New York ISO
Independent System Operator

2025 NYSRC Long-Term Resource Adequacy Assessment – Intervening Year Report

A Report by the
New York Independent System Operator

For February 5, 2026 NYSRC RCMS

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Background

New York State Reliability Council (NYSRC) Reliability Rule A.3 R2[1] requires the NYISO to prepare a biennial NYCA Long-Term Resource Adequacy Assessment covering a ten-year look-ahead period. The assessment includes findings from the latest NYISO Reliability Needs Assessment (RNA) or other comparable NYISO resource adequacy reviews, such as the quarterly Short-Term Assessment of Reliability (STAR). Additionally, Reliability Rule A.3 R3 requires the NYISO to submit a report in the Intervening Year between NYCA Long-Term Resource Adequacy Assessments to inform the NYSRC of any significant updates to assumptions and, if available, findings from the latest final NYISO Comprehensive Reliability Plan (CRP) or other final NYISO reports that may include solutions to reliability needs identified in the Long-Term Resource Adequacy Assessment.

In addition to calculating the LOLE reliability metric in accordance with R.1, the NYSRC and NYISO will also include calculation and reporting of Loss of Load Hours (LOLH) and Expected Unserved Energy (EUE) reliability metrics in the probabilistic resource capacity assessments and studies required in A.1 R3 and A.3 R2.

This 2025 NYCA Long-Term Resource Adequacy Assessment Intervening Year (LTRAA-I) report is prepared to fulfill the **Rule A.3 R3** requirements and summarizes the **2025-2034 Comprehensive Reliability Plan (CRP)[2] and the 2025 Quarter 3 Short-Term Assessment of Reliability (STAR).[3]**

While this report is limited to summarizing the resource adequacy findings, the NYISO performed complete reliability criteria assessments, including transmission security evaluations, in both the RNA and STARs.

Summary of the Completed 2024 NYSRC LTRAA

The 2024 LTRAA was presented at the February 2025[4] NYSRC Reliability Compliance Monitoring Subcommittee (RCMS) and demonstrated that the planned New York grid will meet the statewide

[1] **NYSRC Reliability Rules & Compliance Manual, Version #47** (June 14, 2024): https://www.nysrc.org/wp-content/uploads/2024/07/RRC-Manual-V47-final-7-2-24.pdf.

[2] **2025-2034 Comprehensive Reliability Plan**: https://www.nyiso.com/documents/20142/2248481/2023-2032-Comprehensive-Reliability-Plan.pdf with **Appendices**: https://www.nyiso.com/documents/20142/41557188/2023-2032-Comprehensive-Reliability-Plan-Appendices.pdf.

[3] **Short-Term Assessment of Reliability: 2025 Quarter 3:** https://www.nyiso.com/documents/20142/15930753/2023-Q2-Short-Term-Reliability-Process-Report.pdf; **Notice: Short-Term Reliability Process Solution Solicitation** (November 10, 2025)**:** https://www.nyiso.com/documents/20142/15930765/STRP-Q3-2025-Solicitation-Letter-Final.pdf.

[4] **2024 LTRAA presentation at the February 2025 RCMS**: https://www.nysrc.org/wp-content/uploads/2025/02/A.3-R2-2024-NYISO-LTRAA-Presentation.pdf.

resource adequacy criterion throughout the ten-year horizon (2025-2034) for the base case assumptions. The findings are impacted by significant uncertainties associated with future demand growth and changing supply mix that will be continuously reviewed through the NYISO's quarterly short-term assessments and biennial long-term assessments. Although a violation is not identified, the loss of load expectation approaches the 0.1 event-days per year criterion in 2034, indicating that no surplus power would remain in ten years without further resource development. The LOLE results from the 2024 RNA report rely on the use of emergency operating procedures, such as receiving assistance from neighboring regions, and the assumed flexibility of certain large load facilities (*i.e.,* cryptocurrency mining and hydrogen production) during system peak conditions.

The NYISO's findings also indicate that winter events become more prominent during latter years. To account for winter uncertainties, several modeling changes were implemented in the 2024 RNA base cases:

- Dynamic LFU: on the demand side, increasing winter peak load forecast uncertainty (starting year 2 throughout the study years) was modeled to account for the impacts of heating electrification, EV charging, and large loads.
- Winter gas unavailability: on the resources side, risk of about 6,400 MW of gas unavailability mainly related with NYCA gas-only plants was implemented.

