



2023 NYSRC Long-Term Resource Adequacy Assessment – Intervening Year Report

A Report by the
New York Independent System Operator

For NYSRC February 1, 2024 RCMS

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Background

The New York State Reliability Council's (NYSRC) Reliability Rule A.3.B.R2¹ requires the NYISO to prepare a biennial NYCA Long-Term Resource Adequacy Assessment (LTRAA) covering a ten-year look-ahead period. The biennial LTRAA must include findings from the latest NYISO Reliability Needs Assessment (RNA) or other comparable NYISO-approved resource adequacy review.

Additionally, Reliability Rule A.3.B.R3 requires the NYISO to submit a report in the Intervening Year (LTRAA-I) between the biennial LTRAA's 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 which may include solutions to reliability needs identified in the Long-Term Resource Adequacy Assessment.

This 2023 LTRAA-I report is provided to fulfill the Intervening Year requirements under Reliability Rule and summarizes the 2023-2032 Comprehensive Reliability Plan (CRP),² and the 2023 Q3 Short-Term Assessment of Reliability (STAR).³

Summary of the Completed 2022 NYSRC LTRAA

The 2022 LTRAA was presented at the February 2023 NYSRC Reliability Compliance Monitoring Subcommittee (RCMS). It included findings from the NYISO's 2022 RNA, and also from the 2022 Q3 STAR. The 2022 LTRAA summarized the resource adequacy findings from the 2022 RNA⁴ for 2026 through 2032 (year 4 through year 10) and from the 2022 Q3 STAR⁵ for 2023 through 2026 (year 1 through year 3). Specifically, the planned New York State Bulk Power Transmission Facilities as assessed in the 2022 RNA will meet all currently applicable Reliability Criteria from 2026 through 2032 for forecasted system demand in normal weather. The NYISO, however, identified a variety of risk factors to the long-term plan, such as delayed implementation of projects in this plan, greater demand on the electric grid, additional generator deactivations, unplanned outages, and extreme weather, which could potentially lead to the identification of reliability needs in the 2024 RNA.

¹ NYSRC Reliability Rules & Compliance Manual, Version #46, June 10, 2022: <https://www.nysrc.org/wp-content/uploads/2023/07/RRC-Manual-V46-final.pdf>.

² 2023-2032 CRP Report: <https://www.nyiso.com/documents/20142/2248481/2023-2032-Comprehensive-Reliability-Plan.pdf>; Appendices: <https://www.nyiso.com/documents/20142/41557188/2023-2032-Comprehensive-Reliability-Plan-Appendices.pdf>.

³ 2023 Q3 STAR Report: <https://www.nyiso.com/documents/20142/16004172/2023-Q3-STAR-Report.pdf>

⁴ 2022 RNA Report: <https://www.nyiso.com/documents/20142/2248793/2022-RNA-Report.pdf>; Appendices: <https://www.nyiso.com/documents/20142/34651464/2022-RNA-Appendices.pdf>.

⁵ 2022-Q3 STAR Report: <https://www.nyiso.com/documents/20142/16004172/2022-Q3-STAR-Report-vFinal.pdf>.

2023 Long-Term Resource Adequacy Assessment – Intervening Year (LTRAA-I)

2023-2032 CRP and 2023 Q3 STAR Base Case Findings

To comply with Reliability Rule A.3.B.R3, the NYISO submits this report in the Intervening Year between the biennial LTRAAs. This 2023 LTRAA-I review report updates the 2022 LTRAA and uses the information from NYISO’s 2023-2032CRP⁶ and the 2023 Q3 STAR.

This LTRAA-I reiterates the conclusions of the NYISO’s CRP, which incorporates the findings of the 2022 RNA, that there are no base case resource adequacy LOLE criterion violations through 2032 for forecasted system demand in normal weather.

In addition to the RNA and CRP, the NYISO performs quarterly STARs. The 2023 Q3 STAR⁷ was based on updated 2023 reliability planning databases and 2023 Gold Book information and continued to conclude that there are no resource adequacy criterion violations for the study period.

While there are no identified long-term, actionable reliability needs, the NYISO identified a Near-Term Reliability Need beginning in summer 2025 within New York City.⁸ The NYISO found a transmission security margin deficiency 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.” The NYISO sought solutions under the 2023 Q2 STAR process [[link](#)], and concluded:

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

⁶ 2023-2032 CRP Report: <https://www.nyiso.com/documents/20142/2248481/2023-2032-Comprehensive-Reliability-Plan.pdf>; Appendices: <https://www.nyiso.com/documents/20142/41557188/2023-2032-Comprehensive-Reliability-Plan-Appendices.pdf>.

