

2023 Long Term Resource Adequacy Assessment – Intervening Year

Laura Popa

Manager, Resource Planning

NYSRC RCMS

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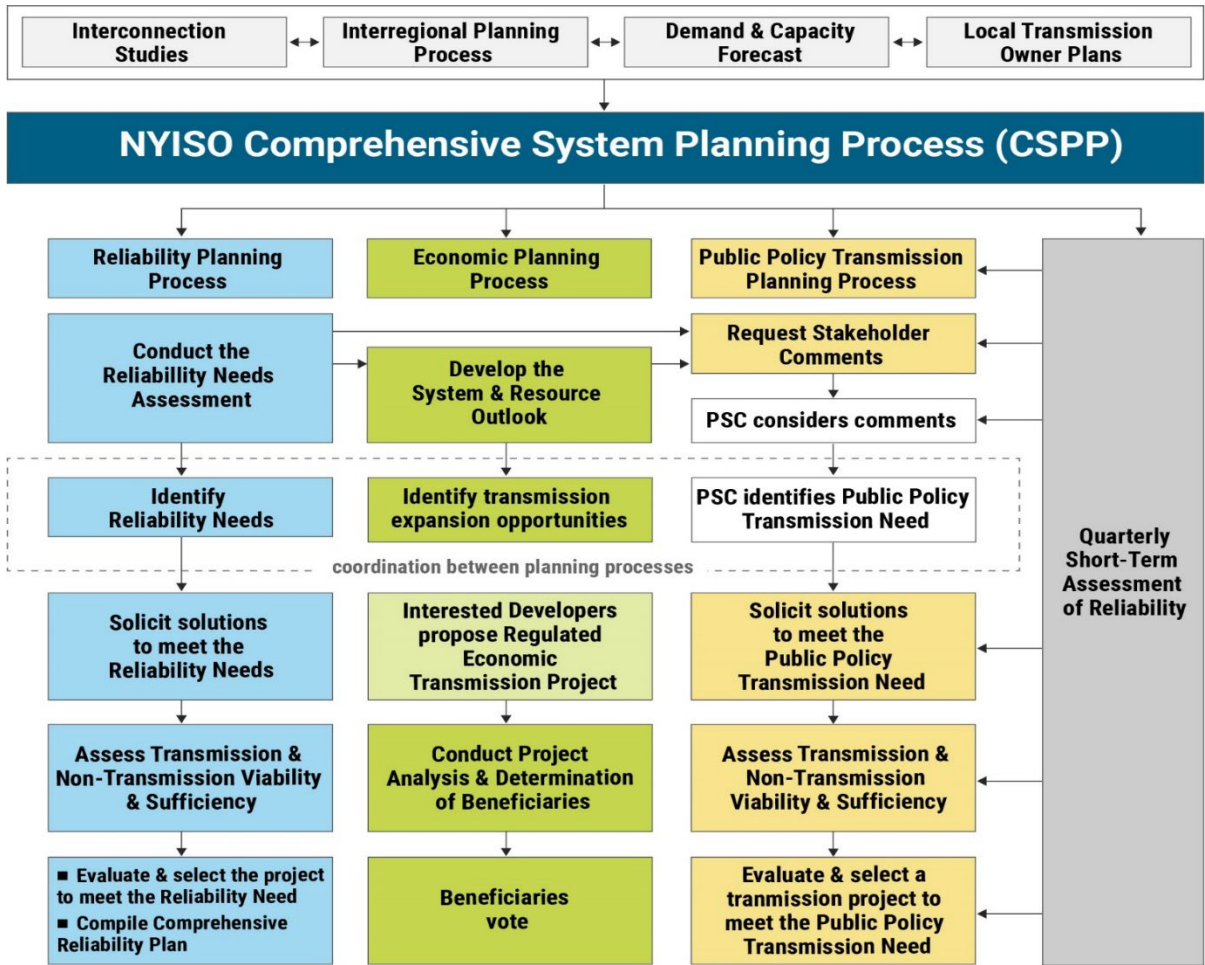
Goal

- **This presentation summarizes the 2023 NYSRC Long-Term Resource Adequacy Assessment Intervening Year (LTRA-A-I) Report in support of the New York State Reliability Council (NYSRC) certification**
- **The 2023 LTRA-A-I report information is based on NYISO's:**
 - 2023-2032 Comprehensive Reliability Plan
 - 2023 Q3 STAR

Outline

- **NYISO's Reliability Planning Process**
- **LTRAA Background**
- **Summary of Key Observations**
- **Appendix A: 2023-2032 CRP Risk Factors**

NYISO's Reliability Planning Process (RPP)