2025 Long-Term Resource Adequacy Assessment – Intervening Year (LTRAA-I)

There is no NYCA annual LOLE criterion violation for the study period, as evaluated in the NYISO's 2025 reliability planning processes described below.

2025-2034 CRP and 2025 Q3 STAR Findings

To comply with Reliability Rule A.3.B.R3, the NYISO submits this report in the Intervening Year between the biennial LTRAAs. This 2025 LTRAA-I review report updates the 2024 LTRAA and uses the information from NYISO's 2025-2034 CRP and the 2025 Q3 STAR.

The 2025-2034 CRP follows the completed 2024 Reliability Needs Assessment (RNA) published in December 2024. The 2024 RNA identified an actionable Reliability Need beginning in summer 2033 within New York City, growing to a deficiency of 97 MW for three hours on the peak day in 2034. This deficiency was identified in the "baseline assessment," which accounted for a single baseline forecast of system conditions. Prior to soliciting proposed solutions to address the need, in May 2025 the NYISO incorporated post-RNA system updates, specifically a 200 MW decrease in the baseline 10-year New York

City demand forecast. These updates addressed the identified Reliability Need according to the current Reliability Planning Process and, therefore, a solicitation for solutions was not required for this CRP.

Subsequent to the resolution of the 2033 Reliability Need, the NYISO found different, but related, Generator Deactivation Reliability Needs first arising in summer 2026 in its 2025 Quarter 3 Short-Term Assessment of Reliability (STAR). The study identified these needs in New York City and Long Island driven by generator deactivations in combination with demand forecasts based on expected weather, expected generator availability, transmission limitations, and risks associated with the availability of key future planned projects. On November 10, 2025, the NYISO solicited solutions to these needs.[5] The NYISO will consider and evaluate submitted solutions in accordance with the Short-Term Reliability Process.

CRP Conclusions and Recommended Actions

New York's electric system faces an era of profound reliability challenges as resource retirements accelerate, economic development drives demand growth, and project delays undermine confidence in future supply. Additionally, 25 percent of the state's total generating capacity is fossil-based generation that has been in operation for more than 50 years. As these generators age, they are experiencing more frequent and longer outages.

While the 2025–2034 CRP, under current applicable reliability criteria and procedures, identified no actionable reliability need in the ten-year horizon, this outcome should not be mistaken for long-term system adequacy. The margin for error is extremely narrow, and most of the plausible futures point to significant reliability shortfalls within the next ten years. Depending on demand growth and resource retirement patterns, the system may need several thousand megawatts of new dispatchable generation over that timeframe.

To maintain system reliability and protect public safety, economic activity, and quality of life, the NYISO recommends actions that strengthen planning across a broad spectrum of plausible outcomes, improve energy adequacy metrics, and accelerate solutions for resource and voltage performance.

- **Take action to account for a wider range of plausible outcomes in reliability planning**. This CRP shows that key factors that affect the New York transmission system, either by itself or combined with others, will have consequential impacts to reliability that current planning methods do not fully capture. Today's approach assumes a single expected future, but the analysis shows that this is no longer sufficient. NYISO must evolve its methodology so that Reliability Needs are identified earlier and more accurately under a broader range of conditions, enabling timely solutions that the NYISO needs to be able to plan for through the

[5] 2025 Q3 STAR Solicitation for Solutions Notice: https://www.nyiso.com/documents/20142/15930765/STRP-Q3-2025-Solicitation-Letter-Final.pdf

identification of solutions. Specifically, the NYISO recommends adopting the following scenario planning concepts into the formal procedures for determining actionable Reliability Needs:

a. evaluate a wider range of plausible emerging risks (e.g., possible delays to planned projects, reduced imports, etc.), rather than relying solely on a deterministic base case;

b. incorporate the probability of aging generation or catastrophic failures, recognizing that these risks grow significantly over time; and

c. use a range of plausible demand forecasts, accounting for economic trends, electrification, demand-side policy adoption, and technology-driven behavior changes.