⁷ 2023 Q3 STAR Report, completed as of October 13, 2023: <https://www.nyiso.com/documents/20142/16004172/2023-Q2-STAR-Report-Final.pdf>.

⁸ *Id.*

enter service in spring 2026.

RNA and CRP Scenarios

In addition to the set of assumptions and findings making up a base case, the RNA and the CRP provide an assessment of risks to the bulk power transmission facilities under certain scenarios to inform stakeholders and policymakers of potential alternate outcomes. Scenarios are variations on key base case assumptions such as higher load forecast, capacity removal, or deviations from assumed system plans. If they occurred, the events analyzed in the scenarios could change the timing, location, or degree of reliability issues identified in the base case.

The 2022 RNA scenarios included higher peak load than forecasted, additional generator retirements, winter gas constraint, as well as a “status quo” in which major transmission and generation plans fail to come to fruition. Additionally, the RNA included, among others a policy case scenario performed for the resource adequacy assessment.

Under the CRP study process, the NYISO performed additional scenarios for information. Full details are in the 2022 RNA and 2023-2032 CRP, as well as the 2023 Q3 STAR, posted on the NYISO’s web site (links provided above). The NYISO’s 2023 -2032 CRP identified risks to the plan is summarized below:

Reliability Risk Factors: Key Takeaways

- The pace of generation retirements has exceeded the pace of resource additions to date. Should this trend continue, reliability needs will be identified both locationally and statewide. For example, retirement of the NYPA small gas plants without adequate replacement would result in a transmission security deficiency in New York City of more than 600 MW.
- The reliability of the grid is heavily reliant on the timely completion of planned transmission projects, chiefly the CHPE project. Without the CHPE project in service or other offsetting changes or solutions, the transmission security margins would be deficient for the ten-year planning horizon.
- There is a clear upward trend forecasted in peak demand over the next ten years, with significant uncertainty driven by electrification of heating and transportation coupled with the development of multiple high-electric demand facilities (*e.g.*, microchip fabrication and data centers). As the demand on the grid grows at a rate greater than the build out of generation and transmission, deficiencies could arise within the ten-year planning horizon.
- New York’s current reliance on neighboring systems is expected to continue through the next ten years. Without emergency assistance from neighboring regions, New York would not have adequate resources throughout the next ten years.
- Extreme events, such as heatwaves or storms, pose a threat to grid reliability throughout the planning horizon and could result in transmission security deficiencies to serve demand statewide, especially in New York City. This outlook could improve as more resources and

transmission are added to New York City.

- The New York statewide grid is projected to become a winter-peaking system in the mid-2030s, primarily driven by electrification of space heating and transportation. The New York statewide grid is reliable for normal weather in the winter for the next ten years, but statewide margin deficiencies to meet the peak demand would arise as early as winter 2027-2028 for an extreme 1-in-100-year winter cold snap coupled with a shortage of gas fuel supply. This deficiency would grow to a 6,000 MW shortfall by winter 2032-2033. Additional deactivations of dual-fuel generation beyond what is planned will exacerbate the winter reliability risk.
- Planning for the more extreme system conditions of heatwaves, cold snaps, and fuel availability is currently beyond established design criteria. However, several reliability organizations are investigating whether applicable reliability rules and design criteria should be revised to account for these events.

2023 LTRAA-I Conclusion

Based on the 2023-2032 CRP and the 2023 Q3 STAR, there are no resource adequacy criterion violations identified for the 2023-2032 study period. However, the system margins have been decreasing. Risk factors such as delayed implementation of projects in the Comprehensive Reliability Plan, 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 recently approved⁹ 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 two study reports.

The NYISO continues to monitor the risks and will re-evaluate the system during the 2023-2024 Reliability Planning Process cycle, which starts with the 2024 RNA. The 2024 quarterly STARS will be performed in parallel, as well as other NYISO planning studies (such as Economic Planning Process studies, 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.

The wholesale electricity markets administered by the NYISO are an important tool to mitigate these

⁹ On November 30, 2021, New York State Energy Research and Development Authority (NYSERDA) finalized contracts with Clean Path New York LLC for its Clean Path NY (CPNY) project and H.Q. Energy Services (U.S.) Inc. (HQUS) for its Champlain Hudson Power Express (CHPE) project to deliver clean, renewable solar, wind and hydroelectric power from upstate New York and Canada to New York City

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.