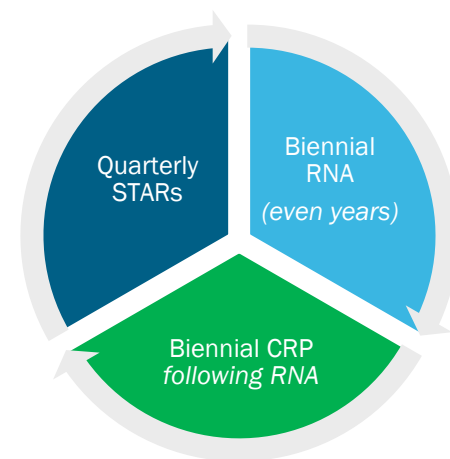


NYISO's Reliability Planning Objectives

- Identify Reliability Needs of the Bulk Power Transmission Facilities pursuant to Reliability Criteria (NERC, NPCC, NYSRC)
- Identify, through the development of appropriate scenarios, factors and issues that might adversely impact the reliability of the Bulk Power Transmission Facilities
- Provide an open and transparent process whereby solutions to identified needs are proposed, evaluated on a comparable basis, selected (as applicable), and implemented on a timely manner to ensure the reliability of the system
- Provide an opportunity first for the implementation of market-based solutions while providing for the reliability of the bulk system
- Coordinate the NYISO's reliability assessments with local utilities and neighboring control areas

NYISO's Reliability Planning Studies

- **Short-Term Assessments of Reliability (STARs)**
 - Conducted quarterly in direct collaboration with Transmission Owners
 - Five-year study with a focus on addressing needs arising in the first three years
- **Reliability Needs Assessment (RNA)**
 - Conducted biennially to identify long-term Bulk Power Transmission System (BPTF) reliability needs in years 4 through 10
 - Considers updates to Transmission Owner LTPs, proposed generation, and proposed transmission that meets inclusion rules, demand forecasts, and other applicable system updates
 - If Reliability Needs are identified, the NYISO issues a competitive solicitation for market-based and alternative regulated solutions, and TOs are required to propose Regulated Backstop Solutions
- **Comprehensive Reliability Plan (CRP)**
 - Biennial report that documents the plans for a reliable grid over the 10-year planning horizon
 - If applicable, includes viability and sufficiency and evaluation and selection of the more efficient or cost-effective transmission solutions to the identified Reliability Need in years 4 through 10



Reliability Metrics

- **Applicable NERC, NPCC, NYSRC Reliability Rules**

- Application on BPTF

- **Resource Adequacy (RA)**

- The ability of the electric systems to supply the aggregate electrical demand and energy requirements of their customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements

- **Transmission Security (TS)**

- The ability of the electric system to withstand disturbances such as electric short circuits or unanticipated loss of system elements
- The ability of the power system to withstand the loss of one or more elements without involuntarily disconnecting firm load

NYSRC 2023 LTRAA-I Background

2023 LTRAA Background

- **NYSRC Reliability Rule A.3.B.R2 requires the NYISO to prepare a biennial NYCA Long-Term Resource Adequacy Assessment (LTRAA) covering a ten-year look-ahead period**
 - New requirement in the NYSRC Reliability Rules, starting with the July 17, 2020, version #45: <http://www.nysrc.org/NYSRCReliabilityRulesComplianceMonitoring.html>
- **Additionally, Reliability Rule A.3.B.R3 requires the NYISO to submit a report in the Intervening Year (LTRAA-I) between the biennial LTRAAs**
- **The 2023 LTRAA-I report is provided to fulfill the Intervening Year A3.B.R3 requirements and summarizes the 2023-2032 Comprehensive Reliability Plan (CRP) and the 2023 Q3 STAR:**
 - NYSRC Reliability Rules & Compliance Manual, Version #46, June 10, 2022: <https://www.nysrc.org/wp-content/uploads/2023/07/RRC-Manual-V46-final.pdf>
 - 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>
 - 2023 Q3 STAR Report: <https://www.nyiso.com/documents/20142/16004172/2023-Q3-STAR-Report.pdf>

Summary of Key Observations

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- **This LTRAA-I reiterates the conclusions of the NYISO's 2023-2032 CRP (which includes the 2022 RNA findings) that there are no base case resource adequacy LOLE criterion violations through 2032 for forecasted system demand in normal weather**
- **The NYISO's 2023-2032 CRP also identified risks to the plan, summarized in the report, as well as in the Appendix to this presentation**
- **In addition to the RNA and CRP, the NYISO performs quarterly STARs**
 - The 2023 Q3 STAR 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
 - 2023 Q3 STAR Report, completed as of October 13, 2023: [[link](#)]

Additional Observations from 2023 Q2 STAR

- While there are no identified long-term, actionable reliability needs, the NYISO identified a Near-Term Reliability Need, specifically a transmission security margin deficiency, beginning in summer 2025 within New York City
 - The reliability need is 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 pursued 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 enter service in spring 2026.”*
 - 2023 Q2 STAR Report: <https://www.nyiso.com/documents/20142/16004172/2023-Q2-STAR-Report-Final.pdf>

Appendix:

2023-2032 CRP Risk Factors

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

Reliability Risk Factors Key Takeaways, *cont.*

- **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 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 deficiencies 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, including NYSRC, are investigating whether applicable reliability rules and design criteria should be revised to account for these events

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