- **Strengthen reliability planning beyond emergency measures**. Operational experience from the June and July 2025 heatwaves revealed how quickly tight resource margins and limited system flexibility can lead to stressed conditions, even when overall resource adequacy appears sufficient. Current criteria measure resource adequacy only after assuming the full utilization of emergency operating procedures, effectively planning for operators to rely on extraordinary measures as routine practice. This approach leaves fewer tools available when real-time conditions deteriorate. Recent focus in New York and the wider industry recognizes that more consideration is needed for non-peak hours given the changing resource mix and load profiles. The NYISO recommends that additional metrics, such as expected unserved energy (EUE), be utilized to determine statewide reliability with consideration of normal operating conditions, ensuring planning reflects the true resilience of the system rather than its dependence on emergency actions.
- **Structure a multifaceted approach to address resource shortfalls**. This CRP identifies scenarios where statewide deficiencies could exceed 4,000 MW by the early 2030s, driven by demand growth and retirements of aging generation. Historically, regulated solutions have focused on transmission, but future reliability needs will increasingly require new or repowered generation resources—in addition to wires. NYISO's role is to signal reliability risks early, enable the interconnection of supply-side solutions, and work with stakeholders to ensure market mechanisms and regulated backstop options can deliver timely solutions. However, many barriers lie outside NYISO's control, including permitting timelines, siting restrictions, supply chain constraints, and financing hurdles that slow resource development. These challenges underscore the need for policy alignment and streamlined approvals to complement NYISO's ongoing planning and market efforts.
- **Deploy a comprehensive strategy to address system voltage performance**. For years, the New York transmission system was designed around expected flow patterns—predominantly west to east and north to south. With the rise of distributed energy resource (DER) growth and new investments in transmission, these flow patterns have become less predictable and, therefore, making voltage control more challenging. Planning studies now show the growing need for voltage support, especially with more renewable integration, large data centers, and higher demand growth upstate. This CRP recommends the development of a system-wide plan for dynamic voltage control devices, which would be more efficient and flexible than addressing each issue with separate upgrades.

Given the confluence of factors that the system faces, the CRP noted that enhancements to the NYISO's reliability planning processes are essential and must be undertaken now. The NYISO already has begun discussing the recommendations listed above with stakeholders in anticipation of the start of the 2026 cycle of the Reliability Planning Process. To the extent applicable, some recommendations may require changes to the Reliability Planning Process Manual, the Open Access Transmission Tariff, and coordination with the New York State agencies and the New York State Reliability Council.

2025 LTRAA-I Conclusion

Based on the 2025-2034 CRP and the 2025 Q3 STAR, the NYISO's assessments did not identify any resource adequacy criterion violations for the 2025-2034 study period. However, the system margins have been decreasing. Risk factors such as delayed implementation of projects, additional generator deactivations, unplanned outages, and extreme weather could potentially lead to deficiencies in reliable electric service in the coming years. New transmission projects, such as the Champlain-Hudson Power Express to deliver hydroelectric power between Quebec and New York City, could help mitigate these deficiencies if timely built and energized. Additional details can be found in the 2025-2034 CRP and the 2025 Q3 STAR.

The NYISO continues to monitor the risks and will re-evaluate the system during the 2026-2027 Reliability Planning Process cycle, which starts with the 2026 RNA. The 2026 quarterly STARs will be performed in parallel, as well as other NYISO planning studies (e.g., Resource and System Outlook, Interconnection Studies, and Public Policy Transmission Planning studies). The Transmission Owners (TOs) will also continue to provide updates to their Local Transmission Owner Plans (LTPs) as input into the NYISO's planning processes.

In addition to the NYISO's planning assessments, the wholesale electricity markets administered by the NYISO are an important tool to mitigate these risks. These markets are designed, and continue to evolve and adapt, to send appropriate price signals for new market entry and retention of resources that assist in maintaining reliability. The potential risks and resource needs identified in the analyses may be resolved by new capacity resources coming into service, construction of additional transmission facilities, and/or increased energy efficiency, integration of distributed energy resources, and growth in demand response participation. The NYISO will continue to monitor these and other developments to determine whether changing system resources and conditions could impact the reliability of the New York bulk electric grid.