

2024 Reliability Needs Assessment

Key Findings

COMPREHENSIVE SYSTEM PLANNING



Overview

NYISO’s 2024 RNA evaluates the future reliability of the New York electric grid considering forecasts of power demand, planned upgrades to the transmission system, public policy requirements and changes to the generation mix over a ten-year period. The RNA highlights several risk factors that could adversely affect system reliability in the years ahead. The RNA demonstrates the importance of the NYISO’s planning process and the need to closely monitor the rapidly changing electric grid.

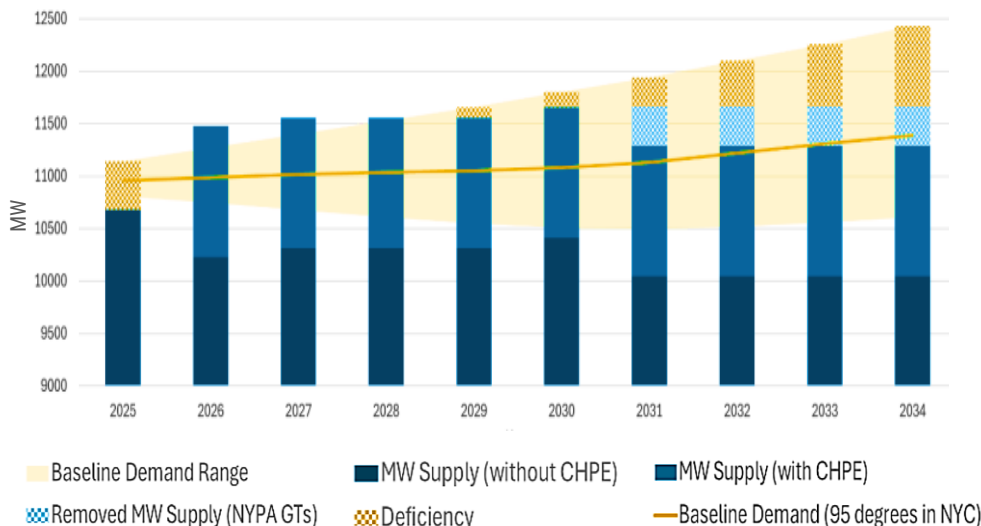
New York City reliability deficiency identified in the summer of 2033

The RNA identifies a violation of reliability criteria in New York City in 2033, driven by a combination of factors, including the required deactivation of the New York Power Authority’s natural gas plants in New York City and Long Island. According to the findings of the RNA, the reliability need is 17 MW in summer 2033 and increases to 97 MW in summer 2034. The potential risks and resource needs identified in the RNA may be resolved by new capacity resources coming into service, construction of additional transmission facilities, increased energy efficiency, integration of distributed energy resources and/or growth in demand response participation. The NYISO will initiate a process to solicit solutions to solve the reliability deficiency that include proposed generation and transmission additions, demand response and other system status updates.

Continued narrowing of statewide reliability margins

The RNA notes several factors contributing to narrowing statewide reliability margins and projected increases in peak demand over the study horizon, including electrification of the transportation and building sectors and large, energy-intensive commercial projects such as data centers and chip fabrication.

New York City Reliability Margin Forecast (Expected Summer Weather)



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Power Trends Podcast Ep: 36
Zach Smith, Senior Vice President, System & Resource Planning Discusses the RNA

2024 Reliability Needs Assessment Key Findings

Given future demand growth uncertainty, the RNA uses different scenarios to identify possible patterns, inform potential solutions, and assess risks to the bulk electric grid over a ten-year period.

These scenarios help identify possible variations from the base case assumptions.



Large Load Flexibility Scenario

Over 2,000 MW of large demand facilities are expected to site in New York within the next decade. Approximately 1,200 MW are crypto mining and hydrogen production facilities, assumed to be flexible during peak conditions to reflect recent operating experience. If not flexible, the increased load from these facilities would cause a reliability criteria violation by 2034.



Additional New Resources

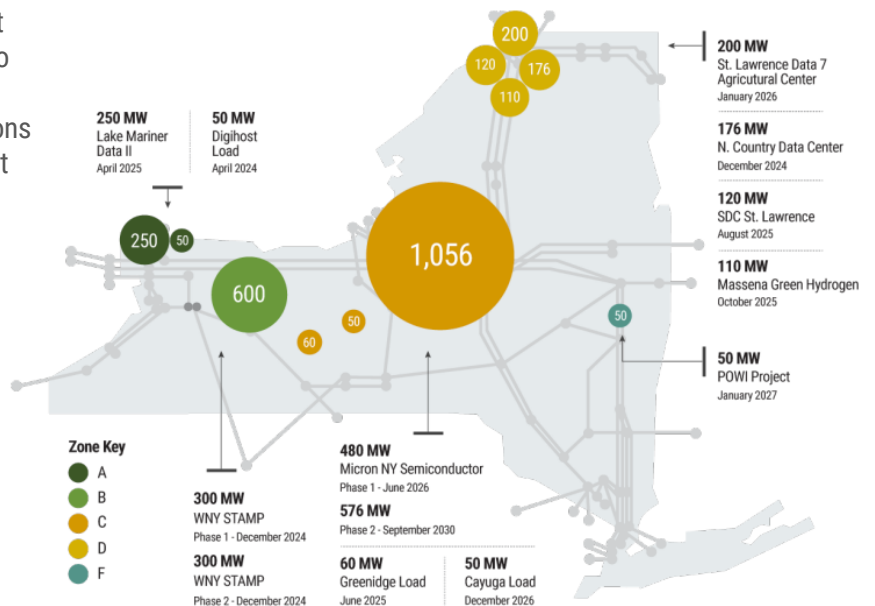
These informational scenarios evaluate the effects of including 5,000 MW of generation projects currently in the NYISO's Interconnection Process, and 7,000 MW of offshore wind necessary to satisfy CLCPA requirements. These scenarios find these resources would significantly improve statewide resource adequacy and provide sufficient operating reserves.



Fossil Retirement Scenario

A growing number of New York's gas-turbine and fossil fuel-fired, steam-turbine capacity is reaching an age at which, nationally, the majority of similar units have deactivated. The RNA finds that the retirement of the largest plant in each of the Lower Hudson Valley, NYC, and Long Island localities would result in transmission security deficiencies, with New York City and Long Island being deficient starting in 2025.

Large load projects in the NYISO's Interconnection Queue



High Demand Forecast Scenario

In this RNA (and other recent NYISO studies) there is growing uncertainty in projections of future demand. This informational scenario finds that statewide peak demand could increase by 4,400 MW in winter and 3,270 MW in summer, resulting in a statewide resource adequacy deficiency by 2032. This higher demand level would result in accelerating the New York City deficiency to 2029 and would grow the shortfall to over 1000 MW by 2024.

Next steps

- ✓ The NYISO will commence the process to seek resolutions to the identified NYC need.
- ✓ Our comprehensive reliability planning processes will continue to assess future uncertainties highlighted in this RNA.
- ✓ Quarterly Short-Term Assessment of Reliability reports (STARs) provide updates to the base case with the most recent system data and industry information.

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