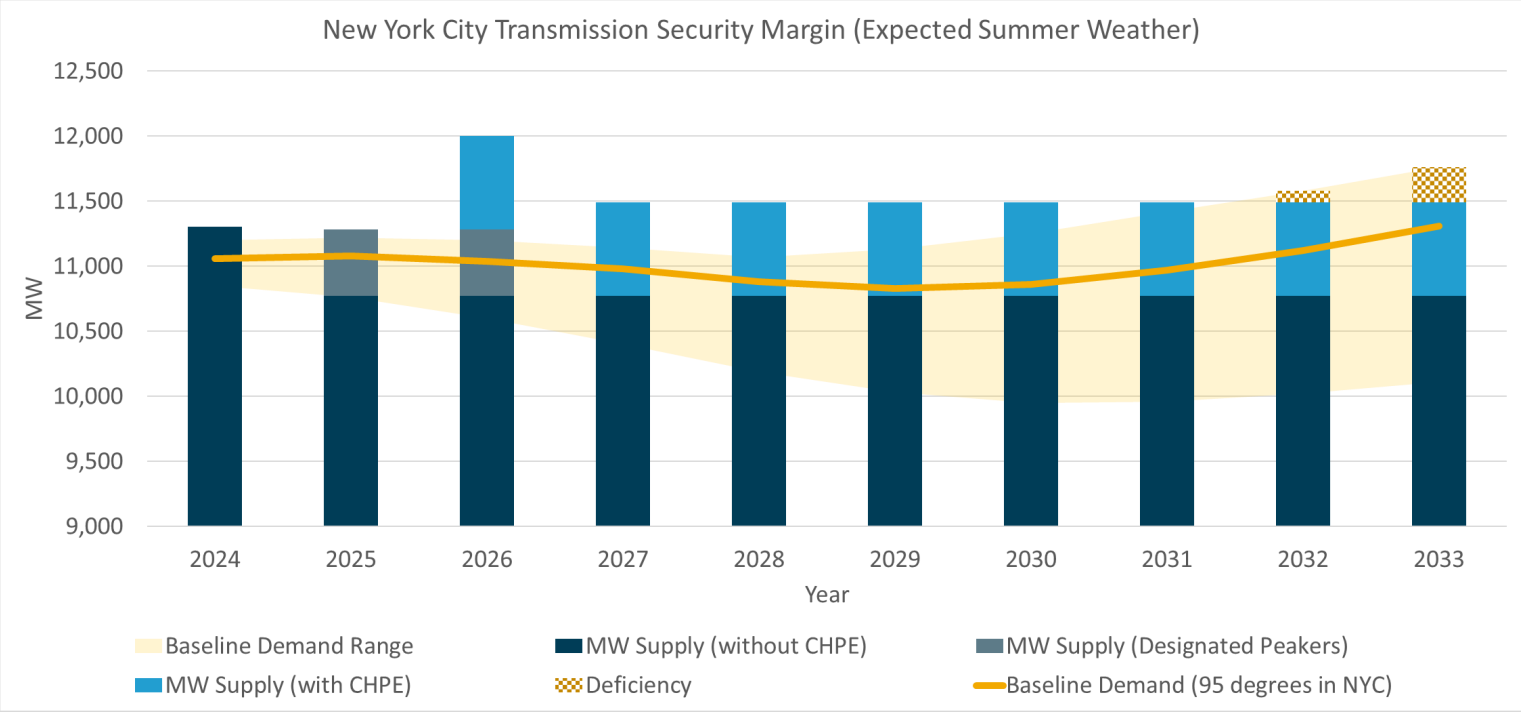
Peaker Designation

Need to Retain Peakers

- No viable or sufficient solutions were offered to address the 2025 need. Zone J is deficient by as much as 446 MW for a duration of nine hours
- Peaker MW available (contribution to the need, accounting for outage derate)
  - Gowanus 2 = 127.8 MW
  - Gowanus 3 = 123.1 MW
  - Narrows 1 = 128.4 MW
  - Narrows 2 = 128.7 MW
- All four barges are needed to address 446 MW deficiency

New York ISO

New York City Margin with Designated Peakers



New York ISO

Peaker Designation

- 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 to temporarily remain in operation after the DEC Peaker Rule 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.

New York ISO

Questions?

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

New York ISO